RESULTS

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The submandibular gland of the rat lies in the ventral cervical region and so tightly attached to the greater sublingual gland that they appeared to be one structure and were differentiated only by the darker color of the former.

During dissection, the submandibular gland was found to be invested in a common connective tissue capsule with the subligual gland.They were separated by a connective tissue septum (Fig. 1).

- Group one :

Body weight (Table 1).

- Of glands taken immediately after birth, ranged from 31 g to 40 g with a mean value of 35 g and ± 3.87.

- Of controls, ranged from 40 g to 46 g with a mean value of 42 g and ± 2.55 with an increased of about 16.67% than the previous values.

- Of Controls injected with the hormones solvents:

  - For olive oil, ranged from 43 g to 45 g with a mean value of 44 g and ± 0.1.

  - For distilled water, ranged from 40 g to 45 g with a mean value of 42 g and ± 2.64.

  - For olive oil and distilled water, the body weights ranged from 44 g to 48 g with a mean value of 46 g and ± 2.

(Fig. 1) : A photomicrograph of a section in the submandibular gland (SM) and sublingual gland (SL) of an adult male rat.

(Hx. & E stain, Proj.10 x, Obj. 10 x.)

(Table 1) showing the body weight (Wt.) in all groups with their means and standard deviation (S.D.)

	Group 1			Group 2			Group 3			Group 4			Group 5			Group 6			Group 7		
	Wt.	Mean	S.D	Wt.	Mean	S.D	Wt.	Mean	S.D	Wt.	Mean	S.D	Wt.	Mean	S.D	Wt.	Mean	S.D	Wt.	Mean	S.D
Control after birth	31 34 40 38 32	35	3.87																		
Control	46 40 41 43 40	42	2.55	61 78 62 63 66	66	6.96	75 91 80 78 86	82	6.44	119 131 128 122 130	126	5.24	158 179 160 170 158	165	9.27	183 200 191 188 196	192	11.40	352 378 362 359 377	368	11.5
Control with oil	43 45 44	44	1.0	60 79 65	68	9.84	70 92 78	80	11.13	116 133 120	123	8.9	151 183 159	161	16.6	179 200 198	192	11.5	355 378 356	363	13.0
Control with D.W.	40 45 41	42	2.64	61 75 68	68	7.0	78 88 86	84	5.92	115 130 121	122	7.5	165 179 169	171	7.21	180 204 194	194	12.1	359 380 368	369	10.5
Control with oil+D.W.	44 48 46	46	2	63 78 69	70	7.54	75 89 76	80	7.80	118 135 131	128	8.8	161 175 153	163	11.13	178 199 179	185	11.8	359 382 369	370	11.5
After testo-sterone hormone	41 49 45 42 48	45	3.53	58 79 70 68 70	69	7.48	84 102 93 91 95	93	6.56	130 145 136 140 134	137	5.74	172 188 177 175 183	179	6.10	204 220 215 208 218	213	6.78	373 418 386 383 403	393	17.8
After Thyro-xine hormone	42 50 49 44 50	47	3.74	65 81 70 71 73	72	5.83	89 109 92 92 93	95	7.90	135 152 139 138 144	141	6.60	179 198 180 175 180	182	8.13	204 230 214 207 223	216	10.87	399 421 410 403 417	416	9.20
After combina-tion of two hormones	45 61 48 47 45	49	6.72	65 82 75 72 76	74	6.20	90 112 95 94 104	99	8.80	138 154 143 144 146	145	5.80	175 195 188 183 189	186	7.50	209 230 223 227 215	221	8.67	408 431 420 418 417	425	8.18

- Of testosterone injections, ranged from 41 g to 49 g with a mean value of 45 g and ± 3.54, they increased by about 6.67 % than the corresponding age of the control which was of a significant value.

- Of thyroxine injections, ranged from 42.3 g to 50.9 g with a mean value of 47.5 g and ± 3.74. They increased by about 11.58 % which was of a significant values.

- Of combined injections, it was found that the body weights ranged from 45 g to 61 g with mean value of 49 g and ± 6.72, they increased by about 14.29% than the control which was of a significant value.

Glandular weight (Table 2).

- Of taken immediately after birth, ranged from 72 mg to 92 mg with a mean value of 82.2 mg and ± 7.92.

- Of control animals, ranged from 99.8 mg to 118.3 mg with a mean value of 108.2 mg with ± 7.86 with an increased by about 24.03 % than the previous age value.

- Of controls injected with hormones solvents:

  - For olive oil, ranged from 91.8 mg to 115.3 mg with a mean value of 102.2 mg with ± 11.98.

  - For distilled water, ranged from 92.8 mg to 118.8 mg with a mean value of 108.2 mg with ± 13.2.

  - For olive oil and distilled water, ranged from 102.8 mg to 112.9 mg with a mean value of 110.2 mg with ± 5.8.

(Table 2) showing the glandular weights in all groups with their means and standard deviation (S.D.)

	Group 1			Group 2			Group 3			Group 4			Group 5			Group 6			Group 7		
	WT.	Mean	S.D	WT.	Mean	S.D	WT.	Mean	S.D	WT.	Mean	S.D	WT.	Mean	S.D	WT.	Mean	S.D	WT.	Mean	S.D
Control after birth	72 92 82.8 77.1 87.2	82.2	7.92																		
Control	99.8 116.9 106.5 102.3 114.2	108.2	7.89	168.9 198.5 176.4 189.5 179.2	186.1	11.6	268.9 282.8 270.4 273.5 277.4	274.6	5.6	342.8 358.2 350.4 356.8 355.8	352.8	6.36	381.7 395.6 392.6 384.2 391.4	389.1	5.88	619.1 641.1 620.7 632.9 640.2	630.8	10.46	784.0 802.1 791.8 801.7 789.9	793.9	7.85
Control + oil	91.8 115.3 99.5	102.2	11.98	165.1 198.1 183.1	182.1	16.5	266.9 282.2 275.1	275.4	7.65	345.3 345.8 360.7	350.6	8.75	378.2 399.9 379.6	385.9	12.1	612.1 640.6 638.1	636.8	15.7	781.0 800.8 793.9	791.9	10.1
Control + D.W.	92.8 118.8 110.2	108.2	13.2	172.9 199.2 179.0	183.8	13.7	261.9 280.2 270.3	270.6	9.16	340.8 362.1 348.3	350.4	10.8	373.7 391.5 383.2	382.8	8.9	621.1 645.1 641.2	635.8	12.8	776.4 797.1 783.6	785.7	10.5
Control + oil+D.W.	102.8 112.9 112.9	108.2	5.8	166.9 196.2 184.4	182.5	14.7	262.9 288.2 278.7	276.6	12.78	338.9 369.2 339.8	349.3	17.2	375.7 404.6 378.0	381.1	16.06	619.8 638.1 634.5	630.8	9.69	789.0 808.7 796.0	797.9	9.98
After Testo-sterone	99.8 117.9 111.4 101.2 114.2	108.9	8.02	182.2 191.4 185.6 186.9 188.4	186.9	3.40	271.1 292.7 292.5 291.2 286.5	286.8	9.12	351.1 369.8 367.8 362.1 359.7	362.1	7.39	389.5 410.9 401.0 399.8 403.8	400.1	4.93	663.9 655.9 642.1 637.1 639.0	642.2	11.70	823.0 842.2 831.8 829.9 853.6	832.5	11.90
After Thyro-xine	105.1 129.8 107.1 112.6 106.2	112.2	10.27	196.3 212.2 197.1 201.1 206.8	202.7	6.74	305.0 320.1 314.9 319.2 305.3	312.9	7.34	371.3 391.9 384.8 388.9 389.6	385.3	8.27	411.9 429.8 428.1 420.4 425.8	423.2	7.24	641.9 675.9 674.8 674.3 673.6	668.1	14.60	828.7 845.4 830.4 836.9 839.1	836.1	6.77
After combina-tion	110.9 120.1 111.0 111.2 111.4	112.9	4.01	199.1 220.1 215.9 215.7 213.7	212.9	8.05	316.7 339.5 328.4 333.6 338.8	331.4	9.35	379.0 396.9 386.8 393.4 389.9	389.6	9.41	422.1 442.0 423.2 428.2 437.5	430.6	8.75	695.2 688.3 665.4 670.4 671.2	670.9	12.89	832.3 862.9 852.7 851.1 848.5	849.5	11.05

- Of Testosterone injections, ranged from 99.8 mg to 117.9 mg with mean value of 108.9 mg and ± 8.02. They increased by about 0.64% than the corresponding age of the control, which was of a nonsignificant value.

- Of Thyroxine injections, ranged from 105.1 mg to 129.8 mg with a mean value of 112.2 mg and ± 10.27, they increased by about 3.57 % than the corresponding age of the control which is of a significant value.

- Of Combined injections, ranged from 110.9 mg to 125.1 mg with a mean value 112.9 mg and ± 4.01. They increased by about 4.16 % than the corresponding age of the control which is of a significant value.

Histological observations :

Hx. & E.:

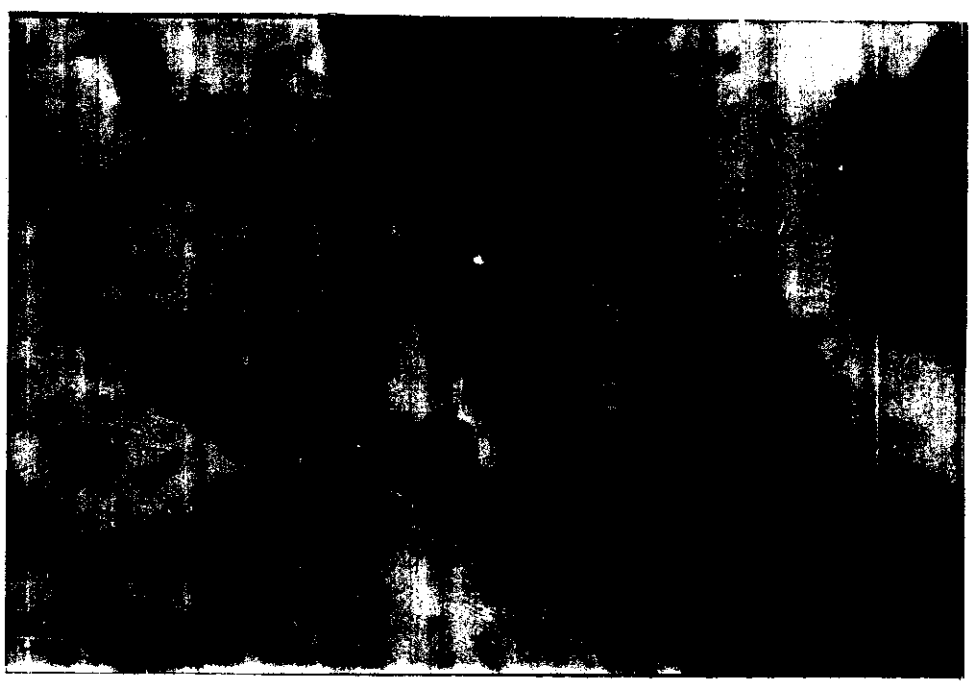
- Of glands taken immediately after birth, lobulation was just recognizable (Fig.2) with a fair amount of loose mucoid connective tissue was still pervading the gland (Fig.3). Large interlobular ducts with wide lumina, were often seen as isolated units surrounded by more connective tissue. They had a low columnar epithelium (Fig.4). The intralobular ducts had narrow lumina lined with low columnar or cubical epithelium (Fig.5). The cells widths of which were so small that their nuclei appeared crowded together . Only in some cells low basal striations were discernible. When cut longiludinally, these ducts could be seen to be continuous proximally with somewhat narrower

(Fig. 2) : A photomicrograph of a section in the submandibular gland of a male albino rat, 1 day, old showing the lobules with a fair amount of connective tissue in between.

(Hx. & E. stain, Proj. 10 x, Obj. 10 x.)

(Fig. 3) : A photomicrograph of a section in the submandibular gland of a male albino rat, 1 day, old showing the mucoid connective tissue which was still pervading the gland.

(Hx. & E. stain, Proj.10 x, Obj. 100 x.)



(Fig. 4) : A photomicrograph of a section in the submandibular gland of a male albino rat, 1 day, old showing an interlobular duct.

(Hx. & E. stain, Proj. 10 x, Obj. 100 x.)

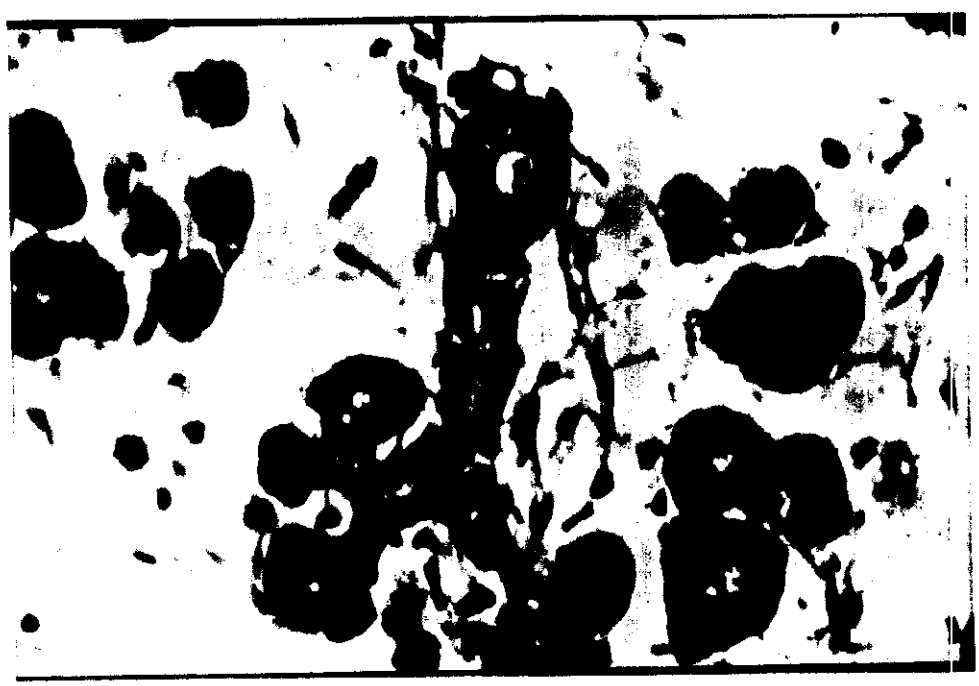
(Fig. 5) : A photomicrograph of a section in the submandibular gland of a male albino rat ,1 day, old showing an intralobular duct.

(Hx. & E. stain, Proj. 10 x, Obj. 100 x.)

ducts (Fig. 6), whose epithelium was still lower and with "crowded" nuclei, often elongated and parallel to the direction of the ducts (Fig. 7). These narrow ducts, in turn were continuous with branching terminal tubules. The place of narrowing of the intralobular ducts was considered as the site of the future intercalated duct - striated duct junction (Fig. 6). The narrow pyramidal cells of these terminal tubules were characterized by strong eosinophilic granules, and by round basally situiated nuclei. The lumen of these terminal tubules could be often seen clearly. At some places, at the periphery of the tubules , one or two paler epithelial cells were budding out which represent the forming acini (Fig. 8). These, too, were eosinophilic. Many mitoses were present in the terminal tubules, and in all segments of the duct system (Fig. 9).

- In the control animals and Controls injected with the hormones solvents,increased compactness of the lobules was very definite. There was only a moderate intensity of staining of the granules of the terminal tubules with eosin (Fig. 10). Around the terminal tubules, cellular buds were seen frequently. They appeared as individual cells or as small crescents. In some specimens the formation of crescents was so advanced as to make the terminal tubules appearing as "centres". The crescents represented the future acini. Mitoses were frequent in the buds, terminal tubules and occasionally in the ducts .

- In testosterone injected animals, the results were comparable to the control ones.

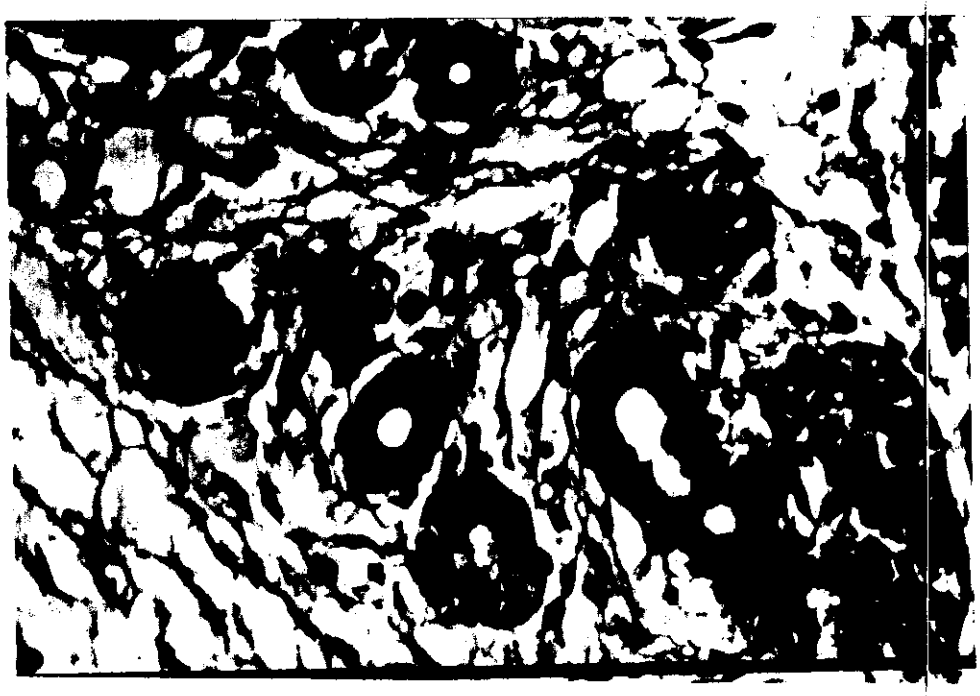


(Fig. 6) : A photomicrograph of a section in the submandibular gland of a male albino rat ,1 day, old showing the intralobular duct (I) and the terminal tubules (T). Notice the budding out (arrow).

(Hx. & E. stain, Proj. 10 x, Obj. 40 x.)

(Fig. 7) : A photomicrograph of a section in the submandibular gland of a male albino rat , 1 day, old showing an intralobular duct.

(Hx. & E. stain, Proj. 10 x, Obj. 100 x.)

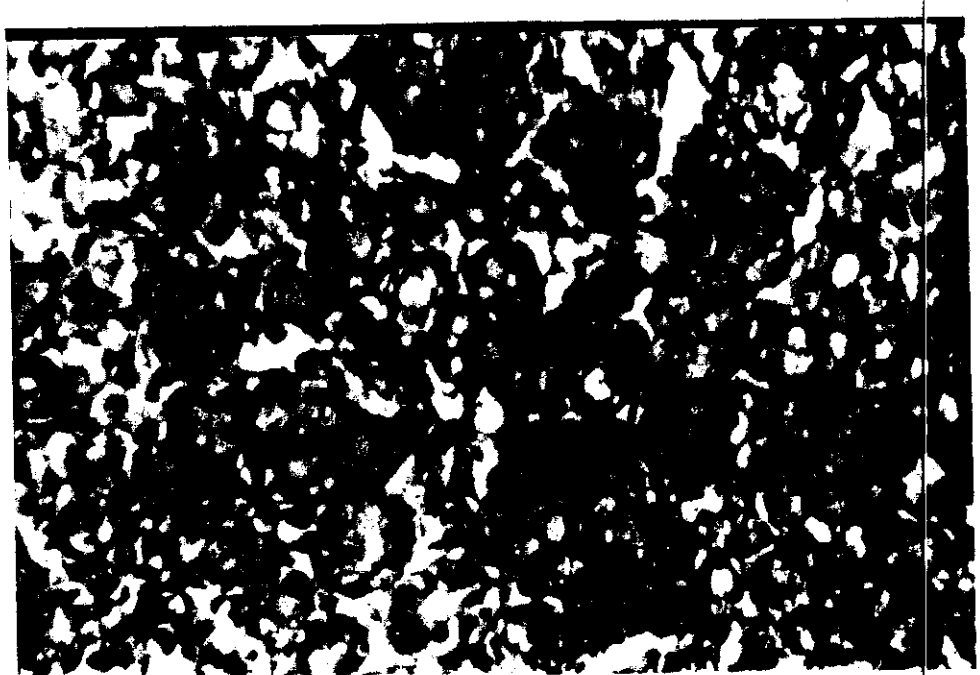


(Fig. 8) : A photomicrograph of a section in the submandibular gland of a male albino rat, 1 day, old showing the pale epithelium budding out from the tubules (arrows).

(Hx. & E stain, Proj. 10 x, Obj. 40 x.)

(Fig. 9) : A photomicrograph of a section in the submandibular gland of a male albino rat, 1 day, oldshowing a mitosis in a tubule (arrows).

(Hx. & E. stain, Proj. 10 x, Obj. 100 x.)



(Fig. 10) : A photomicrograph of a section in the submandibular gland of a control male albino rat of group 1 showing terminal tubules (T) and striated ducts (S). Note the presence of crescents (arrows).

(Hx. & E. stain, Proj. 10 x, Obj. 40 x.)

- In thyroxine injected animals, the compactness of the lobules was increased more than the control group. Around the terminal tubules, cellular buds increased much and formation of the acini was definite (Fig.11).

- After combined injections, the compactness of the lobule was increased more than the control and more than those injected with thyroxine hormone. Around the terminal tubules, cellular buds increased much and formation of the acini was definite (Fig. 12).

- VerHoeff's stain :-

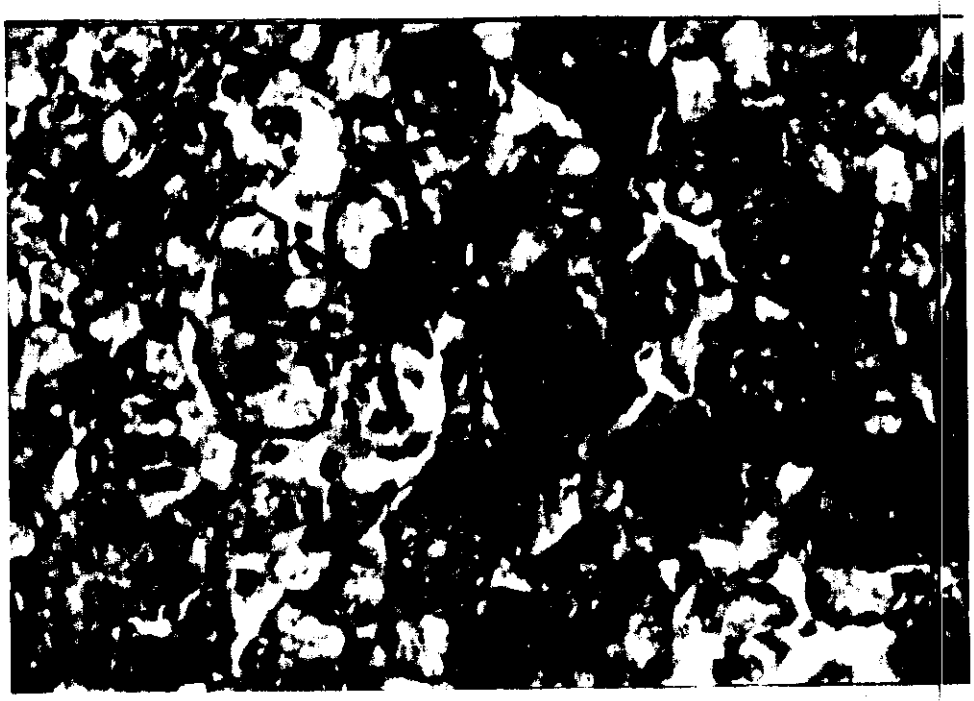
- Of glands taken immediately after birth, the surface of the gland was covered with a relatively very thin layer of collagenous fibres which were running parallel to the surface and gave rise to thin interlobular septa (Fig. 13).Interlobular ducts were surrounded by a few number of collagenous fibers.

- In the controls and controls injected with hormones solvents, the collagenous fibres of the capsule and around the ducts were more prominent than those present in the one day age, (Fig. 14).

- In testosterone injected animals,the results were comparable to the control group.

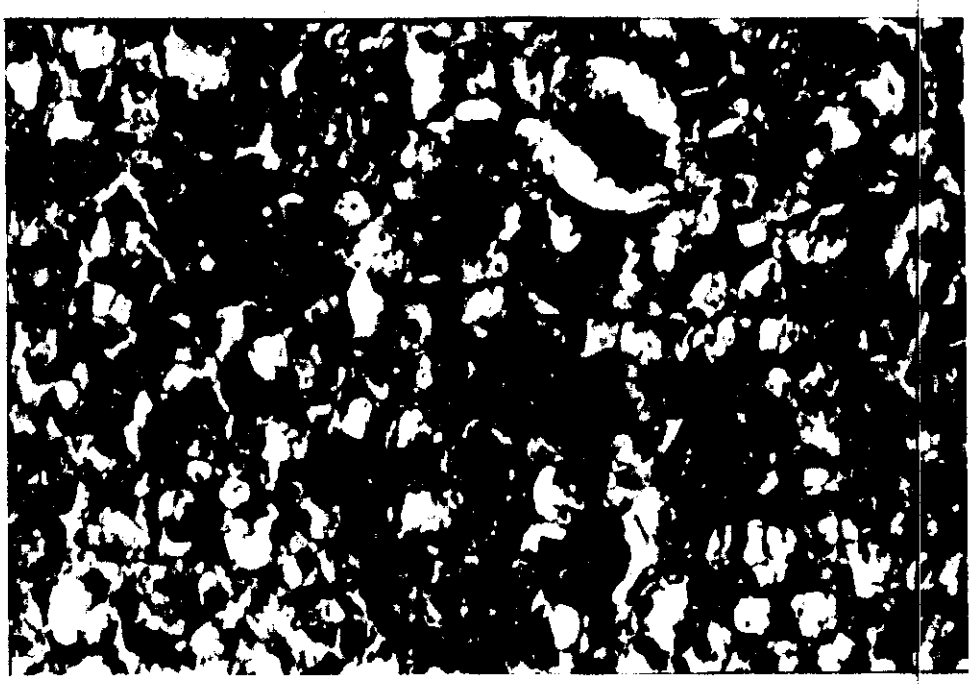
- In thyroxine injected animals, it was found that the capsule of the gland became more slight thicker than that of the corresponding of the control (Fig. 15).

- In combined injections, there was an increase in the thickness of the capsule more than the control and the



(Fig. 11) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 1) injected with thyroxine hormone showing that the formation of the acini (arrow) was increased than in the control group. (T) terminal tubules.

(Hx & E stain, Proj. 10 x, Obj.40 x).



(Fig. 12) : A photomicrograph of a section in the submandibular gland of a male rat (group 1) treated with the 2 hormones showing formation of more acini (arrows).

(Hx & E stain, Proj. 10 x, Obj.40 x.)

(Fig. 13) : A photomicrograph of a section in the submandibular gland of a control male albino rat. 1 day, showing athin connective tissue capsule (arrow) and incomplete lobulation.

Verhoeff 's stain, Proj. 10 x, Obj. 10 x.

(Fig. 14) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 1) showing increased thickness of capsule and septa (arrows) (Verhoeff 's stain, Proj. 10 x, Obj. 10 x.)

(Fig. 15) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 1) treated with thyroxine hormone showing an increase in the thickness of the capsule (arrows).

(Verhoeff's stain, proj. 10 x, Obj. 10x.)

raction was the same as the thyroxine injections.

Reticulin :-

- Of glands taken immediately after birth, the reticular fibers were few in number either intralobularly or interlobularly (Fig. 16).

- The control animals and controls injected with hormones solvents, the distribution and thickness of the reticular fibres were increased either around the ducts or in between the terminal tubules. (Fig. 17)

- In testosterone injections,the results were comparable to the control group.

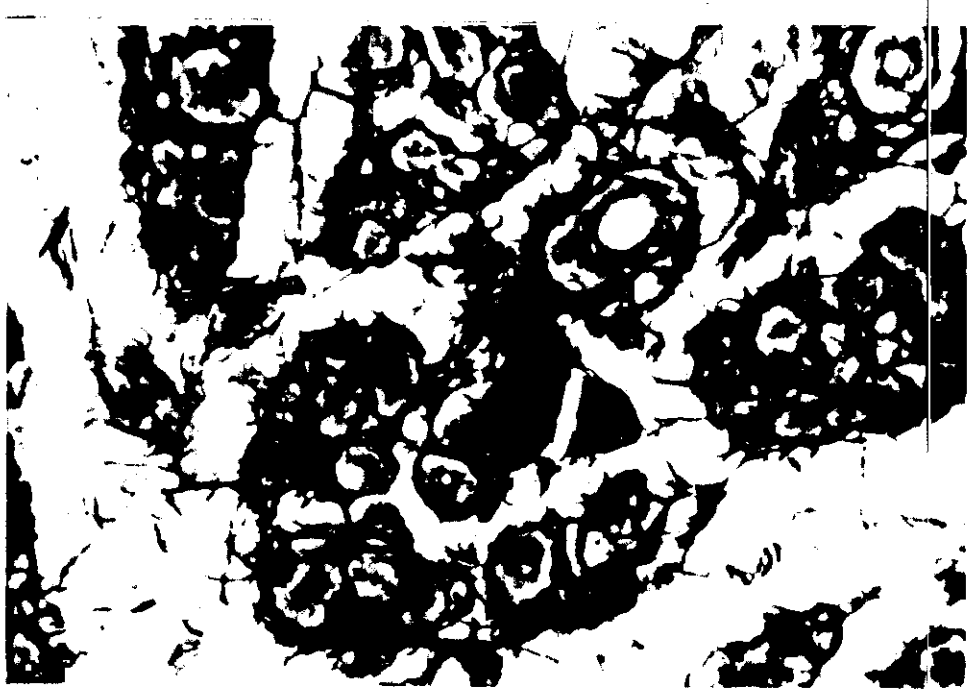
- In thyroxine injections, the distribution and thickness of reticular fibers were much increased than the control (Fig. 18).

- After combined injections, it was found that the distribution and thickness of the reticular fibers increased than the corresponding control and the same as the thyroxine injections..

PAS and PAS with diastase:-

Sections with PAS or with PAS with diastase did not differe in their stainning affinity.

- Of glands taken immediately after birth, the cells of terminal tubules showed a strong reaction. However variation in staining was evident. The duct system showed a weak reaction (Fig. 19)

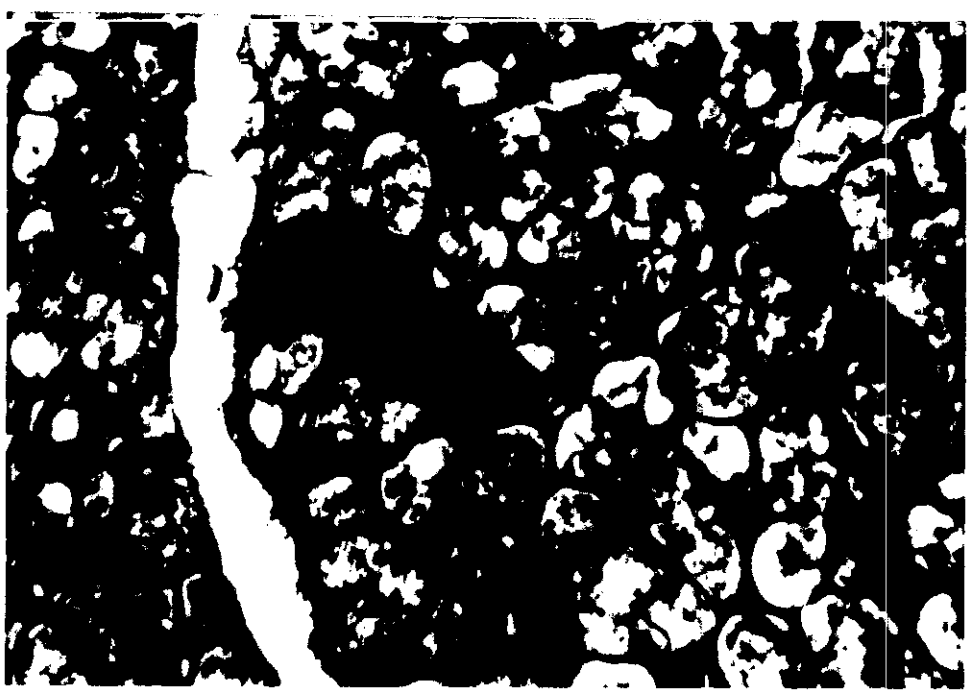


(Fig. 16) : A photomicrograph of a section in the submandibular gland of an male albino rat, 1 day, old showing few reticular fibers (arrows).

(Gorden & Sweet method for reticular fibers, Proj. 10 x, Obj. 40 x.)

(Fig. 17) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 1) showing the thickness and distribution of the reticular fibers.

(Gorden & Sweet method for reticular fibers, Proj. 10 x, Obj. 40 x.)



(Fig. 18) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 1) injected with thyroxine hormone showing an increase in thickness and distribution of reticular fibers.

(Gorden and Sweet's stain, Proj.10 x, Obj. 40 x.)

(Fig. 19) : A photomicrograph of a section in the submandibular gland of a male albino rat, 1 day old showing strong PAS positive granules of the terminal tubules (arrows).

(PAS stain, Proj. 10 x, Obj. 40 x.)

- The control animals and controls injected with hormones solvents, the cells of the terminal tubules showed a strong reaction and the budded cellsshowed a moderate reaction. However . The duct system showed a weak reaction.

- After testosterone injections, thyroxine injections.and Combined injectionsThe results were comparable to the control group.

Alcian blue at pH 1 :-

- Of glands taken immediately after birth, the terminal tubules showed a weak reaction while the duct system showed a negative ones.

- The control animals and controls injected with hormones solvents, the terminal tubules and the newly formed acini showed a weak reaction while the duct system showed a negative reaction. However, a strong reaction was found in the subligual gland (Fig. 20).

- In testosterone injections, thyroxine injections andcombined injection, the results were comparable to the control group.

Alcian blue at pH 2.5 :-

- Of glands taken immediately after birth, the terminal tubules showed a strong reaction while the duct system showed a weak one.

- Of the control and controls injected with hormones solvents, The terminal tubules showed a strong reaction while the duct system showed a weak one. When the acini

(Fig. 20) : A photomicrograph of a section in the submandibular gland (SM) of a control male rat (group 1)and the adjacent sublingual gland (SL) showing the reaction to alcian blue stain at pH 1. The terminal tubules and the newlyformed acini showed a weak reaction (arrow), while the duct system showed a negative reaction (2 arrows).
An intense reaction was found in the sublingual gland.
(Alcian blue stain at pH 1, Proj.10 x, Obj.40 x).

started to formalize they showed moderate reaction. An intense reaction was observed in the sublingual gland. (Fig. 21).

- In testosterone injections, thyroxine injections andcombined injection, the results were comparable to the control animals.

PAS + alcian blue at pH 2.5 :-

- Of glands taken immediately after birth,the terminal tubules stained mainly by alcian blue while the PAS stained the basal parts only. The duct system stained only with PAS (Fig. 22).

- Of the control and controls injected with hormones solvents, The cells of the terminal tubules stained with the two stains. They stained mainly by alcian blue while the PAS stained the basal parts only. The duct system stained only with PAS as in one day (Fig. 22). When the acini formed they stained also by the two stains at the same intensity.

- In testosterone injections, thyroxine injections andcombined injection, the results were comparable to the control animals.

Toliudine blue :-

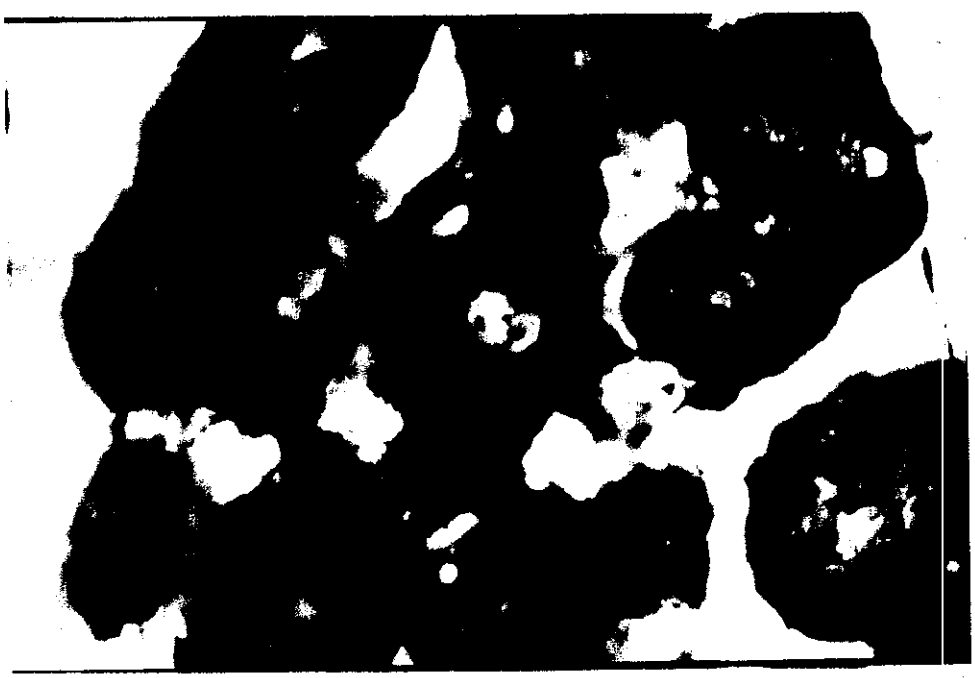
- Of glands taken immediately after birth, there appeared to be some chromidial substance around the nuclei in the cells of the terminal tubules, while the duct system showed a negative reaction (Fig. 23).

(Fig. 21) : A photomicrograph of a section in the submandibular gland (SM) of a male control rat (group 1) and the adjacent sublingual gland (SL) showing the reaction to alcian blue stain at pH 2.5. The terminal tubules had a strong reaction(t)and the formed acini showed a moderate reaction (a), while the duct system showed a weak reaction (d).An intense reaction was found in the sublingual gland.

(Alcian blue stain at pH 2.5, Proj.10 x, Obj.40 x).

(Fig. 22) : A photomicrograph of a section in the submandibular gland of a control male albino rat, one day old, showing that the terminal tubules stained with the 2 stains (arrow). While the duct system stained with PAS only (D).

(PAS + alcian blue at 2.5 stain, Proj. 10 x, Obj. 40 x).



(Fig. 23) : A photomicrograph of a section in the submandibular gland of a control male albino rat, 1 day, old showing that there was some chromidial substances around the nuclei in cells of terminal tubules (arrows).

(Toluidine blue stain, Proj. 10 x, Obj. 100 x.)

- Of the control and controls injected with hormones solvents, the reaction was similar to that of one day.

- In testosterone injections, thyroxine injections andcombined injection, the results were comparable to the control animals.

Mallory Trichrom :-

- Of glands taken immediately after birth,terminal tubules showed a positive reaction to theaniline blue in Mallory stain (Fig. 24).

- Of the controls and controls injected with hormones solvents, there was only a moderate intensity of staining of the granules of the terminal tubules with aniline blue (Fig 25).

- In testosterone injections, thyroxine injections andcombined injection, the results were comparable to the control animals.

Histochemical observations :

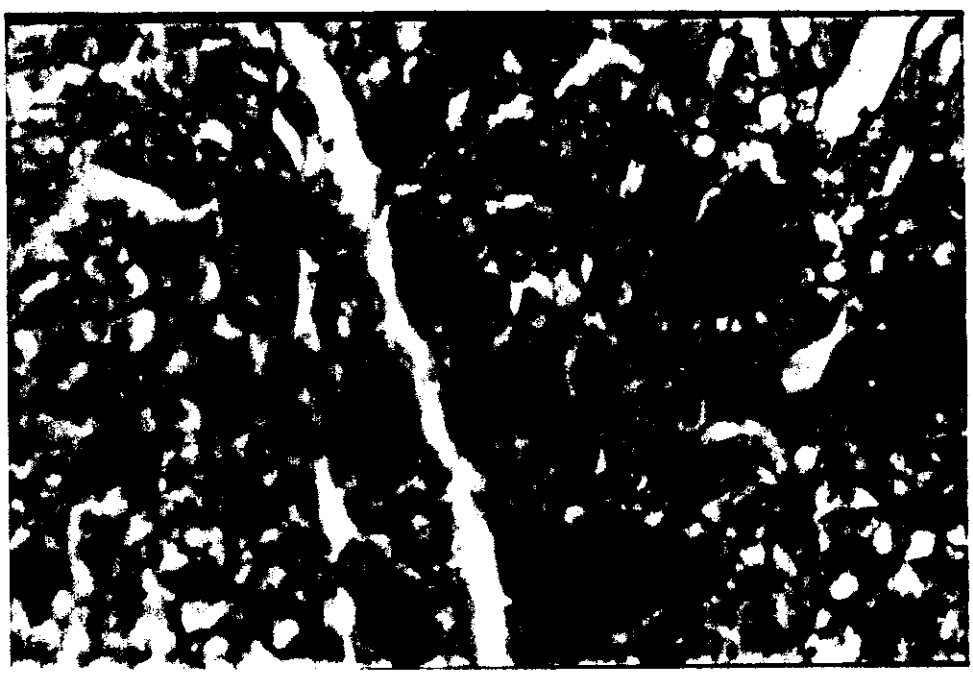
Succinic dehydrogenase enzyme activity :-

- Of glands taken immediately after birth, a strong activity for succinic dehydrogenase enzyme in the form of blue formazan granules was noticed in the lining cells of the striated and interlobular ducts of the submandibular gland .

- The control animals and controls injected with hormones solvents, a strong activity was noticed in the lining cells of the striated and interlobular ducts of the

(Fig. 24) : A photomicrograph of a section in the submandibular gland of a control male albino rat ,1 day old, showing a positive reaction of the terminal tubules to aniline blue dye (arrow)

(Mallory Trichrome stain, Proj. 10 x, Obj. 40 x.)



(Fig. 25) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 1) showing positive reaction of the terminal tubules cells to aniline blue dye (arrow).

(Mallory Trichrome stain, Proj. 10 x, Obj. 40 x.)

submandibular gland (Fig. 26).

- After testosterone injections, the results were comparable to the control animals.

- After thyroxine injections and combined injection, the result was comparable to the control group except in the interlobular ducts which showed a more strong reaction (Fig.27).

Alkaline phosphatase enzyme :-

- Of glands taken immediately after birth, the terminal tubules showed a weak reaction. However, the capillary endothelium showed a strong one.

- The control animals and controls injected with hormones solvents, The terminal tubules, acini and duct system showed a weak reaction. However, the myoepithelial cells and the capillary endothelium showed a strong reaction. (Fig. 28)

- After testosterone injections, the results were comparable to the control animals.

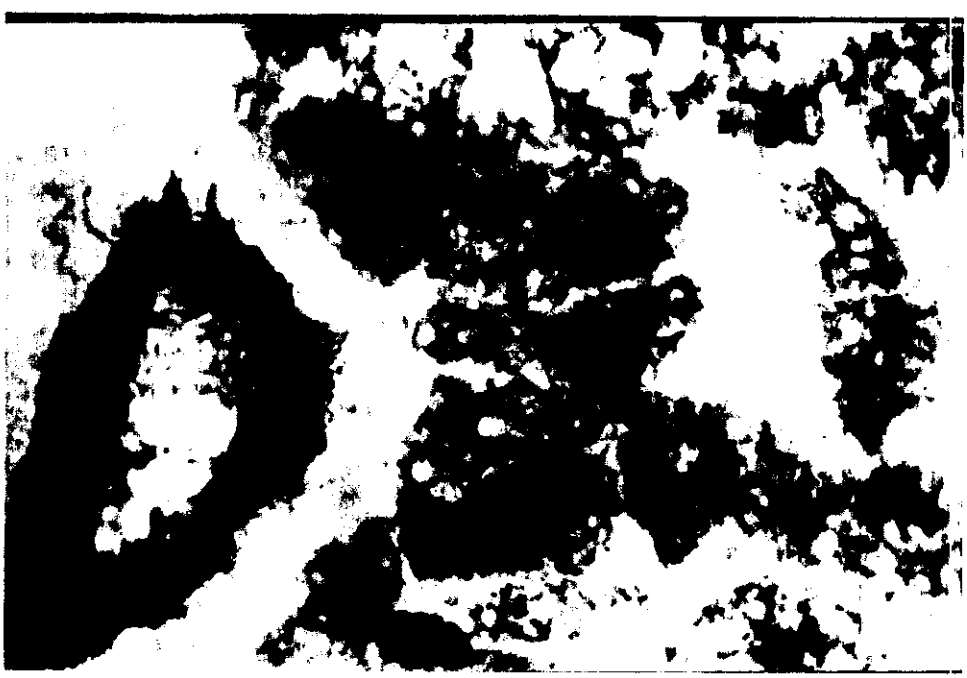
- After thyroxine and combined injection,the result was more or less similar to the control group, however, the interlobular duct which showed a slight increase in the reaction.

Adenosine triphosphatase enzyme activity :

- Of glands taken immediately after birth, the terminal tubules showed a weak reaction, but the endothelial cells of the capillaries showed a strong reaction. The

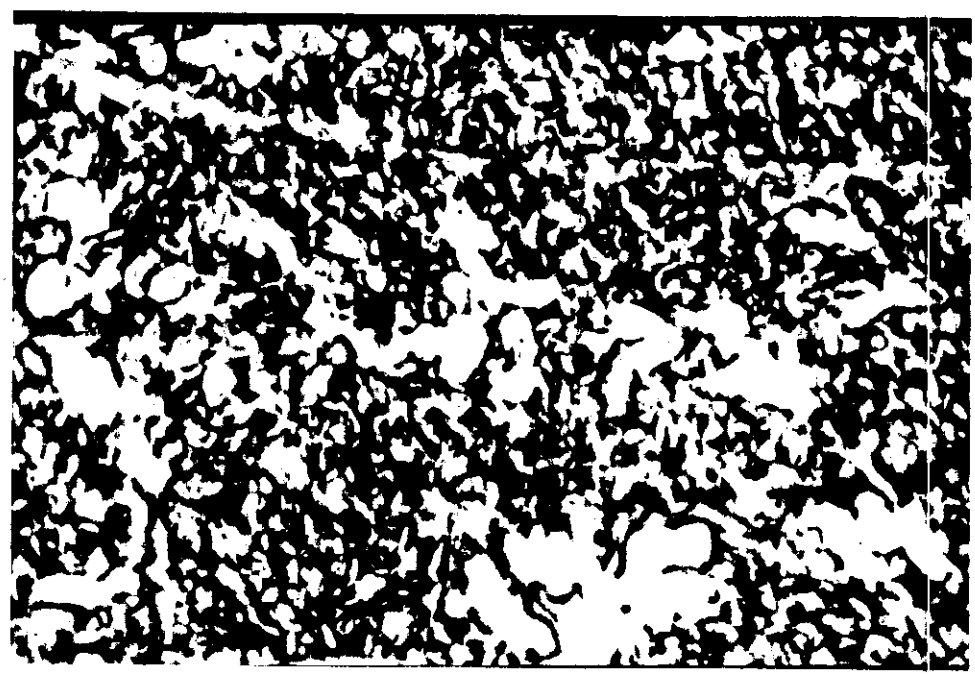
(Fig. 26) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 1) showing the activity of succinic dehydogenase enzyme. The striated ducts (S) and interlobular ducts (I) had a strong activity.

(Pearse method, Proj.10 x, Obj. 40 x.)



(Fig. 27) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 1) treated with thyroxine hormone showing increase activity of the succinic dehdrogenase enzyme.in the interlobular ducts (I).

Pearse method, Proj.10 x, Obj. 40 x.



(Fig. 28) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 1) showing that the terminal tubules (T), acini (A) and the duct system (D) had a weak reaction but the myoepithelium and endothelium of the capillaries had a strong reaction (arrows).

(Gomori method for Alkaline phosphatase activity, Proj. 10 x, Obj. 10 x.)

interlobular duct system showed a moderate one.

- The control animals and controls injected with hormones solvents, the terminal tubules, the developing acini and the interlobular ducts showed a weak reaction, but the myoepithelial and the endothelial cells of the capillaries showed a strong reaction. The interlobular duct system showed a moderate one (Fig. 29).

- After testosterone injections, the results were comparable to the control animals.

- After thyroxine and combined injection, the result was more or less similar to the control group, however, the interlobular duct which showed a slight increase in the reaction (Fig. 30).

Quantitative observations :

- Of glands taken immediately after birth, the diameters of the striated ducts were ranged from 19.2 μm to 30.00 mm with a mean value of 25.1 um,with ± 1.42 (Table 3)

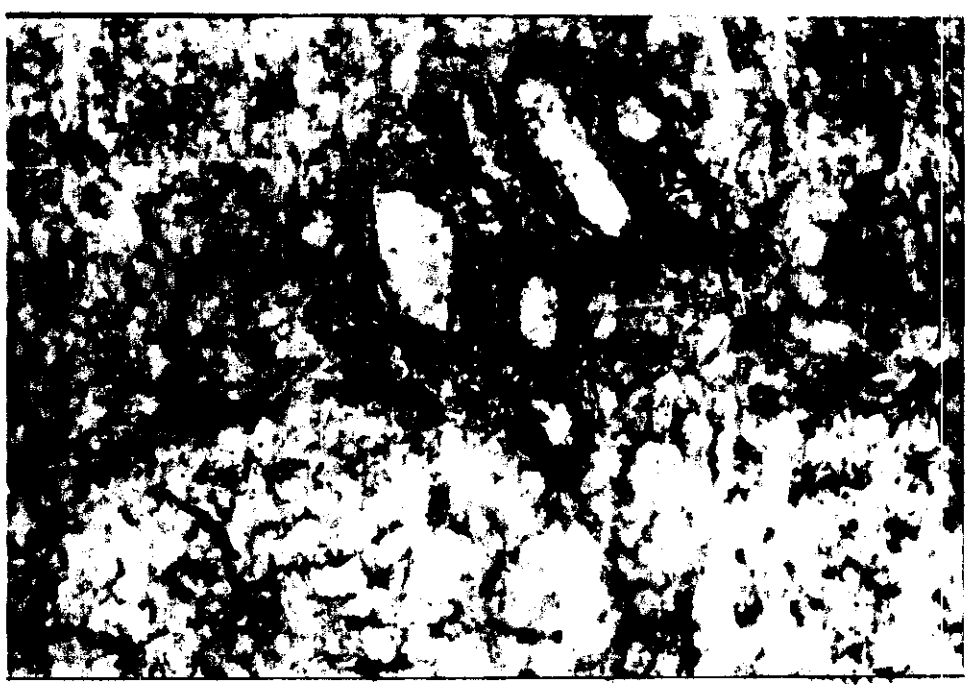
No acini or granular convoluted tubule cells were found.

- In the control animals, the diameters of the striated ducts were ranged from 22.10 μm to 35.0 μm with a mean value of 26.9 μm and ± 2.02 (Table 4).

No acini or granular convoluted tubule were found.

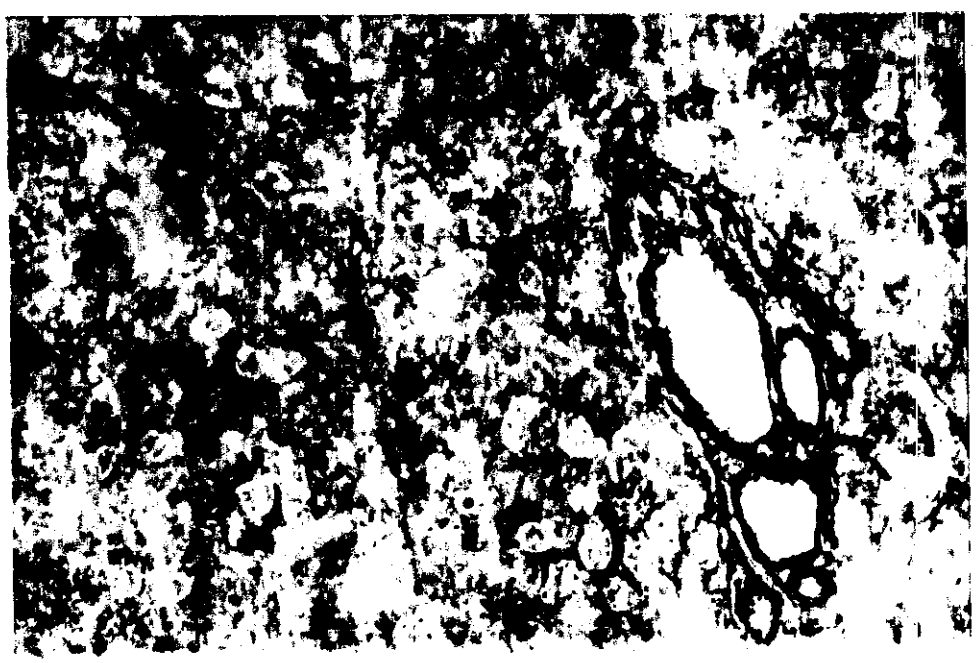
Control injected with the hormones solvents:

- Olive oil, the diameters of the striated ducts were ranged from 22.10 μm to 35.0 μm with a mean value 26.8 μm



(Fig. 29) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 1) showing the activity of adenosine triphosphatase enzyme. the myoepithelium and the endothelium showed a strong reaction (arrow). The duct system showed a moderate reaction (2 arrows).

(Wachetien and Meisel method Proj.10 x, Obj. 10 x.)



(Fig. 30) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 1)treated with thyroxine hormone showing increase activity of the ATPase enzyme.in the interlobular ducts (I).

Wachstein and Meisel method, Proj.10 x, Obj. 40 x.

(Table 3) showing the diameters of striated ducts at the age of one day

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	24.1	20.1	24.1	29.7	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2	23.9	24.7	24.5	29.2	21.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3	24.1	22.9	27.5	29.4	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4	23.9	20.7	25.6	30.0	21.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5	24.2	24.4	19.2	28.4	22.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	25.0	25.2	27.5	27.8	23.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	24.3	23.2	29.7	29.8	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	24.2	26.3	28.9	30.0	22.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	24.6	24.0	27.5	29.9	22.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	24.3	20.2	23.5	29.7	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	24.1	24.7	29.8	27.9	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	22.0	21.5	25.6	29.3	20.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13	25.8	21.7	28.7	29.3	23.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	20.9	23.2	28.6	28.9	21.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
15	22.9	20.1	25.6	29.9	20.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	24.3	21.2	23.8	29.9	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
17	25.2	24.8	29.1	28.9	23.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
18	26.2	22.8	27.4	28.7	22.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
19	23.1	24.2	26.5	30.0	21.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
20	22.9	21.1	28.2	28.8	20.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
21	26.8	25.8	26.9	29.7	24.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
22	23.9	20.0	25.6	29.2	21.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
23	22.6	25.2	28.4	27.7	20.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
24	22.1	20.0	28.2	28.7	20.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
25	21.9	22.7	28.8	29.6	20.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
26	25.9	21.3	27.8	30.7	23.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
27	25.8	21.1	27.9	28.4	23.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
28	25.2	23.5	26.2	29.4	23.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
29	22.9	20.5	29.0	29.4	20.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
30	28.9	22.5	27.1	29.8	22.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
31	26.4	20.1	29.1	28.3	21.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
32	23.9	20.7	27.9	29.9	21.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
33	23.8	22.5	29.0	30.0	21.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
34	23.9	23.6	29.2	30.0	20.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
35	22.1	21.1	29.5	30.0	20.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
36	22.0	23.5	29.3	27.9	20.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
37	21.2	20.2	28.9	29.8	24.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
38	26.3	20.4	29.9	30.0	22.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
39	28.2	24.1	28.7	30.0	20.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
40	20.0	20.1	29.8	28.3	21.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
41	23.7	20.1	27.3	29.8	20.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
42	26.5	21.5	30.0	29.9	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
43	24.1	21.3	28.9	29.7	21.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
44	20.5	23.6	28.9	27.5	23.9	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
45	25.9	22.7	29.7	29.7	23.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
46	25.5	22.1	29.5	28.4	22.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
47	23.9	20.5	28.3	30.0	23.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
48	25.0	22.2	27.9	27.9	20.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
49	26.2	20.0	29.5	3.0	20.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
50	20.1	24.2	29.9	26.8	20.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	Mean =		25.1			Mean =		-----			Mean =		-----		
	S . D . =		1.42			S . D . =		-----			S . D . =		-----		

(Table 4) showing the diameters of striated ducts, acini and GCTs in control animals (A) of group I

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	24.8	22.4	34.1	27.9	25.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2	24.6	24.3	35.0	27.4	25.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3	24.8	24.2	29.7	28.2	25.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4	24.6	22.1	27.8	27.6	24.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5	24.9	23.1	33.1	26.6	24.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	25.7	26.5	29.7	26.0	25.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	25.0	24.5	31.9	28.2	26.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	24.9	27.6	31.1	28.0	25.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	25.3	25.9	29.7	28.1	25.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	25.0	22.5	25.7	27.9	28.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	24.8	26.0	25.7	26.1	24.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	22.7	22.8	34.5	22.9	25.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13	26.5	23.8	31.9	24.5	23.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	22.7	24.5	30.9	27.5	27.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
15	23.6	23.0	30.8	27.1	25.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	25.0	22.4	34.1	28.1	24.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
17	25.9	22.5	34.6	28.1	27.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
18	26.9	26.1	31.3	27.1	28.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
19	23.8	24.1	29.8	24.8	24.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
20	23.6	24.8	28.7	28.2	27.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
21	27.5	22.4	34.9	26.4	27.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
22	24.6	27.1	34.6	27.9	26.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
23	23.3	22.3	32.9	27.4	24.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
24	22.8	24.2	34.7	25.4	25.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
25	33.8	24.0	33.8	26.9	24.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
26	26.2	22.6	31.0	24.8	25.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
27	26.5	22.5	30.0	28.9	23.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
28	25.9	24.8	32.9	26.6	33.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
29	23.6	22.8	30.5	27.6	23.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
30	29.6	24.0	31.8	27.6	33.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
31	26.3	22.4	34.9	28.0	34.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
32	24.6	22.1	34.2	26.5	31.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
33	22.1	23.8	30.1	26.4	24.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
34	30.0	23.2	32.0	26.9	22.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
35	22.1	22.4	32.9	28.2	30.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
36	22.6	24.8	34.8	28.2	25.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
37	22.8	22.5	34.8	25.4	27.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
38	22.6	22.1	31.9	28.0	34.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
39	29.1	22.4	32.1	28.3	22.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
40	22.5	22.2	33.7	25.6	26.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
41	24.4	22.1	32.0	28.0	25.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
42	24.5	22.5	34.8	28.1	27.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
43	27.2	22.1	34.9	26.0	23.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
44	34.8	22.4	33.9	26.1	26.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
45	32.1	23.4	33.8	25.1	22.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
46	23.1	22.5	31.9	27.9	24.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
47	23.7	22.7	30.7	22.7	28.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
48	24.6	22.1	33.9	27.9	33.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
49	23.1	22.3	31.7	26.8	27.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
50	22.7	22.1	34.9	28.2	22.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	Mean = 26.9					Mean = -----					Mean = -----				
	S . D . = 2.02					S . D . = -----					S . D . = -----				

± 1.89 (Table 5).

No acini or granular convoluted tubules were found.

- Distilled water, the diameters of the striated ducts were ranged from 21.40 μm to 34.1 μm with a mean value of 26.9 μm ± 2.01 (Table 6).

No acini or granular convoluted tubules were found.

-Olive oil and distilled water, the diameters of the striated ducts were ranged from 21.40 μm to 34.8 μm with a mean value of 26.7 μm ± 3.08 (Table 7).

No acini or granular convoluted tubules were found.

- After testosterone injections, the diameters of the striated ducts were ranged from 22.1um to 35.00 umwith a mean value of 26.7um ± 1.89 (Table 8).

No acini or granular convoluted tubule were found.

- After thyroxine injections, the diameters of the striated ducts were ranged from 22.4 to 35.7 with a mean value of 26.8 with ± 2.11.

The diameters of the acini were ranged from 26.1 to 26.9 with avarage value 26.3 with ± 0.53 (Table 9).

NO granular convoluted tubules were found.

- Combined injections, the diameters of the striated ducts were ranged from 22.5 μm to 35.8 μm with a mean value of 26.9 μm and ±2.31

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.3 μm ± 0.51 (Table 10).

No granular convoluted tubules were found.

(Table 5) showing diameters of striated duct, acini, and GCTs in control animals injected with olive oil in group 1

No.	STRIATED DUCT A1	STRIATED DUCT A2	STRIATED DUCT A3	ACINI A1	ACINI A2	ACINI A3	GCT A1	GCT A2	GCT A3
1	25.5	22.5	29.3	-----	-----	-----	-----	-----	-----
2	25.3	24.7	30.0	-----	-----	-----	-----	-----	-----
3	25.5	24.6	25.7	-----	-----	-----	-----	-----	-----
4	25.3	22.1	24.2	-----	-----	-----	-----	-----	-----
5	25.6	23.3	28.5	-----	-----	-----	-----	-----	-----
6	26.3	27.3	25.7	-----	-----	-----	-----	-----	-----
7	25.7	24.9	27.5	-----	-----	-----	-----	-----	-----
8	25.6	28.6	26.9	-----	-----	-----	-----	-----	-----
9	25.9	26.6	25.7	-----	-----	-----	-----	-----	-----
10	25.7	22.6	22.5	-----	-----	-----	-----	-----	-----
11	25.5	26.7	22.5	-----	-----	-----	-----	-----	-----
12	23.5	22.9	29.6	-----	-----	-----	-----	-----	-----
13	27.1	24.1	27.5	-----	-----	-----	-----	-----	-----
14	23.5	24.9	26.7	-----	-----	-----	-----	-----	-----
15	24.3	23.2	26.6	-----	-----	-----	-----	-----	-----
16	25.7	22.5	29.3	-----	-----	-----	-----	-----	-----
17	26.5	22.6	29.7	-----	-----	-----	-----	-----	-----
18	27.5	26.8	27.0	-----	-----	-----	-----	-----	-----
19	24.5	24.5	25.8	-----	-----	-----	-----	-----	-----
20	24.3	25.3	24.9	-----	-----	-----	-----	-----	-----
21	28.0	22.5	29.9	-----	-----	-----	-----	-----	-----
22	25.3	28.0	29.7	-----	-----	-----	-----	-----	-----
23	24.0	22.3	28.3	-----	-----	-----	-----	-----	-----
24	23.6	24.6	29.8	-----	-----	-----	-----	-----	-----
25	34.0	24.3	29.0	-----	-----	-----	-----	-----	-----
26	26.8	22.7	26.8	-----	-----	-----	-----	-----	-----
27	27.1	22.6	26.0	-----	-----	-----	-----	-----	-----
28	26.5	25.3	28.3	-----	-----	-----	-----	-----	-----
29	24.3	22.9	26.4	-----	-----	-----	-----	-----	-----
30	30.0	24.3	27.4	-----	-----	-----	-----	-----	-----
31	26.9	22.5	29.9	-----	-----	-----	-----	-----	-----
32	25.3	22.1	29.4	-----	-----	-----	-----	-----	-----
33	22.9	24.1	26.0	-----	-----	-----	-----	-----	-----
34	30.4	23.4	27.6	-----	-----	-----	-----	-----	-----
35	22.9	22.5	28.3	-----	-----	-----	-----	-----	-----
36	23.4	25.3	29.8	-----	-----	-----	-----	-----	-----
37	23.6	22.6	29.8	-----	-----	-----	-----	-----	-----
38	23.4	22.1	27.5	-----	-----	-----	-----	-----	-----
39	29.6	22.5	27.7	-----	-----	-----	-----	-----	-----
40	23.3	22.2	29.0	-----	-----	-----	-----	-----	-----
41	25.1	22.1	27.6	-----	-----	-----	-----	-----	-----
42	25.2	22.6	29.8	-----	-----	-----	-----	-----	-----
43	27.8	22.1	29.9	-----	-----	-----	-----	-----	-----
44	35.0	22.5	29.1	-----	-----	-----	-----	-----	-----
45	32.4	23.6	29.0	-----	-----	-----	-----	-----	-----
46	23.8	22.6	27.5	-----	-----	-----	-----	-----	-----
47	24.4	22.8	26.5	-----	-----	-----	-----	-----	-----
48	25.3	22.1	29.1	-----	-----	-----	-----	-----	-----
49	23.8	22.3	27.3	-----	-----	-----	-----	-----	-----
50	23.5	22.1	29.9	-----	-----	-----	-----	-----	-----
	Mean = 26.8			Mean = -----			Mean = -----		
	S.D. = 1.89			S.D. = -----			S.D. = -----		

(Table 6) showing diameters of striated duct. acini, and GCTs in control animals injected with D.W. in group 1

No.	STRIATED DUCT A1	A2	A3	ACINI A1	A2	A3	GCT A1	A2	A3
1	24.1	28.3	27.4	-----	-----	-----	-----	-----	-----
2	23.9	27.8	29.3	-----	-----	-----	-----	-----	-----
3	24.1	28.6	29.2	-----	-----	-----	-----	-----	-----
4	23.9	28.0	27.1	-----	-----	-----	-----	-----	-----
5	24.2	27.0	28.1	-----	-----	-----	-----	-----	-----
6	25.0	26.4	31.5	-----	-----	-----	-----	-----	-----
7	24.3	28.6	29.5	-----	-----	-----	-----	-----	-----
8	24.2	28.4	32.6	-----	-----	-----	-----	-----	-----
9	24.6	28.5	30.9	-----	-----	-----	-----	-----	-----
10	24.3	28.3	27.5	-----	-----	-----	-----	-----	-----
11	24.1	26.5	31.0	-----	-----	-----	-----	-----	-----
12	22.0	23.3	27.8	-----	-----	-----	-----	-----	-----
13	25.8	24.9	28.8	-----	-----	-----	-----	-----	-----
14	22.0	27.9	29.5	-----	-----	-----	-----	-----	-----
15	22.9	27.5	28.0	-----	-----	-----	-----	-----	-----
16	24.3	28.5	27.4	-----	-----	-----	-----	-----	-----
17	25.2	28.5	27.5	-----	-----	-----	-----	-----	-----
18	26.2	27.5	31.1	-----	-----	-----	-----	-----	-----
19	23.1	25.2	29.1	-----	-----	-----	-----	-----	-----
20	22.9	28.6	29.8	-----	-----	-----	-----	-----	-----
21	26.8	26.8	27.4	-----	-----	-----	-----	-----	-----
22	23.9	28.3	32.1	-----	-----	-----	-----	-----	-----
23	22.6	27.8	27.3	-----	-----	-----	-----	-----	-----
24	22.1	25.8	29.2	-----	-----	-----	-----	-----	-----
25	33.1	27.3	29.0	-----	-----	-----	-----	-----	-----
26	25.5	25.2	27.6	-----	-----	-----	-----	-----	-----
27	25.8	29.3	27.5	-----	-----	-----	-----	-----	-----
28	25.2	27.0	29.8	-----	-----	-----	-----	-----	-----
29	22.9	28.0	27.8	-----	-----	-----	-----	-----	-----
30	28.9	28.0	29.0	-----	-----	-----	-----	-----	-----
31	25.6	28.4	27.4	-----	-----	-----	-----	-----	-----
32	23.9	26.9	27.1	-----	-----	-----	-----	-----	-----
33	21.4	26.8	28.8	-----	-----	-----	-----	-----	-----
34	29.3	27.3	28.2	-----	-----	-----	-----	-----	-----
35	21.4	28.6	27.4	-----	-----	-----	-----	-----	-----
36	21.9	28.6	29.8	-----	-----	-----	-----	-----	-----
37	22.1	25.8	27.5	-----	-----	-----	-----	-----	-----
38	21.9	28.4	27.1	-----	-----	-----	-----	-----	-----
39	28.4	28.7	27.4	-----	-----	-----	-----	-----	-----
40	21.8	26.0	27.2	-----	-----	-----	-----	-----	-----
41	23.7	28.4	27.1	-----	-----	-----	-----	-----	-----
42	23.8	28.5	27.5	-----	-----	-----	-----	-----	-----
43	26.5	26.4	27.1	-----	-----	-----	-----	-----	-----
44	34.1	26.5	27.4	-----	-----	-----	-----	-----	-----
45	31.4	25.5	28.4	-----	-----	-----	-----	-----	-----
46	22.4	28.3	27.5	-----	-----	-----	-----	-----	-----
47	23.0	23.1	27.7	-----	-----	-----	-----	-----	-----
48	23.9	28.3	27.1	-----	-----	-----	-----	-----	-----
49	22.4	27.2	27.3	-----	-----	-----	-----	-----	-----
50	22.0	28.6	27.1	-----	-----	-----	-----	-----	-----
	Mean = 26.9			Mean = -----			Mean = -----		
	S.D. = 2.01			S.D. = -----			S.D. = -----		

(Table 7) showing diameters of striated duct, acini, and GCTs in control animals injected with oil + D.W in group 1

No.	STRIATED DUCT A1	A2	A3	ACINI A1	A2	A3	GCT A1	A2	A3
1	21.7	26.0	32.2	-----	-----	-----	-----	-----	-----
2	23.6	25.8	33.1	-----	-----	-----	-----	-----	-----
3	23.5	26.0	27.8	-----	-----	-----	-----	-----	-----
4	21.4	25.1	25.9	-----	-----	-----	-----	-----	-----
5	22.4	25.2	31.2	-----	-----	-----	-----	-----	-----
6	25.8	26.0	27.8	-----	-----	-----	-----	-----	-----
7	23.8	27.0	30.0	-----	-----	-----	-----	-----	-----
8	26.9	26.2	29.2	-----	-----	-----	-----	-----	-----
9	25.2	26.1	27.8	-----	-----	-----	-----	-----	-----
10	21.8	28.6	23.8	-----	-----	-----	-----	-----	-----
11	25.3	24.6	23.8	-----	-----	-----	-----	-----	-----
12	22.1	26.0	32.6	-----	-----	-----	-----	-----	-----
13	23.1	24.0	30.0	-----	-----	-----	-----	-----	-----
14	23.8	27.7	29.0	-----	-----	-----	-----	-----	-----
15	22.3	26.2	28.9	-----	-----	-----	-----	-----	-----
16	21.7	24.9	32.2	-----	-----	-----	-----	-----	-----
17	21.8	28.1	32.7	-----	-----	-----	-----	-----	-----
18	25.4	28.7	29.4	-----	-----	-----	-----	-----	-----
19	23.4	24.6	27.9	-----	-----	-----	-----	-----	-----
20	24.1	27.8	26.8	-----	-----	-----	-----	-----	-----
21	21.7	27.7	33.0	-----	-----	-----	-----	-----	-----
22	26.4	27.1	32.7	-----	-----	-----	-----	-----	-----
23	21.6	24.9	31.0	-----	-----	-----	-----	-----	-----
24	23.5	26.2	32.8	-----	-----	-----	-----	-----	-----
25	23.3	25.1	31.9	-----	-----	-----	-----	-----	-----
26	21.9	25.8	29.1	-----	-----	-----	-----	-----	-----
27	21.8	23.6	28.1	-----	-----	-----	-----	-----	-----
28	24.1	33.4	31.0	-----	-----	-----	-----	-----	-----
29	22.1	24.1	28.6	-----	-----	-----	-----	-----	-----
30	23.3	33.4	29.9	-----	-----	-----	-----	-----	-----
31	21.7	34.4	33.0	-----	-----	-----	-----	-----	-----
32	21.4	31.6	32.3	-----	-----	-----	-----	-----	-----
33	23.1	25.0	28.2	-----	-----	-----	-----	-----	-----
34	22.5	23.0	30.1	-----	-----	-----	-----	-----	-----
35	21.7	30.5	31.0	-----	-----	-----	-----	-----	-----
36	24.1	25.6	32.9	-----	-----	-----	-----	-----	-----
37	21.8	27.5	32.9	-----	-----	-----	-----	-----	-----
38	21.4	34.8	30.0	-----	-----	-----	-----	-----	-----
39	21.7	23.3	30.2	-----	-----	-----	-----	-----	-----
40	21.5	26.6	31.8	-----	-----	-----	-----	-----	-----
41	21.4	25.6	30.1	-----	-----	-----	-----	-----	-----
42	21.8	27.5	32.9	-----	-----	-----	-----	-----	-----
43	21.4	24.0	33.0	-----	-----	-----	-----	-----	-----
44	21.7	26.6	32.0	-----	-----	-----	-----	-----	-----
45	22.7	23.2	31.9	-----	-----	-----	-----	-----	-----
46	21.8	24.7	30.0	-----	-----	-----	-----	-----	-----
47	22.0	28.7	28.8	-----	-----	-----	-----	-----	-----
48	21.4	33.8	32.0	-----	-----	-----	-----	-----	-----
49	21.6	27.5	29.8	-----	-----	-----	-----	-----	-----
50	21.4	23.3	33.0	-----	-----	-----	-----	-----	-----
	Mean = 26.7			Mean = -----			Mean = -----		
	S.D. = 3.08			S.D. = -----			S.D. = -----		

(Table 8) showing the diameters of striated ducts, acini and GCTs in testosterone animals of group 1

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	28.2	27.4	30.5	24.0	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2	28.0	27.2	30.0	25.9	25.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3	28.2	27.4	30.8	25.8	23.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4	27.2	27.2	30.2	23.7	26.8	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5	27.3	27.5	29.2	24.7	25.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6	28.2	28.3	28.6	28.1	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	29.2	27.6	30.8	26.1	25.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	28.4	27.5	30.6	29.2	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9	28.3	27.9	30.7	27.5	23.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10	30.8	27.6	30.5	24.1	23.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11	26.7	27.4	28.7	27.6	23.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12	28.2	25.3	25.5	24.4	23.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
13	26.1	29.1	27.1	25.4	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
14	29.9	25.3	30.1	26.1	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
15	28.4	26.2	29.7	24.6	25.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
16	27.0	27.6	30.7	24.0	23.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
17	30.3	28.5	30.7	24.1	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
18	30.9	29.5	29.7	27.7	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
19	26.7	26.4	27.4	25.7	24.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
20	30.0	26.2	30.8	26.4	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
21	29.9	30.1	29.0	24.0	23.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
22	29.3	27.2	30.5	28.7	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
23	27.0	25.9	30.0	23.9	22.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
24	28.4	25.4	28.0	25.8	23.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
25	27.2	28.9	29.5	25.6	22.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
26	28.0	28.8	27.4	24.2	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
27	25.7	29.1	31.5	24.1	24.0	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
28	35.0	28.5	29.2	26.4	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
29	26.2	26.2	30.2	24.4	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
30	34.3	32.2	30.2	25.6	22.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
31	34.4	28.9	30.6	24.0	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
32	33.8	27.2	29.1	23.7	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
33	27.1	24.7	29.0	25.4	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
34	25.1	32.6	29.5	24.8	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
35	32.7	24.7	30.8	24.0	22.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
36	27.7	25.2	30.8	26.4	22.6	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
37	29.7	25.4	28.0	24.1	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
38	34.1	25.2	30.6	23.7	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
39	25.4	31.7	30.9	24.0	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
40	28.8	25.1	28.2	23.8	22.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
41	27.7	27.0	30.6	23.7	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
42	29.7	27.1	30.7	24.1	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
43	26.1	29.8	28.6	23.7	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
44	28.8	34.2	28.7	24.0	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
45	25.3	34.7	27.7	25.0	22.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
46	26.8	25.7	30.5	24.1	23.5	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
47	30.9	26.3	25.3	24.3	23.4	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
48	35.1	27.2	30.5	23.7	22.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
49	29.7	25.7	29.4	23.9	22.3	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
50	25.4	25.3	30.8	23.7	25.7	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
	Mean =		26.7			Mean =		-----			Mean =		-----		
	S . D . =		1.89			S . D . =		-----			S . D . =		-----		

(Table 9) showing the diameters of striated ducts, acini and GCTs in thyroxine animals (A) of group 1

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	23.1	27.2	27.6	24.9	28.0	26.8	26.9	26.7	26.9	26.1	-----	-----	-----	-----	-----
2	26.5	27.0	29.5	28.3	29.9	26.5	26.6	26.3	26.2	26.8	-----	-----	-----	-----	-----
3	24.5	27.2	29.4	26.3	29.8	26.4	26.5	26.8	26.3	26.9	-----	-----	-----	-----	-----
4	27.6	26.2	27.3	29.4	27.7	26.7	26.8	26.6	26.9	26.3	-----	-----	-----	-----	-----
5	25.9	26.3	28.3	27.7	28.7	26.8	26.9	26.7	26.7	26.7	-----	-----	-----	-----	-----
6	22.5	27.2	31.7	24.7	32.1	26.3	26.4	26.3	26.5	26.9	-----	-----	-----	-----	-----
7	26.0	28.2	29.7	27.8	30.1	26.4	26.5	26.7	26.5	26.8	-----	-----	-----	-----	-----
8	22.8	27.4	32.8	24.7	33.2	26.9	26.9	26.1	26.1	26.8	-----	-----	-----	-----	-----
9	23.8	27.3	31.1	25.6	31.5	26.8	26.9	26.1	26.9	26.6	-----	-----	-----	-----	-----
10	24.5	29.8	27.7	26.3	28.1	26.1	26.2	26.1	26.3	26.9	-----	-----	-----	-----	-----
11	24.3	25.7	31.2	26.1	31.6	26.8	26.9	26.9	26.9	26.8	-----	-----	-----	-----	-----
12	24.2	27.2	28.0	26.0	28.4	26.7	26.8	26.9	26.8	26.9	-----	-----	-----	-----	-----
13	22.4	25.1	29.0	24.7	29.4	26.9	26.5	26.9	26.6	26.8	-----	-----	-----	-----	-----
14	23.1	28.9	29.7	24.9	30.1	26.8	26.4	26.1	26.5	26.6	-----	-----	-----	-----	-----
15	26.5	27.4	28.2	28.3	28.6	26.6	26.7	26.1	26.7	26.6	-----	-----	-----	-----	-----
16	24.0	26.0	27.6	25.8	28.0	26.9	26.8	26.6	26.3	26.8	-----	-----	-----	-----	-----
17	22.6	29.3	27.7	24.7	28.1	26.5	26.3	26.7	26.1	26.1	-----	-----	-----	-----	-----
18	22.5	29.9	31.3	24.7	31.7	26.9	26.4	26.7	26.9	26.5	-----	-----	-----	-----	-----
19	24.8	25.7	29.3	26.6	29.7	26.5	26.9	26.1	26.7	26.3	-----	-----	-----	-----	-----
20	22.8	29.0	30.0	24.7	30.4	26.8	26.8	26.9	26.9	26.9	-----	-----	-----	-----	-----
21	24.0	28.9	27.6	25.8	28.0	26.7	26.1	26.9	26.7	26.9	-----	-----	-----	-----	-----
22	22.4	28.3	32.3	24.7	32.7	26.8	26.8	26.7	26.8	26.7	-----	-----	-----	-----	-----
23	22.4	26.0	27.5	24.8	27.9	26.9	26.7	26.7	26.7	26.9	-----	-----	-----	-----	-----
24	23.8	27.4	29.4	25.6	29.8	26.7	26.9	26.9	26.3	26.6	-----	-----	-----	-----	-----
25	23.2	26.2	29.2	25.0	29.6	26.7	26.4	26.7	26.4	26.9	-----	-----	-----	-----	-----
26	22.4	27.0	27.8	24.7	28.2	26.8	26.9	26.9	26.9	26.5	-----	-----	-----	-----	-----
27	24.8	24.7	27.7	26.6	28.1	26.9	26.8	26.9	26.9	26.1	-----	-----	-----	-----	-----
28	22.5	34.7	30.0	24.7	30.4	26.9	26.1	26.8	26.5	26.9	-----	-----	-----	-----	-----
29	22.4	25.2	28.0	24.7	28.4	26.5	26.8	26.9	26.2	26.4	-----	-----	-----	-----	-----
30	22.4	34.7	29.2	24.8	29.6	26.9	26.7	26.7	26.9	26.9	-----	-----	-----	-----	-----
31	22.5	35.7	27.6	24.7	28.0	26.8	26.9	26.7	26.9	26.8	-----	-----	-----	-----	-----
32	22.4	32.8	27.3	24.7	27.7	26.7	26.8	26.2	26.1	26.6	-----	-----	-----	-----	-----
33	22.5	26.1	29.0	24.7	29.4	26.9	26.9	26.9	26.8	26.5	-----	-----	-----	-----	-----
34	22.4	24.1	28.4	24.7	28.8	26.9	26.9	26.5	26.9	26.7	-----	-----	-----	-----	-----
35	22.4	30.1	27.6	24.8	28.0	26.5	26.6	26.9	26.9	26.9	-----	-----	-----	-----	-----
36	23.4	26.7	30.0	25.2	30.4	26.9	26.8	26.9	26.1	26.2	-----	-----	-----	-----	-----
37	22.5	28.7	27.7	24.9	28.1	26.8	26.9	26.9	26.9	26.3	-----	-----	-----	-----	-----
38	22.7	27.0	27.3	24.7	27.7	26.7	26.8	26.1	26.8	26.8	-----	-----	-----	-----	-----
39	22.4	24.4	27.6	24.9	28.0	26.7	26.8	26.6	26.8	26.4	-----	-----	-----	-----	-----
40	22.4	27.8	27.4	24.8	27.8	26.6	26.7	26.9	26.6	26.3	-----	-----	-----	-----	-----
41	22.5	26.7	27.3	24.7	27.7	26.8	26.9	26.8	26.4	26.8	-----	-----	-----	-----	-----
42	22.7	28.7	27.7	24.9	28.1	26.9	26.9	26.5	26.9	26.6	-----	-----	-----	-----	-----
43	22.4	25.1	27.3	24.7	27.7	26.5	26.6	26.9	26.9	26.5	-----	-----	-----	-----	-----
44	22.4	27.8	27.6	24.7	28.0	26.9	26.9	26.1	26.8	26.4	-----	-----	-----	-----	-----
45	22.5	24.3	28.6	24.7	29.0	26.9	26.1	26.9	26.6	26.8	-----	-----	-----	-----	-----
46	24.3	25.8	27.7	26.1	28.1	26.3	26.4	26.4	26.6	26.9	-----	-----	-----	-----	-----
47	24.2	25.0	27.9	26.0	28.3	26.7	26.8	26.8	26.9	26.5	-----	-----	-----	-----	-----
48	22.6	35.1	27.3	24.8	27.7	26.7	26.8	26.9	26.1	26.9	-----	-----	-----	-----	-----
49	23.1	28.7	27.5	24.9	27.9	26.9	26.9	26.9	26.9	26.9	-----	-----	-----	-----	-----
50	26.5	24.4	27.3	28.3	27.7	26.8	26.9	26.9	26.9	26.2	-----	-----	-----	-----	-----
	Mean = 26.8					Mean = 26.3					Mean = -----				
	S . D . = 2.11					S . D . = 0.53					S . D . = -----				

(Table 10) showing the diameters of striated ducts, acini and GCTs in combind animals (A) of group I

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	25.6	24.8	23.1	30.6	27.9	26.7	26.6	26.3	26.9	26.7	-----	-----	-----	-----	-----
2	25.4	24.6	25.0	32.5	27.4	26.4	26.3	26.3	26.2	26.4	-----	-----	-----	-----	-----
3	25.6	24.8	24.9	32.4	28.2	26.3	26.2	26.1	26.3	26.5	-----	-----	-----	-----	-----
4	24.6	24.6	22.8	30.3	27.6	26.6	26.5	26.9	26.9	26.6	-----	-----	-----	-----	-----
5	24.7	24.9	23.8	31.3	26.6	26.7	26.6	26.1	26.6	26.6	-----	-----	-----	-----	-----
6	25.6	25.7	27.2	34.7	26.0	26.2	26.1	26.9	26.7	26.5	-----	-----	-----	-----	-----
7	26.6	25.0	25.2	32.7	28.2	26.3	26.2	26.1	26.5	26.4	-----	-----	-----	-----	-----
8	25.8	24.9	28.3	35.8	28.0	26.8	26.6	26.3	26.1	26.4	-----	-----	-----	-----	-----
9	25.7	25.3	26.6	34.1	28.1	26.7	26.6	26.2	26.9	26.2	-----	-----	-----	-----	-----
10	28.2	25.0	23.2	30.7	27.9	26.1	26.8	26.3	26.8	26.6	-----	-----	-----	-----	-----
11	24.1	24.8	26.7	34.2	26.1	26.7	26.6	26.2	26.9	26.6	-----	-----	-----	-----	-----
12	25.6	22.7	23.5	31.0	22.9	26.6	26.5	26.2	26.8	26.5	-----	-----	-----	-----	-----
13	23.5	26.5	24.5	32.0	24.5	26.8	26.2	26.2	26.6	26.4	-----	-----	-----	-----	-----
14	27.3	22.7	25.2	32.7	27.5	26.7	26.1	26.3	26.5	26.2	-----	-----	-----	-----	-----
15	25.8	23.6	23.7	31.2	27.1	26.5	26.4	26.3	26.7	26.2	-----	-----	-----	-----	-----
16	24.4	25.0	23.1	30.6	28.1	26.8	26.5	26.9	26.3	26.6	-----	-----	-----	-----	-----
17	27.7	25.9	23.2	30.7	28.1	26.4	26.1	26.1	26.5	26.7	-----	-----	-----	-----	-----
18	28.3	26.9	26.8	34.3	27.1	26.8	26.1	26.1	26.9	26.6	-----	-----	-----	-----	-----
19	24.1	23.8	24.8	32.3	24.8	26.4	26.6	26.3	26.7	26.6	-----	-----	-----	-----	-----
20	27.4	23.6	25.5	33.0	28.2	26.7	26.5	26.2	26.9	26.5	-----	-----	-----	-----	-----
21	27.3	27.5	23.1	30.6	26.4	26.6	26.8	26.2	26.5	26.6	-----	-----	-----	-----	-----
22	26.7	24.6	27.8	35.3	27.9	26.7	26.5	26.3	26.8	26.6	-----	-----	-----	-----	-----
23	24.4	23.3	23.0	30.5	27.4	26.8	26.4	26.1	26.7	26.5	-----	-----	-----	-----	-----
24	25.8	22.8	24.9	32.4	25.4	26.6	26.6	26.2	26.4	26.2	-----	-----	-----	-----	-----
25	24.6	33.8	24.7	32.2	26.9	26.6	26.1	26.3	26.5	26.6	-----	-----	-----	-----	-----
26	25.4	26.2	23.3	30.8	24.8	26.7	26.6	26.2	26.9	26.1	-----	-----	-----	-----	-----
27	23.1	26.5	23.2	30.7	28.9	26.8	26.5	26.2	26.9	26.7	-----	-----	-----	-----	-----
28	33.1	25.9	25.5	33.0	26.6	26.8	26.8	26.1	26.5	26.5	-----	-----	-----	-----	-----
29	23.6	23.6	23.5	31.0	27.6	26.4	26.5	26.3	26.7	26.6	-----	-----	-----	-----	-----
30	33.1	29.6	24.7	32.2	27.6	26.8	26.4	26.3	26.9	26.5	-----	-----	-----	-----	-----
31	34.1	26.3	23.1	30.6	28.0	26.7	26.6	26.1	26.9	26.4	-----	-----	-----	-----	-----
32	31.2	24.6	22.8	30.3	26.5	26.6	26.5	26.5	26.1	26.2	-----	-----	-----	-----	-----
33	24.5	22.5	24.5	32.0	26.4	26.8	26.6	26.3	26.8	26.1	-----	-----	-----	-----	-----
34	22.5	30.0	23.9	31.4	26.9	26.8	26.6	26.8	26.9	26.3	-----	-----	-----	-----	-----
35	30.1	22.5	23.1	30.6	28.2	26.4	26.3	26.2	26.9	26.5	-----	-----	-----	-----	-----
36	25.1	22.6	25.5	33.0	28.2	26.8	26.5	26.2	26.9	26.6	-----	-----	-----	-----	-----
37	27.1	22.8	23.2	30.7	25.4	26.7	26.6	26.3	26.9	26.6	-----	-----	-----	-----	-----
38	34.5	22.6	22.8	30.3	28.0	26.6	26.5	26.3	26.8	26.4	-----	-----	-----	-----	-----
39	22.8	29.1	23.1	30.6	28.3	26.6	26.5	26.9	26.8	26.1	-----	-----	-----	-----	-----
40	26.2	22.5	22.9	30.4	25.6	26.5	26.4	26.3	26.6	26.6	-----	-----	-----	-----	-----
41	25.1	24.4	22.8	30.3	28.0	26.7	26.6	26.1	26.9	26.4	-----	-----	-----	-----	-----
42	27.1	24.5	23.2	30.7	28.1	26.8	26.6	26.8	26.9	26.2	-----	-----	-----	-----	-----
43	23.5	27.2	22.8	30.3	26.0	26.4	26.3	26.2	26.9	26.1	-----	-----	-----	-----	-----
44	26.2	34.8	23.1	30.6	26.1	26.8	26.6	26.4	26.8	26.1	-----	-----	-----	-----	-----
45	22.7	32.1	24.1	31.6	25.1	26.8	26.8	26.2	26.6	26.4	-----	-----	-----	-----	-----
46	24.2	23.1	23.2	30.7	27.9	26.2	26.1	26.7	26.6	26.6	-----	-----	-----	-----	-----
47	28.3	23.7	23.4	30.9	22.7	26.6	26.5	26.1	26.9	26.1	-----	-----	-----	-----	-----
48	33.5	24.6	22.8	30.3	27.9	26.6	26.5	26.2	26.1	26.6	-----	-----	-----	-----	-----
49	27.1	23.1	23.0	30.5	26.8	26.8	26.6	26.2	26.9	26.5	-----	-----	-----	-----	-----
50	22.8	22.7	22.8	30.3	28.2	26.7	26.6	26.3	26.9	26.8	-----	-----	-----	-----	-----
	Mean = 26.9					Mean = 26.3					Mean = -----				
	S . D . = 2.31					S . D . = 0.51					S . D . = -----				

-Group two :

The body weight (Table 1).

- In the control,it ranged from 61 g to 78 g with a mean value 66 g ± 6.96.

It increased by about 36.36 % than the previous control group .

- In the control injected with the hormones solvents:

- Olive oil, ranged from 60 g to 79 g with a mean value 68 g and ± 9.84.

- Distilled water.ranged from 61 g to 75 g with mean value 68 g ± 7.00.

- Olive oil and distilled water.ranged from 63 g to 78 g with a mean value of 70 g ± 2.16.

- After testosterone injection, ranged from 58 gto 79 g with a mean value of 69 g ± 7.48.

The body weight increased by about 4.35 % and which is of a significant value.

- After thyroxine injections, ranged from 65 g to 81 g with a mean value 72 g ± 5.83.

The body weight increased by about 8.33 %, than the corresponding control age which is of a significant values.

- After the combined ininjections, ranged from 65 g to 82 g with a mean value of 74 g ± 6.2.

The body weight increased by about 10.81 %, than the same control group which was of a significant values.

The glandular weight (Table 2).

- In the control animals, the weights of the glands

ranged from 168.9 mg to 198.5 mg with a mean value of 186.1 mg.± 11.6.

The weight of the gland increased by about 41.86 % than the previous control group which is of of a significant values.

Control injected with hormone solvents :-

- Olive oil, ranged from 165.1 mg to 198.1 mg with a mean value 182.1 mg. ± 16.5

- Distilled water, ranged from 172.9 mg to 199.5 mg with a mean value of 183.8 mg. ± 13.7.

- Olive oil and distilled water, ranged from 166.9 mg to 196.2 mg with a mean value 182.5 mg. ± 14.7.

- After testosterone injections, the weights of the glands ranged from 182.2 mg to 191.4 mg with a mean value of 186.9mg ± 3.4.

The weight of the gland increased by about 0.43 % than the corresponding control age which is of a non significant value.

- After thyroxine injections, the weights of the glands ranged from 196.3 mg to 212.2 mg with a mean value of 202.7 mg ± 6.74, the gland increased by about 8.19 % than the corresponding control age which was of a significant values.

- After the combined injections, the weights of the glands ranged from 199.1 mg to 220.1 mg with a mean value of 212.9 mg ± 8.05.

The weight of the gland increased by about 12.59 % than the control of the same group which is of a significant value.

Histological observations.

Hx.& E.:

- In the control animals and the controls injected with hormones solvents.

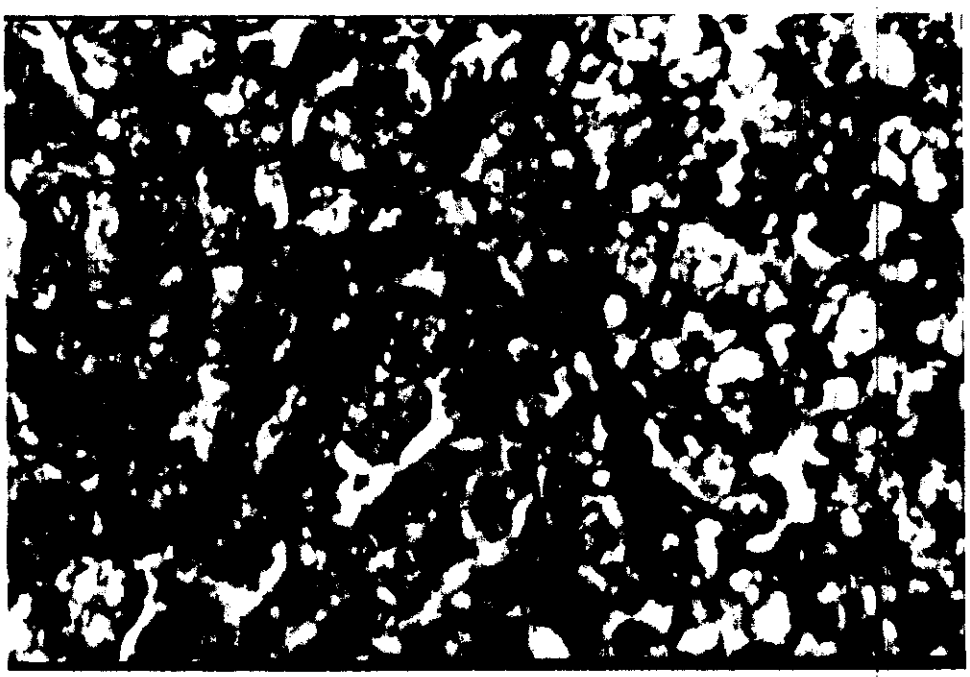
Acini and terminal tubules with crescents now dominated the picture; outnumbering by far the striated ducts. The acini, crescents and buds were more numerous than the terminal tubules or "centres". The acinar cells had a somewhat foamy appearance with a well-marked basophilia. The eosinophilia of the granules of the terminal tubules was increased (Fig. 31) . Convolutions of the striated ducts were more advanced. Mitoses were most frequent in acini, buds and crescents and rare in the striated ducts.

- After testosterone injections, the results were comparable to the control group.

- After thyroxine injections, and combined injections.

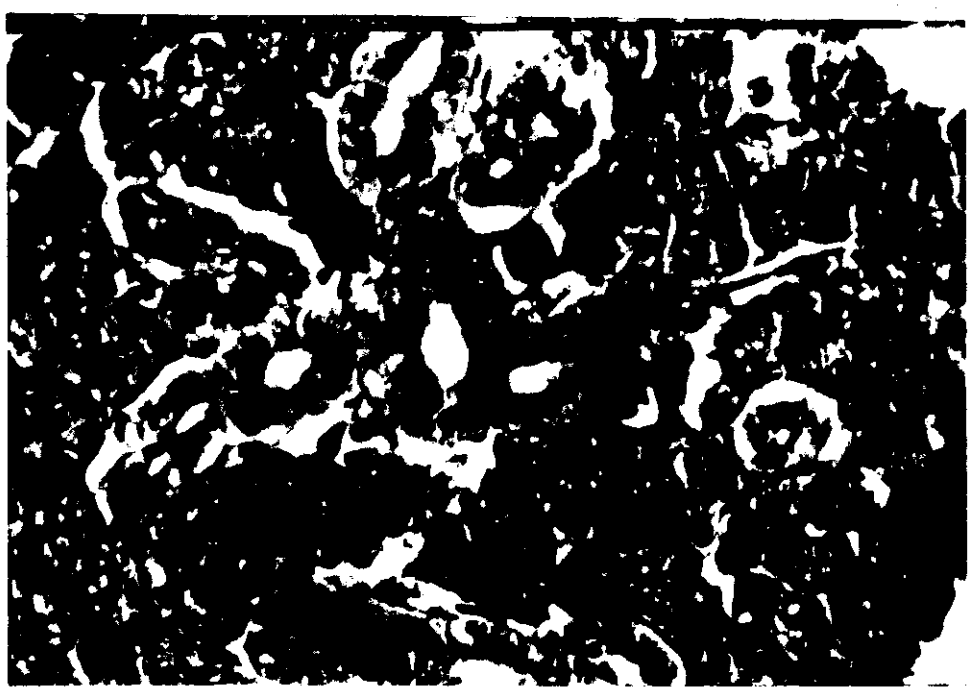
The lobules of the submandibular gland showed an increase in the number of striated ducts (Fig. 32). Centres were no longer present. The striated ducts showed, in some specimensapical vacuolization of the cells and formation of small granular convoluted tubules (Fig. 33). Such changes occurred in the proximal parts which were close to the intercalated ducts.

The GCT were lined by tall epithelial cells with basal rounded nuclei (Fig. 34).



(Fig. 31) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 2) showing centers (C) and acini (A). Note that the centers were more eosinophilic.

(Hx. & E. stain, Proj. 10 x, Obj. 40 x.)

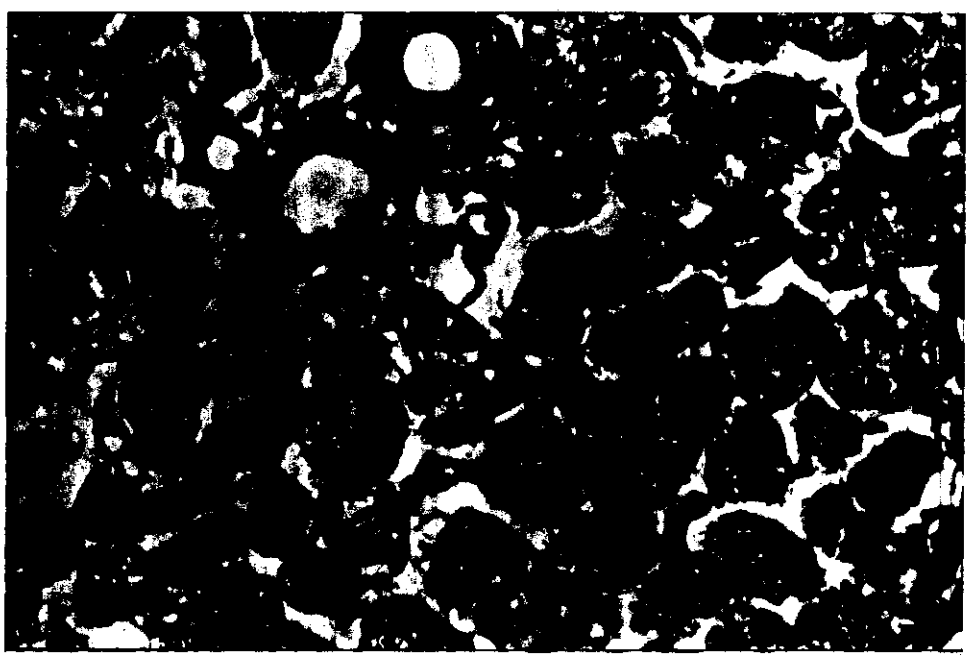


(Fig. 32) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 2)treated with thyroxine hormone showing an increased number of striated ducts (arrows).

(Hx & E stain, Proj. 10 x, Obj.40 x.)

(Fig. 33) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 2) treated with thyroxine hormone showing the formation of granular convoluted tubules (G) from striated ducts (S). Note the displacement of the nuclei to the basal parts of the cells (arrows).

(Hx & E stain, Proj. 10 x, Obj.100 x.)



(Fig. 34) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 2) treated with thyroxine hormone showing the granular convoluted tubule (G) which lined with tall epith. and their nuclei were basally located.

(Hx & E stain, Proj. 10 x, Obj.40 x.)

VerHoeff's and reticulin stains :-

- In the control animals and the controls injected with hormones solvents.

There was slight increase in the distribution and thickness in both of collagenous and reticular fibers than the previous control group.

- After testosterone injections, the results were comparable to the control animals.

- After thyroxine injections, and combined injections, the collagenous and reticular fibers were increased more than the control age in the same group and more than the previous age injected with the same hormone.

PAS, PAS with diastase, alcian blue, alcian blue + PAS , toliudine blue and Mallory :-

For the control animals, control with solvents and those injected with testosterone hormone, the results were similar to the previous age.

- After thyroxine injections, and combined injections, the results were comparable to the control group excpt for Mallory trichrom stain which showed a moderate intensity of staining of the granules of the granular convoluted tubule cells with orang G.

Histochemical observations :

They resemble those of the previos group except for thyroxine injections, and combined injections

Succinic dehydrogenase enzyme :-

- There was premature formation of small granular convoluted tubules and the reaction was found at the basal parts of the cells (Fig. 35). Also, the reaction was more strong in the inter lobular ducts.

- Alkaline phosphatase and ATPase enzymes, there was an increase in the activity of the interlobular ducts.

Quantitative observations :-

- In the control animals (Table 11), the diameters of the striated ducts were ranged from 25.0 μm to 35.5 μm with a mean value of 29.7 μm ± 1.644

The diameters of the acini were ranged from 26.0 umto 26.9 μm with a mean value of 26.3 μm and ±0.31

No granular convoluted tubules were found.

- In the controls injected with the hormones solvents, no granular convoluted tubules were found.

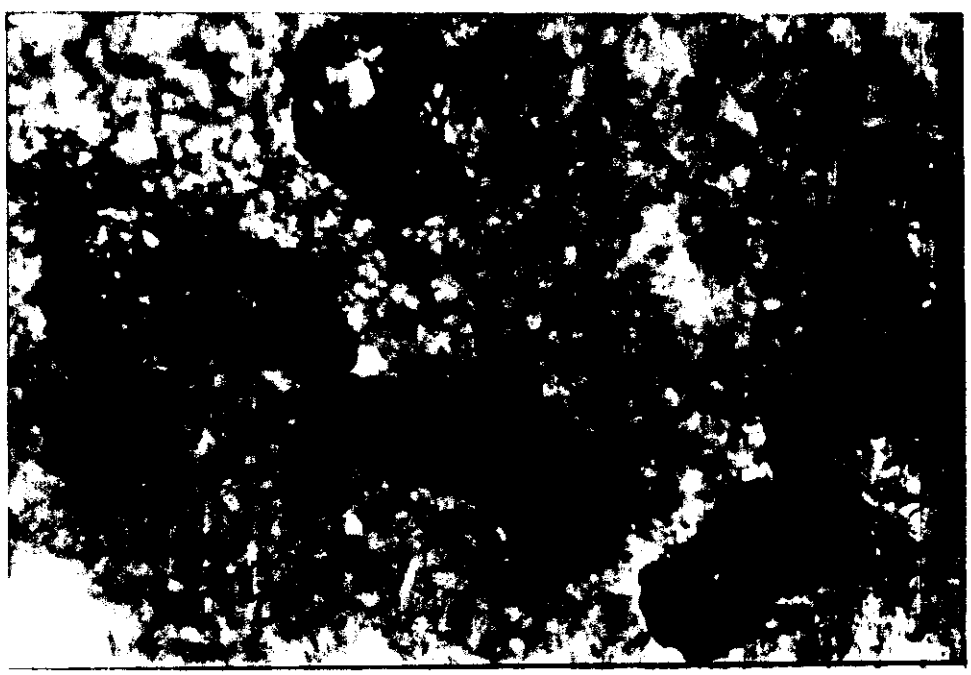
- Olive oil, (Table 12), the diameters of the striated ducts were ranged from 25.0um to 35.5 μm with a mean value of 29.7 μm ± 2.05

The diameters of the acini were ranged from 26.1 umto 26.9 μm with a mean value of 26.4 μm ± ±0.41

- Distilled water (Table 13), the diameters of the striated ducts were ranged from 25.0 μm to 35.4 μm with a mean value of 29.6 μm ± 1.75

The diameters of the acini were ranged from 26.1 umto 26.9 μm with a mean value of 26.3 μm ± 0.58

- Olive oil and distilled water (Table 14), the diameters of the striated ducts were ranged from 25.0 μm to 35.5 μm with a mean value of 29.7 μm ± .58



(Fig. 35) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 2) treated with thyroxine hormone showing the premature formation of granular convoluted tubules which showed a basal activity of succinic dehydrogenase enzyme (one arrow) while the striated duct showed the reaction all over the cell (2 arrows).

(Pearse method for succinic dehydrogenas enzyme Proj. 10 x, Obj. 40 x.)

(Table 11) showing the diameters of striated ducts, acini and GCTs in control animals (A) of group 2

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	27.4	25.6	34.1	34.8	26.1	26.8	26.9	26.9	26.8	26.0	-----	-----	-----	-----	-----
2	27.2	25.4	35.0	34.6	25.9	26.5	26.6	26.9	26.9	26.7	-----	-----	-----	-----	-----
3	27.4	25.6	29.7	34.8	26.1	26.4	26.5	26.7	26.9	26.8	-----	-----	-----	-----	-----
4	27.2	25.1	27.8	34.6	25.1	26.7	26.8	26.5	26.8	26.9	-----	-----	-----	-----	-----
5	27.5	25.0	33.1	34.9	25.2	26.8	26.9	26.6	26.5	26.9	-----	-----	-----	-----	-----
6	28.3	25.6	29.7	35.5	26.1	26.3	26.4	26.2	26.9	26.8	-----	-----	-----	-----	-----
7	27.6	26.6	31.9	35.0	27.1	26.4	26.5	26.6	26.4	26.7	-----	-----	-----	-----	-----
8	27.5	25.8	31.1	34.9	26.3	26.9	26.9	26.9	26.0	26.7	-----	-----	-----	-----	-----
9	27.9	25.7	29.7	35.3	26.2	26.8	26.9	26.8	26.8	26.5	-----	-----	-----	-----	-----
10	27.6	28.2	25.7	35.0	28.7	26.1	26.2	26.9	26.9	26.9	-----	-----	-----	-----	-----
11	27.4	25.0	25.7	34.8	25.0	26.8	26.9	26.8	26.8	26.9	-----	-----	-----	-----	-----
12	25.3	25.6	34.5	32.7	26.1	26.7	26.8	26.8	26.7	26.8	-----	-----	-----	-----	-----
13	29.1	25.0	31.9	35.5	25.0	26.9	26.5	26.8	26.5	26.7	-----	-----	-----	-----	-----
14	25.3	27.3	30.9	32.7	27.8	26.8	26.4	26.9	26.4	26.5	-----	-----	-----	-----	-----
15	26.2	25.8	30.8	33.6	26.3	26.6	26.7	26.9	26.6	26.5	-----	-----	-----	-----	-----
16	27.6	25.0	34.1	35.0	25.0	26.9	26.8	26.5	26.2	26.9	-----	-----	-----	-----	-----
17	28.5	27.7	34.6	35.5	28.2	26.5	26.3	26.6	26.9	26.0	-----	-----	-----	-----	-----
18	29.5	28.3	31.3	35.5	28.8	26.9	26.4	26.6	26.8	26.9	-----	-----	-----	-----	-----
19	26.4	25.0	29.8	33.8	25.0	26.5	26.9	26.9	26.9	26.9	-----	-----	-----	-----	-----
20	26.2	27.4	28.7	33.6	27.9	26.8	26.8	26.8	26.8	26.8	-----	-----	-----	-----	-----
21	30.1	27.3	34.9	35.5	27.8	26.7	26.1	26.8	26.9	26.9	-----	-----	-----	-----	-----
22	27.2	26.7	34.6	34.6	27.2	26.8	26.8	26.9	26.7	26.9	-----	-----	-----	-----	-----
23	25.9	25.0	32.9	33.3	25.0	26.9	26.7	26.6	26.6	26.8	-----	-----	-----	-----	-----
24	25.4	25.8	34.7	32.8	26.3	26.7	26.9	26.8	26.9	26.5	-----	-----	-----	-----	-----
25	28.9	25.0	33.8	35.5	25.1	26.7	26.4	26.9	26.9	26.9	-----	-----	-----	-----	-----
26	28.8	25.4	31.0	35.5	25.9	26.8	26.9	26.8	26.8	26.4	-----	-----	-----	-----	-----
27	29.1	25.0	30.0	35.5	25.0	26.9	26.8	26.8	26.8	26.0	-----	-----	-----	-----	-----
28	28.5	33.1	32.9	35.5	33.6	26.9	26.1	26.7	26.4	26.8	-----	-----	-----	-----	-----
29	26.2	25.0	30.5	33.6	25.0	26.5	26.8	26.9	26.9	26.9	-----	-----	-----	-----	-----
30	32.2	33.1	31.8	35.5	33.6	26.9	26.7	26.9	26.8	26.8	-----	-----	-----	-----	-----
31	28.9	34.1	34.9	35.5	34.6	26.8	26.9	26.6	26.8	26.7	-----	-----	-----	-----	-----
32	27.2	31.2	34.2	34.6	31.7	26.7	26.8	26.1	26.0	26.5	-----	-----	-----	-----	-----
33	25.0	25.0	30.1	32.5	25.0	26.9	26.9	26.9	26.7	26.4					
34	32.6	25.0	32.0	35.5	25.0	26.9	26.9	26.4	26.8	26.6	-----	-----	-----	-----	-----
35	25.0	30.1	32.9	32.5	30.6	26.5	26.6	26.8	26.9	26.8	-----	-----	-----	-----	-----
36	25.2	25.1	34.8	32.6	25.6	26.9	26.8	26.8	26.9	26.9	-----	-----	-----	-----	-----
37	25.4	27.1	34.8	32.8	27.6	26.8	26.9	26.9	26.8	26.9	-----	-----	-----	-----	-----
38	25.2	34.5	31.9	32.6	35.0	26.7	26.8	26.9	26.7	26.7	-----	-----	-----	-----	-----
39	31.7	25.0	32.1	35.5	25.0	26.7	26.8	26.5	26.7	26.3	-----	-----	-----	-----	-----
40	25.1	26.2	33.7	32.5	26.7	26.6	26.7	26.9	26.5	26.9	-----	-----	-----	-----	-----
41	27.0	25.1	32.0	34.4	25.6	26.8	26.9	26.7	26.9	26.7	-----	-----	-----	-----	-----
42	27.1	27.1	34.8	34.5	27.6	26.9	26.9	26.4	26.9	26.5	-----	-----	-----	-----	-----
43	29.8	25.0	34.9	33.5	25.0	26.5	26.6	26.8	26.8	26.4	-----	-----	-----	-----	-----
44	34.2	26.2	33.9	25.0	26.7	26.9	26.9	26.0	26.7	26.3	-----	-----	-----	-----	-----
45	34.7	25.0	33.8	35.0	25.0	26.9	26.1	26.8	26.5	26.7	-----	-----	-----	-----	-----
46	25.7	25.0	31.9	33.1	25.0	26.3	26.4	26.3	26.5	26.9	-----	-----	-----	-----	-----
47	26.3	28.3	30.7	33.7	28.8	26.7	26.8	26.7	26.9	26.4	-----	-----	-----	-----	-----
48	27.2	33.5	33.9	34.6	34.0	26.7	26.8	26.8	26.0	26.9	-----	-----	-----	-----	-----
49	25.7	27.1	31.7	33.1	27.6	26.9	26.9	26.8	26.9	26.8	-----	-----	-----	-----	-----
50	25.3	25.0	34.9	32.7	25.0	26.8	26.9	26.9	26.9	26.1	-----	-----	-----	-----	-----
	Mean = 29.7					Mean = 26.3					Mean = -----				
	S. D. = 1.64					S. D. = 0.68					S. D. = -----				

(Table 12) showing diameters of striated duct, acini, and GCTs in control animals injected with olive oil in group 2

No.	STRIATED DUCT A1	STRIATED DUCT A2	STRIATED DUCT A3	ACINI A1	ACINI A2	ACINI A3	GCT A1	GCT A2	GCT A3
1	33.5	26.1	35.3	26.5	26.9	26.3	-----	-----	-----
2	34.4	25.9	35.4	26.2	26.6	26.3	-----	-----	-----
3	29.1	26.1	35.3	26.1	26.5	26.1	-----	-----	-----
4	27.2	25.1	35.4	26.4	26.8	25.9	-----	-----	-----
5	32.5	25.2	35.3	26.5	26.9	26.0	-----	-----	-----
6	29.1	26.1	35.3	26.0	26.4	25.6	-----	-----	-----
7	31.3	27.0	35.2	26.1	26.5	26.0	-----	-----	-----
8	30.5	26.3	35.2	26.6	26.9	26.3	-----	-----	-----
9	29.1	26.2	35.2	26.5	26.9	26.2	-----	-----	-----
10	25.1	28.6	35.2	25.8	26.2	26.3	-----	-----	-----
11	25.1	25.0	35.2	26.5	26.9	26.2	-----	-----	-----
12	33.9	26.1	33.4	26.4	26.8	26.2	-----	-----	-----
13	31.3	25.0	34.8	26.6	26.5	26.2	-----	-----	-----
14	30.3	27.7	33.4	26.5	26.4	26.3	-----	-----	-----
15	30.2	26.3	34.3	26.3	26.7	26.3	-----	-----	-----
16	33.5	25.0	35.4	26.6	26.8	25.9	-----	-----	-----
17	34.0	28.1	35.2	26.2	26.3	26.0	-----	-----	-----
18	30.7	28.7	35.5	26.6	26.4	26.0	-----	-----	-----
19	29.2	25.0	34.6	26.2	26.9	26.3	-----	-----	-----
20	28.1	27.8	34.3	26.5	26.8	26.2	-----	-----	-----
21	34.3	27.7	35.4	26.4	26.1	26.2	-----	-----	-----
22	34.0	27.1	35.4	26.5	26.8	26.3	-----	-----	-----
23	32.3	25.0	34.0	26.6	26.7	26.0	-----	-----	-----
24	34.1	26.3	33.5	26.4	26.9	26.2	-----	-----	-----
25	33.2	25.1	35.1	26.4	26.4	26.3	-----	-----	-----
26	30.4	25.9	35.2	26.5	26.9	26.2	-----	-----	-----
27	29.4	25.0	35.4	26.6	26.8	26.2	-----	-----	-----
28	32.3	33.3	35.4	26.6	26.1	26.1	-----	-----	-----
29	29.9	25.0	34.3	26.2	26.8	26.3	-----	-----	-----
30	31.2	33.3	35.4	26.6	26.7	26.3	-----	-----	-----
31	34.3	34.3	35.2	26.5	26.9	26.0	-----	-----	-----
32	33.6	31.5	35.4	26.4	26.8	25.5	-----	-----	-----
33	29.5	25.0	33.2	26.6	26.9	26.3	-----	-----	-----
34	31.4	25.0	35.4	26.6	26.9	25.8	-----	-----	-----
35	32.3	30.4	33.2	26.2	26.6	26.2	-----	-----	-----
36	34.2	25.6	33.3	26.6	26.8	26.2	-----	-----	-----
37	34.2	27.5	33.5	26.5	26.9	26.3	-----	-----	-----
38	31.3	34.7	33.3	26.4	26.8	26.3	-----	-----	-----
39	31.5	25.0	35.4	26.4	26.8	25.9	-----	-----	-----
40	33.1	26.6	33.2	26.3	26.7	26.3	-----	-----	-----
41	31.4	25.6	35.2	26.5	26.9	26.1	-----	-----	-----
42	34.2	27.5	35.3	26.6	26.2	25.8	-----	-----	-----
43	34.3	25.0	34.2	26.2	26.3	26.2	-----	-----	-----
44	33.3	26.6	25.0	26.6	26.7	25.4	-----	-----	-----
45	33.2	25.0	35.4	26.6	26.3	26.2	-----	-----	-----
46	31.3	25.0	33.8	26.0	26.4	25.7	-----	-----	-----
47	30.1	28.7	34.5	26.4	26.8	26.1	-----	-----	-----
48	33.3	33.7	35.4	26.4	26.8	26.2	-----	-----	-----
49	31.1	27.5	33.8	26.6	26.9	26.2	-----	-----	-----
50	34.3	25.0	33.4	26.5	26.9	26.3	-----	-----	-----
	Mean = 29.7			Mean = 26.4			Mean = -----		
	S.D. = 2.05			S.D. = 0.41			S.D. = -----		

(Table 13) showing diameters of striated duct, acini, and GCTs in control animals injected with D.W. in group 2

No.	STRIATED DUCT A1	A2	A3	ACINI A1	A2	A3	GCT A1	A2	A3
1	33.5	26.6	35.4	26.7	26.3	26.4	-----	-----	-----
2	34.4	26.4	35.4	26.4	26.3	26.5	-----	-----	-----
3	29.0	26.6	35.3	26.3	26.1	26.5	-----	-----	-----
4	27.1	26.1	35.4	26.6	25.9	26.4	-----	-----	-----
5	32.5	26.0	35.4	26.7	26.0	26.1	-----	-----	-----
6	29.0	26.6	35.4	26.2	25.6	26.5	-----	-----	-----
7	31.3	27.6	35.5	26.3	26.0	26.0	-----	-----	-----
8	30.4	26.8	35.4	26.7	26.3	25.6	-----	-----	-----
9	29.0	26.7	35.1	26.7	26.2	26.4	-----	-----	-----
10	25.0	29.2	35.4	26.0	26.3	26.5	-----	-----	-----
11	25.0	26.0	35.5	26.7	26.2	26.4	-----	-----	-----
12	33.9	26.6	33.3	26.6	26.2	26.3	-----	-----	-----
13	31.3	26.0	35.5	26.3	26.2	26.1	-----	-----	-----
14	30.2	28.3	33.3	26.2	26.3	26.0	-----	-----	-----
15	30.1	26.8	34.3	26.5	26.3	26.2	-----	-----	-----
16	33.5	26.0	35.4	26.6	25.9	25.8	-----	-----	-----
17	34.0	28.7	35.2	26.1	26.0	26.5	-----	-----	-----
18	30.6	29.3	35.5	26.2	26.0	26.4	-----	-----	-----
19	29.1	26.0	34.5	26.7	26.3	26.5	-----	-----	-----
20	28.0	28.4	34.3	26.6	26.2	26.4	-----	-----	-----
21	34.3	28.3	35.4	25.9	26.2	26.5	-----	-----	-----
22	34.0	27.7	35.4	26.6	26.3	26.3	-----	-----	-----
23	32.3	26.0	34.0	26.5	26.0	26.2	-----	-----	-----
24	34.1	26.8	33.4	26.7	26.2	26.5	-----	-----	-----
25	33.2	26.0	35.0	26.2	26.3	26.5	-----	-----	-----
26	30.3	26.4	35.5	26.7	26.2	26.4	-----	-----	-----
27	29.3	26.0	35.3	26.6	26.2	26.4	-----	-----	-----
28	32.3	34.1	35.5	25.9	26.1	26.0	-----	-----	-----
29	29.8	26.0	34.3	26.6	26.3	26.5	-----	-----	-----
30	31.1	34.1	35.5	26.5	26.3	26.4	-----	-----	-----
31	34.3	35.1	35.5	26.7	26.0	26.4	-----	-----	-----
32	33.6	32.2	35.4	26.6	25.5	25.6	-----	-----	-----
33	29.4	26.0	33.1	26.7	26.3	26.3	-----	-----	-----
34	31.4	26.0	35.5	26.7	25.8	26.4	-----	-----	-----
35	32.3	31.1	33.1	26.4	26.2	26.5	-----	-----	-----
36	34.2	26.1	33.2	26.6	26.2	26.5	-----	-----	-----
37	34.2	28.1	33.4	26.7	26.3	26.4	-----	-----	-----
38	31.3	35.5	33.2	26.6	26.3	26.3	-----	-----	-----
39	31.5	26.0	35.5	26.6	25.9	26.3	-----	-----	-----
40	33.1	27.2	33.1	26.5	26.3	26.1	-----	-----	-----
41	31.4	26.1	35.2	26.7	26.1	26.5	-----	-----	-----
42	34.2	28.1	35.3	26.7	26.7	26.5	-----	-----	-----
43	34.3	26.0	34.2	26.4	26.1	26.4	-----	-----	-----
44	33.3	27.2	25.0	26.7	26.5	26.3	-----	-----	-----
45	33.2	26.0	35.5	25.9	26.2	26.1	-----	-----	-----
46	31.3	26.0	33.8	26.2	26.4	26.1	-----	-----	-----
47	30.0	29.3	34.4	26.6	26.1	26.5	-----	-----	-----
48	33.3	34.5	35.4	26.6	26.2	26.6	-----	-----	-----
49	31.0	28.1	33.8	26.7	26.2	26.5	-----	-----	-----
50	34.3	26.0	33.3	26.7	26.3	26.5	-----	-----	-----
	Mean = 29.6			Mean = 26.3			Mean = -----		
	S.D. = 1.75			S.D. = 0.58			S.D. = -----		

(Table 14) showing diameters of striated duct, acini, and GCTs in control animals injected with oil + D.W in group 2

No.	STRIATED DUCT A1	A2	A3	ACINI A1	A2	A3	GCT A1	A2	A3
1	33.5	27.4	35.5	26.7	26.5	25.5	-----	-----	-----
2	34.4	27.2	35.3	26.7	26.6	26.2	-----	-----	-----
3	29.0	27.4	35.5	26.5	26.6	26.3	-----	-----	-----
4	27.1	27.2	35.3	26.3	26.5	26.4	-----	-----	-----
5	32.5	27.5	35.4	26.4	26.2	26.4	-----	-----	-----
6	29.0	28.3	35.2	26.0	26.6	26.3	-----	-----	-----
7	31.3	27.6	35.2	26.4	26.1	26.2	-----	-----	-----
8	30.5	27.5	35.3	26.7	25.7	26.2	-----	-----	-----
9	29.0	27.9	35.4	26.6	26.5	26.0	-----	-----	-----
10	25.0	27.6	35.2	26.7	26.6	26.4	-----	-----	-----
11	25.0	27.4	35.5	26.6	26.5	26.4	-----	-----	-----
12	33.9	25.3	33.2	26.6	26.4	26.3	-----	-----	-----
13	31.3	29.1	35.2	26.6	26.2	26.2	-----	-----	-----
14	30.3	25.3	33.2	26.7	26.1	26.0	-----	-----	-----
15	30.2	26.2	34.2	26.7	26.3	26.0	-----	-----	-----
16	33.5	27.6	35.2	26.3	25.9	26.4	-----	-----	-----
17	34.0	28.5	35.4	26.4	26.6	25.5	-----	-----	-----
18	30.7	29.5	35.2	26.4	26.5	26.4	-----	-----	-----
19	29.1	26.4	34.4	26.7	26.6	26.4	-----	-----	-----
20	28.0	26.2	34.2	26.6	26.5	26.3	-----	-----	-----
21	34.3	30.1	35.2	26.6	26.6	26.4	-----	-----	-----
22	34.0	27.2	35.3	26.7	26.4	26.4	-----	-----	-----
23	32.3	25.9	33.9	26.4	26.3	26.3	-----	-----	-----
24	34.1	25.4	33.3	26.6	26.6	26.0	-----	-----	-----
25	33.2	28.9	35.2	26.7	26.6	26.4	-----	-----	-----
26	30.4	28.8	35.4	26.6	26.5	25.9	-----	-----	-----
27	29.4	29.1	35.2	26.6	26.5	25.5	-----	-----	-----
28	32.3	28.5	35.3	26.5	26.1	26.3	-----	-----	-----
29	29.9	26.2	34.2	26.7	26.6	26.4	-----	-----	-----
30	31.2	32.2	35.4	26.7	26.5	26.3	-----	-----	-----
31	34.3	28.9	35.2	26.4	26.5	26.2	-----	-----	-----
32	33.6	27.2	35.3	25.9	25.7	26.0	-----	-----	-----
33	29.5	25.0	33.0	26.7	26.4	25.9	-----	-----	-----
34	31.4	32.6	35.2	26.2	26.5	26.1	-----	-----	-----
35	32.3	25.0	33.0	26.6	26.6	26.3	-----	-----	-----
36	34.2	25.2	33.1	26.6	26.6	26.4	-----	-----	-----
37	34.2	25.4	33.3	26.7	26.5	26.4	-----	-----	-----
38	31.3	25.2	33.1	26.7	26.4	26.2	-----	-----	-----
39	31.5	31.7	35.2	26.3	26.4	25.8	-----	-----	-----
40	33.1	25.1	33.0	26.7	26.2	26.4	-----	-----	-----
41	31.4	27.0	35.0	26.5	26.6	26.2	-----	-----	-----
42	34.2	27.1	35.1	26.2	26.7	26.0	-----	-----	-----
43	34.3	29.8	34.1	26.6	26.5	25.9	-----	-----	-----
44	33.3	34.2	25.0	25.8	26.4	25.8	-----	-----	-----
45	33.2	34.7	35.7	26.6	26.2	26.2	-----	-----	-----
46	31.3	25.7	33.7	26.1	26.4	26.4	-----	-----	-----
47	30.1	26.3	34.3	26.5	26.6	25.9	-----	-----	-----
48	33.3	27.2	35.3	26.6	25.7	26.4	-----	-----	-----
49	31.1	25.7	33.7	26.6	26.6	26.3	-----	-----	-----
50	34.3	25.3	33.2	26.7	26.6	25.6	-----	-----	-----
	Mean	29.7		Mean	26.4		Mean	-----	
	S.D.	1.92		S.D.	0.58		S.D.	-----	

The diameters of the acini were ranged from 26.1 umto 26.9 μm with a mean value of 26.4 μm ± 0.58

- After testosterone injections (Table 15), the diameters of the striated ducts were ranged from 25.1 μm to 35.9 μm with a mean value of 29.5 μm ± 1.72

The diameters of the acini were ranged from 26.1 umto 26.9 μm with a mean value of 26.3um ± 0.47

NO granular convoluted tubules were found.

- After thyroxine injections (Table 16), the diameters of the striated ducts were ranged from 25.1 μm to 35.7 μm with a mean value of29.4 μm ± 1.98

The diameters of the acini were ranged from 26.0 μm to 27 μm with a mean value of26.3 μm ± 0.41.

The diameters of the granular convoluted tubules were ranged from 29.0 μm to 35.4 μm with a mean value of 31.2 μm ± 0.81

- After combined injections (Table 17), the diameters of the striated ducts were ranged from 25.9 μm to 35.4 μm with an avarage value 29.6 μm ± 1.68

The diameters of the acini were ranged from 26.0 umto 26.9 μm with an avarage of value 26.3 μm ± 0.53

The diameters of the granular convoluted tubules were ranged from 22.1 μm to 35.7 μm with an avarage value of 31.4 μm ± 1.534.

(Table 15) showing the diameters of striated ducts, acini and GCTs in testosterone animals of group 2

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	35.9	28.3	29.7	27.0	27.2	26.9	26.9	26.4	26.8	26.6	-----	-----	-----	-----	-----
2	35.6	28.1	29.2	26.8	29.1	26.5	26.6	26.8	26.9	26.8	-----	-----	-----	-----	-----
3	31.5	28.3	30.0	27.0	29.0	26.9	26.8	26.8	26.9	26.9	-----	-----	-----	-----	-----
4	29.6	27.3	29.4	26.8	26.9	26.8	26.9	26.9	26.8	26.9	-----	-----	-----	-----	-----
5	34.9	27.4	28.4	27.1	27.9	26.7	26.8	26.9	26.7	26.7	-----	-----	-----	-----	-----
6	31.5	28.3	27.8	27.9	31.3	26.7	26.8	26.5	26.7	26.3	-----	-----	-----	-----	-----
7	33.7	29.3	30.0	27.2	29.3	26.6	26.7	26.9	26.5	26.9	-----	-----	-----	-----	-----
8	32.9	28.5	29.8	27.1	32.4	26.8	26.9	26.7	26.9	26.7	-----	-----	-----	-----	-----
9	31.5	28.4	29.9	27.5	30.7	26.9	26.9	26.4	26.9	26.5	-----	-----	-----	-----	-----
10	27.5	30.9	29.7	27.2	27.3	26.5	26.6	26.8	26.8	26.4	-----	-----	-----	-----	-----
11	27.5	26.8	27.9	27.0	30.8	26.9	26.9	26.0	26.7	26.3	-----	-----	-----	-----	-----
12	35.4	28.3	25.4	25.3	27.6	26.9	26.1	26.8	26.5	26.7	-----	-----	-----	-----	-----
13	33.7	26.2	26.3	28.7	28.6	26.3	26.4	26.3	26.5	26.9	-----	-----	-----	-----	-----
14	32.7	30.0	29.3	25.3	29.3	26.7	26.8	26.7	26.9	26.4	-----	-----	-----	-----	-----
15	32.6	28.5	28.9	25.8	27.8	26.7	26.8	26.8	26.0	26.9	-----	-----	-----	-----	-----
16	35.9	27.1	29.9	27.2	27.2	26.9	26.9	26.8	26.9	26.8	-----	-----	-----	-----	-----
17	35.8	30.4	29.9	28.1	27.3	26.8	26.9	26.9	26.9	26.1	-----	-----	-----	-----	-----
18	33.1	31.0	28.9	29.1	30.9	26.8	26.9	26.9	26.8	26.0	-----	-----	-----	-----	-----
19	31.6	26.8	26.6	26.0	28.9	26.5	26.6	26.9	26.9	26.7	-----	-----	-----	-----	-----
20	30.5	30.1	30.0	25.8	29.6	26.4	26.5	26.7	26.9	26.8	-----	-----	-----	-----	-----
21	35.8	30.0	28.2	29.7	27.2	26.7	26.8	26.5	26.8	26.9	-----	-----	-----	-----	-----
22	35.5	29.4	29.7	26.8	31.9	26.8	26.9	26.6	26.5	26.9	-----	-----	-----	-----	-----
23	34.7	27.1	29.2	25.5	27.1	26.3	26.4	26.2	26.9	26.8	-----	-----	-----	-----	-----
24	35.9	28.5	27.2	25.6	29.0	26.4	26.5	26.6	26.4	26.7	-----	-----	-----	-----	-----
25	35.6	27.3	28.7	35.8	28.8	26.9	26.9	26.9	26.0	26.7	-----	-----	-----	-----	-----
26	32.8	28.1	26.6	28.4	27.4	26.8	26.9	26.8	26.8	26.5	-----	-----	-----	-----	-----
27	31.8	25.8	30.7	28.7	27.3	26.1	26.2	26.9	26.9	26.9	-----	-----	-----	-----	-----
28	34.7	35.1	28.4	28.1	29.6	26.8	26.9	26.8	26.8	26.9	-----	-----	-----	-----	-----
29	32.3	26.3	29.4	25.8	27.6	26.7	26.8	26.8	26.7	26.8	-----	-----	-----	-----	-----
30	33.6	34.4	29.4	31.8	28.8	26.9	26.5	26.8	26.5	26.7	-----	-----	-----	-----	-----
31	35.8	34.5	29.8	28.5	27.2	26.8	26.4	26.9	26.4	26.5	-----	-----	-----	-----	-----
32	35.9	33.9	28.3	26.8	26.9	26.6	26.7	26.9	26.6	26.5	-----	-----	-----	-----	-----
33	31.9	27.2	28.2	25.4	28.6	26.9	26.8	26.5	26.2	26.9	-----	-----	-----	-----	-----
34	33.8	25.2	28.7	32.2	28.0	26.5	26.3	26.6	26.9	26.0	-----	-----	-----	-----	-----
35	34.7	32.8	30.0	25.4	27.2	26.9	26.4	26.6	26.8	26.9	-----	-----	-----	-----	-----
36	35.9	27.8	30.0	25.1	29.6	26.5	26.9	26.9	26.9	26.9	-----	-----	-----	-----	-----
37	35.9	29.8	27.2	25.4	27.3	26.8	26.8	26.8	26.8	26.8	-----	-----	-----	-----	-----
38	33.7	34.2	29.8	25.5	26.9	26.7	26.1	26.8	26.9	26.9	-----	-----	-----	-----	-----
39	33.9	25.5	30.1	31.3	27.2	26.8	26.8	26.9	26.7	26.9	-----	-----	-----	-----	-----
40	35.5	28.9	27.4	25.4	27.0	26.9	26.7	0.1	0.1	26.8	-----	-----	-----	-----	-----
41	33.8	27.8	29.8	26.6	26.9	26.7	26.9	26.8	26.2	26.5	-----	-----	-----	-----	-----
42	35.9	29.8	29.9	26.7	27.3	26.7	26.4	26.1	26.2	26.9	-----	-----	-----	-----	-----
43	35.9	26.2	27.8	29.4	26.9	26.8	26.9	26.2	26.1	26.4	-----	-----	-----	-----	-----
44	35.7	28.9	27.9	35.7	27.2	26.9	26.8	26.2	26.8	26.0	-----	-----	-----	-----	-----
45	35.6	25.4	26.9	34.3	28.2	26.9	26.1	26.3	26.4	26.8	-----	-----	-----	-----	-----
46	33.7	26.9	29.7	25.3	27.3	26.5	26.8	26.9	26.9	26.9	-----	-----	-----	-----	-----
47	32.5	31.0	25.2	25.9	27.5	26.9	26.7	26.9	26.8	26.8	-----	-----	-----	-----	-----
48	35.7	35.2	29.7	26.8	26.9	26.8	26.9	26.3	26.8	26.7	-----	-----	-----	-----	-----
49	33.5	29.8	28.6	25.3	27.1	26.7	26.8	26.1	26.0	26.5	-----	-----	-----	-----	-----
50	35.9	25.5	30.0	25.4	26.9	26.9	26.9	26.9	26.7	26.4	-----	-----	-----	-----	-----
	Mean = 29.5					Mean = 26.3					Mean = -----				
	S . D . = 1.72					S . D . = 0.44					S . D . = -----				

(Table 16) showing the diameters of striated ducts, acini and GCTs in thyroxine animals (A) of group 2

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	28.2	33.8	29.5	29.6	26.7	26.8	26.9	26.6	26.5	26.9	33.1	30.5	32.8	31.8	29.7
2	30.1	34.7	29.0	29.4	26.5	26.3	26.4	26.2	26.9	26.8	32.9	30.3	28.0	31.3	29.4
3	30.0	29.4	29.8	29.6	26.7	26.4	26.5	26.6	26.4	26.7	33.1	30.5	31.0	32.1	29.4
4	27.9	27.5	29.2	29.4	25.7	26.9	26.9	26.9	26.0	26.7	32.9	30.2	29.1	31.6	29.7
5	28.9	32.8	28.2	29.7	25.8	26.8	26.9	26.8	26.8	26.5	33.2	30.6	32.4	30.5	30.5
6	32.3	29.4	27.6	30.5	26.7	26.1	26.2	26.9	26.9	26.9	34.0	31.4	31.1	29.9	29.8
7	30.3	31.6	29.8	29.8	27.7	26.8	26.9	26.8	26.8	26.9	33.3	30.7	33.2	32.1	29.7
8	33.4	30.8	29.6	29.7	26.9	26.7	26.8	26.8	26.7	26.8	33.2	30.6	32.4	31.9	30.1
9	31.7	29.4	29.7	30.1	26.8	26.9	26.5	26.8	26.5	26.7	33.6	29.6	31.0	32.0	29.8
10	28.3	25.4	29.5	29.8	29.3	26.8	26.4	27.0	26.4	26.5	33.3	30.7	27.0	31.8	29.8
11	31.8	25.4	27.7	29.6	25.2	26.6	26.7	26.9	26.6	26.5	33.1	30.5	33.3	30.0	27.5
12	28.6	34.2	25.4	27.5	26.7	26.9	26.8	26.5	26.9	26.9	31.1	29.7	29.1	31.4	31.3
13	29.6	31.6	26.1	31.3	25.4	26.5	26.3	26.9	26.9	26.0	32.8	30.4	32.2	31.4	28.6
14	30.3	30.6	29.1	27.5	28.4	26.9	26.4	26.6	26.8	26.9	30.0	29.3	32.1	31.0	28.4
15	28.8	30.5	28.7	28.4	26.9	26.5	26.9	26.8	26.8	26.9	31.9	30.7	29.1	32.0	29.8
16	28.2	33.8	29.7	29.8	25.5	26.8	26.8	26.7	26.7	26.8	33.3	30.2	32.4	32.0	30.7
17	28.3	34.3	29.7	30.7	28.8	26.7	26.1	26.8	26.9	26.9	34.2	29.6	32.6	32.0	31.7
18	31.9	31.0	28.7	31.7	29.4	26.8	26.8	26.9	26.7	26.9	35.2	29.5	31.1	32.0	28.6
19	29.9	29.5	26.4	28.6	25.2	26.9	26.7	26.6	26.6	26.8	32.1	29.3	30.0	30.8	28.4
20	30.6	28.4	29.8	28.4	28.5	26.7	26.9	26.8	26.2	26.5	31.9	30.3	31.7	32.1	32.3
21	28.2	34.6	28.0	32.3	28.4	26.7	26.4	26.1	26.2	26.9	32.8	29.6	30.4	30.3	29.4
22	32.9	34.3	29.5	29.4	27.8	26.9	26.9	26.4	26.8	26.6	32.9	29.4	33.4	31.8	28.1
23	28.1	32.6	29.0	28.1	25.5	26.5	26.6	26.8	26.9	26.8	31.6	29.7	31.9	31.3	27.6
24	30.0	34.4	27.0	27.6	26.9	26.9	26.8	26.8	26.9	26.9	31.1	29.8	31.7	29.3	27.9
25	29.8	33.5	28.5	35.7	25.7	26.8	26.9	26.9	26.8	26.9	30.9	29.6	32.3	30.8	31.4
26	28.4	30.7	26.4	31.0	26.5	26.7	26.8	26.9	26.7	26.7	34.9	30.0	31.3	31.7	31.3
27	28.3	29.7	30.5	31.3	25.4	26.7	26.8	26.5	26.7	26.3	34.8	29.6	31.4	32.8	30.7
28	30.6	32.6	28.2	30.7	33.5	26.6	26.7	26.9	26.5	26.9	34.2	26.7	29.7	30.5	28.4
29	28.6	30.2	29.2	28.4	25.6	26.8	26.9	26.7	26.9	26.7	31.9	30.3	33.1	31.6	29.9
30	29.8	31.5	29.2	34.4	32.8	26.9	26.9	26.4	26.9	26.5	33.4	30.2	30.6	31.6	28.8
31	28.2	34.6	29.6	31.1	32.9	26.5	26.6	26.8	26.8	26.4	35.4	29.6	32.6	31.9	29.4
32	27.9	33.9	28.1	29.4	32.3	26.9	26.9	26.0	26.7	26.3	32.9	29.8	31.4	30.4	29.3
33	29.6	29.8	28.0	26.9	25.6	26.9	26.1	26.8	26.5	26.7	32.8	26.5	33.1	32.1	29.4
34	29.0	31.7	28.5	34.8	25.1	26.3	26.4	26.3	26.5	26.9	32.9	30.1	32.7	32.1	29.7
35	28.2	32.6	29.8	26.9	31.2	26.7	26.8	26.7	26.9	26.4	32.1	29.5	33.0	32.0	29.8
36	30.6	34.5	29.8	27.4	26.2	26.7	26.8	26.8	26.0	26.9	31.1	29.7	32.8	31.9	29.7
37	28.3	34.5	27.0	27.6	28.2	26.9	26.9	26.8	26.9	26.8	30.2	29.8	32.4	30.9	30.2
38	27.9	31.6	29.6	27.4	32.6	26.8	26.9	26.9	26.9	26.1	35.3	29.6	33.4	31.9	29.7
39	28.2	31.8	29.9	33.9	25.4	26.8	26.9	26.9	26.8	26.0	33.4	29.7	32.2	32.4	29.1
40	28.0	33.4	27.2	27.3	27.3	26.5	26.6	26.3	26.9	26.7	32.7	29.6	33.3	30.0	29.1
41	27.9	31.7	29.6	29.2	26.2	26.4	26.5	26.4	26.9	26.8	35.5	29.5	30.8	31.9	28.2
42	28.3	34.5	29.7	29.3	28.2	26.7	26.8	26.5	26.8	26.9	33.1	29.7	33.5	32.1	29.7
43	27.9	34.6	27.6	32.0	25.1	26.9	26.6	26.5	26.9	26.9	30.2	29.8	32.4	31.9	29.1
44	28.2	33.6	27.7	35.1	27.3	26.5	26.7	26.9	26.9	26.1	34.9	29.6	33.2	31.9	29.7
45	29.2	33.5	26.7	35.7	25.1	26.5	26.9	26.0	26.3	26.4	34.5	29.6	33.7	30.0	31.2
46	28.3	31.6	29.5	27.9	25.3	26.6	26.1	26.9	26.7	26.8	32.9	29.8	31.8	31.4	29.7
47	28.5	30.4	25.2	28.5	29.4	26.2	26.5	26.9	26.7	26.8	34.0	29.7	31.4	32.0	30.0
48	27.9	33.6	29.5	29.4	33.6	26.6	26.3	26.8	26.9	26.9	35.2	29.8	33.0	31.8	34.1
49	28.1	31.4	28.4	27.9	28.2	26.8	26.9	26.9	26.8	26.9	33.4	29.5	32.4	32.5	29.7
50	27.9	34.6	29.8	27.5	25.1	26.9	26.7	26.9	26.8	26.9	33.7	29.7	33.4	32.2	29.6
	Mean = 29.4					Mean = 26.3					Mean = 31.2				
	S . D . = 1.98					S . D . = 0.41					S . D . = 1.068				

(Table 17) showing the diameters of striated ducts, acini and GCTs in combined animals (A) of group 2

	STRIATED DUCTS					ACINI					GCT				
No.	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	28.2	34.1	28.5	28.3	28.0	26.9	26.9	26.4	26.9	26.5	31.6	28.6	27.0	32.2	31.6
2	28.0	35.0	28.3	28.1	27.8	26.5	26.6	26.8	26.8	26.4	31.4	33.2	27.4	31.7	31.4
3	28.2	29.7	28.5	28.3	28.0	26.9	26.9	26.0	26.7	26.3	31.6	31.4	30.4	32.5	31.6
4	27.2	27.8	27.5	27.3	27.0	26.9	26.1	26.8	26.5	26.7	31.4	29.2	28.5	32.5	33.1
5	27.3	33.1	27.6	27.4	27.1	26.3	26.4	26.3	26.5	26.9	31.7	32.7	22.1	32.0	28.7
6	28.2	29.7	28.5	28.3	28.0	26.7	26.8	26.7	26.9	26.4	32.5	33.7	30.4	30.3	29.6
7	29.2	31.9	29.5	29.3	29.0	26.7	26.8	26.8	26.0	26.9	31.8	31.7	32.6	32.5	31.7
8	28.4	31.1	28.7	28.5	28.2	26.9	26.9	26.8	26.9	26.8	31.7	34.8	31.8	32.3	32.5
9	28.3	29.7	28.6	28.4	28.1	26.8	26.9	26.9	26.9	26.1	32.1	33.1	30.4	32.4	31.7
10	30.8	25.7	31.1	30.9	30.6	26.8	26.9	26.9	26.8	26.0	31.8	28.7	26.4	32.2	32.1
11	26.7	25.7	27.0	26.8	26.5	26.5	26.6	26.9	26.9	26.7	31.6	33.2	30.4	30.4	28.0
12	28.2	34.5	28.5	28.3	28.0	26.4	26.5	26.4	26.9	26.8	29.5	30.0	32.7	31.8	28.8
13	26.1	31.9	26.4	26.2	25.9	26.7	26.8	26.5	26.8	26.9	33.3	30.2	28.5	31.8	27.6
14	29.9	30.9	30.2	30.0	29.7	26.9	26.6	26.5	26.9	26.9	28.4	31.7	31.6	31.8	30.0
15	28.4	30.8	28.7	28.5	28.2	26.5	26.7	26.9	26.9	26.1	30.4	28.6	31.0	32.4	30.3
16	27.0	34.1	27.3	27.1	26.8	26.5	26.9	26.0	26.3	26.4	31.8	29.7	31.5	32.4	29.6
17	30.3	34.6	30.6	30.4	30.1	26.6	26.1	26.9	26.7	26.8	32.7	33.3	28.5	32.4	28.7
18	30.9	31.3	31.2	31.0	30.7	26.2	26.5	26.9	26.7	26.8	33.7	31.3	26.7	31.4	30.6
19	26.7	29.8	27.0	26.8	26.5	26.6	26.3	26.8	26.9	26.9	30.5	32.7	32.0	31.2	30.7
20	30.0	28.7	30.3	30.1	29.8	26.8	26.9	26.9	26.8	26.9	30.4	29.6	30.5	32.5	34.3
21	29.9	34.9	30.2	30.0	29.7	26.9	26.7	26.9	26.8	26.9	34.3	34.3	29.4	30.7	31.4
22	29.3	34.6	29.6	29.4	29.1	26.1	26.2	26.9	26.9	26.9	31.4	28.5	31.1	32.2	29.6
23	27.0	32.9	27.3	27.1	26.8	26.8	26.9	26.8	26.8	26.9	30.1	33.7	29.8	31.7	29.6
24	28.4	34.7	28.7	28.5	28.2	26.7	26.8	26.8	26.7	26.8	29.6	28.5	28.5	31.4	33.3
25	27.2	33.8	27.5	27.3	27.0	26.9	26.5	26.8	26.5	26.7	29.4	31.2	31.3	29.7	32.7
26	28.0	31.0	28.3	28.1	27.8	26.8	26.4	26.4	26.4	26.5	33.4	29.8	31.1	28.2	30.4
27	25.7	30.0	26.0	25.8	25.5	26.6	26.7	26.9	26.6	26.5	33.3	29.7	31.8	32.1	31.9
28	35.0	32.9	35.3	35.1	34.8	26.9	26.8	26.5	26.7	26.9	32.7	32.0	30.6	32.7	30.8
29	26.2	30.5	26.5	26.3	26.0	26.5	26.3	26.4	26.3	26.0	30.4	29.0	30.8	27.2	31.4
30	34.3	31.8	34.6	34.4	34.1	26.9	26.4	26.6	26.7	26.9	36.4	31.2	29.1	32.4	33.0
31	34.4	34.9	34.7	34.5	34.2	26.5	26.9	26.5	26.8	26.9	33.6	28.6	32.8	32.0	30.2
32	33.8	34.2	34.1	33.9	33.6	26.8	26.8	26.3	26.4	26.8	31.4	29.2	30.0	32.3	29.6
33	27.1	30.1	27.4	27.2	26.9	26.7	26.1	26.8	26.9	26.9	31.3	31.0	32.0	30.8	29.6
34	25.1	32.0	25.4	25.2	24.9	26.8	26.8	26.9	26.7	26.9	31.4	32.1	30.8	29.2	33.8
35	32.7	32.9	33.0	32.8	32.5	26.9	26.7	26.4	26.5	26.8	29.6	29.6	32.0	28.0	32.2
36	27.7	34.8	28.0	27.8	27.5	26.7	26.9	26.8	26.2	26.5	29.5	32.0	32.1	28.7	27.5
37	29.7	34.8	30.0	29.8	29.5	26.7	26.4	26.1	26.2	26.9	28.7	28.7	32.4	32.4	28.6
38	34.1	31.9	34.4	34.2	33.9	26.9	26.4	26.9	26.8	26.8	33.8	28.9	32.2	28.2	31.2
39	25.4	32.1	25.7	25.5	25.2	26.6	26.3	26.9	26.4	26.7	35.7	32.6	31.8	33.5	34.1
40	28.8	33.7	29.1	28.9	28.6	26.3	26.9	26.8	26.5	26.9	31.2	31.4	32.8	31.7	31.6
41	27.7	32.0	28.0	27.8	27.5	26.4	26.3	26.7	26.7	26.8	31.2	31.0	31.6	32.3	31.1
42	29.7	34.8	30.0	29.8	29.5	26.3	26.5	26.7	26.3	26.6	34.0	30.0	32.7	28.0	33.4
43	26.1	34.9	26.4	26.2	25.9	26.7	26.9	26.5	26.9	26.9	31.6	29.8	30.2	29.8	28.7
44	28.8	33.9	29.1	28.9	28.6	26.3	26.7	26.9	26.7	26.5	28.0	32.1	32.9	31.2	27.5
45	25.3	33.8	25.6	25.4	25.1	26.9	26.4	26.9	26.5	26.9	33.4	31.0	31.8	29.2	30.2
46	26.8	31.9	27.1	26.9	26.6	26.7	26.8	26.8	26.4	26.5	33.1	31.2	32.6	31.7	32.2
47	30.9	30.7	31.2	31.0	30.7	26.5	26.0	26.7	26.3	26.8	31.4	30.6	32.4	30.0	32.7
48	35.1	33.9	35.4	35.2	34.9	26.4	26.8	26.5	26.7	26.7	32.5	29.0	31.5	32.2	31.2
49	29.7	31.7	30.0	29.8	29.5	26.3	26.3	26.5	26.9	26.8	33.7	30.7	30.8	28.6	34.6
50	25.4	34.9	25.7	25.7	25.2	26.7	26.7	26.9	26.4	26.9	28.9	28.5	32.4	32.5	31.0
	Mean = 29.6					Mean = 26.3					Mean = 31.4				
	S . D . = 1.70					S . D . = 0.53					S . D . = 1.053				

- Group three :

The body weight (Table 1).

In the control animals :-

It was found that the body weights ranged from 75 g to 91 g with a mean value of 82 g ± 6.44.

The body weight increased by about 20.5 % than the control of the previous group which was of a significant value.

Control injected with the hormones solvents :-

- Olive oil, it was found that the body weights ranged from 70 g to 92 g with a mean value of 80 g ± 11.13.

- Distilled water, it was found that the body weights ranged from 78 g to 98 g with a mean value of 84 g ± 5.92.

- Olive oil and distilled water, it was found that the body weights ranged from 75 g to 89 g with a mean value of 80 g ± 7.8.

- After testosterone injections, the body weights ranged from 84 g to 102 g with a mean value of 93 g ± 6.5.

They increased by about 10.75 % than the the control of the same group which is of a significant values.

- After thyroxine injections, it was found that the body weights ranged from 89 g to 109 gwith a mean value of 95 g ± 7.9.

The body weight increased by about 12.63 % than the corresponding control of the same group which wasof a significant value.

After combined injections :-

It was found that the body weights ranged from 90 g to 112 g with a mean value of 99 g ± 8.8.

The body weight was increased by 16.16 % than the control of the same age which was of a significant value.

The glandular weight (Table 2).

In the control animals :-

The weights of the glands ranged from 268.9 mg to 282.8 mg with a mean value of 274.6 mg ± 5.60. The weight of the gland increased by about 32.23 % than the control of the previous group which was of a significant value.

Control injected with the hormones solvents :-

- Olive oil, the weights of the glands ranged from 266.9 mg to 282.2 mg with a mean value of 275.4 mg ± 7.65

- Distilled water, the weights of the glands ranged from 261.9 mg to 280.2 mg with a mean value of 270.6 mg ± 9.16.

- Olive oil and distilled water, the weights of the glands ranged from 262.9 mg to 288.2 mg with a mean value of 276.6 mg ± 12.78.

- After testosterone injections, the weights of the glands ranged from 261.1 mg to 292.7 mg with mean value of 286.8mg ± 9.12..

The weight of the gland increased by about 4.25 % than the the control of the same group which had was of a significant values.

- After thyroxine injections, the weights of the glands

ranged from 205.9 mg to 220.1 mg with a mean value of 212.9 mg ± 7.34.

The weight of the gland increased by about 9.16 % than the corresponding control of the same group which was of a significant value.

- After combined injections, the weights of the glands ranged from 346.7 mgto 339.5 mg with a mean value of 331.4 mg ± 9.35.

The glandular weight was increased by 21.86 % than the control of the same group which of was of a significant value.

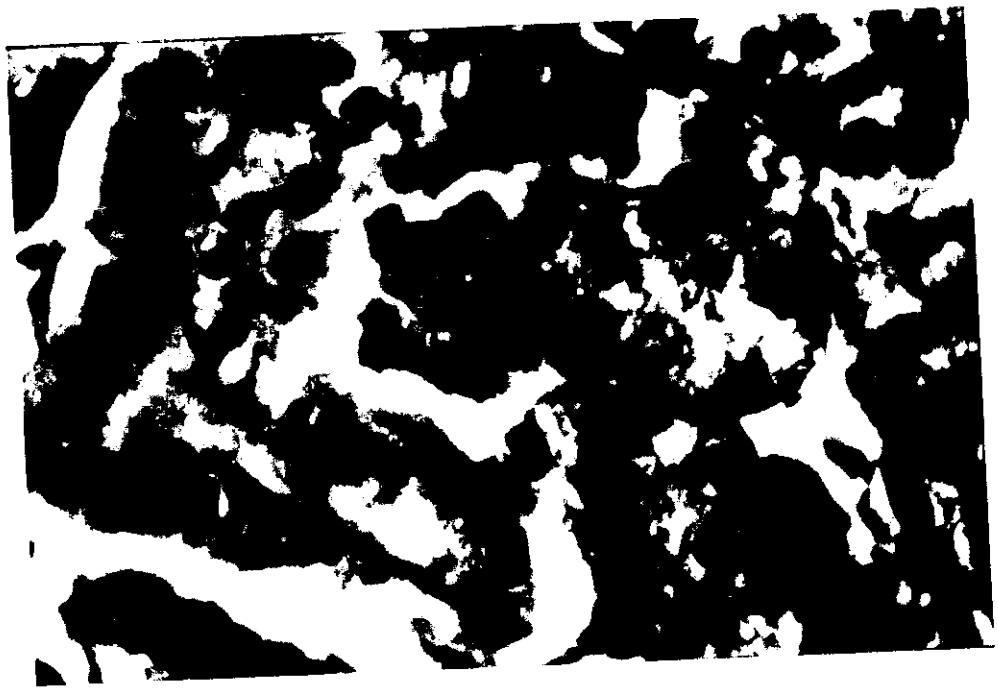
Histological observations.

Hx & E.:-

- Of the control animals and the controls injected with the hormones solvents.

The lobules of the submandibular gland showed an increase in the number of striated ducts. Centres were much reduced, both in number and size; in some specimens they were no longer present. The striated ducts showed, in some specimens, the earliest signs of changes into granular convoluted tubules i,e begining of apical vacuolization of scattered cells (Fig. 36). Such changes occurred in the proximal parts which were close to the intercalated ducts.

- After testosterone injections, the portions of striated ducts which showed vacuolization became more extensive and small granular convoluted tubules were formed .



(Fig. 36) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 3) showing apical vaculisation of cells in striated ducts (arrows).

(Hx. & E. stain, Proj. 10 x, Obj. 40 x.)

- After thyroxine and combined injections, the cells of the proximal portion of striated ducts were completely replaced by well developed granular convoluted tubule cells (Fig. 37).

VerHoeff's stain :-

- Of the control animals and the controls injected with the hormones solvents, there was an increase in the collagenous fibres around the duct system (Fig. 38).

- After testosterone, thyroxine and combined injections, the capsule became more thick than the control group. Also, an increase of the collagenous fibres was noticed in the interlobular septa and around the interlobular and the intralobular ducts (Fig. 39).

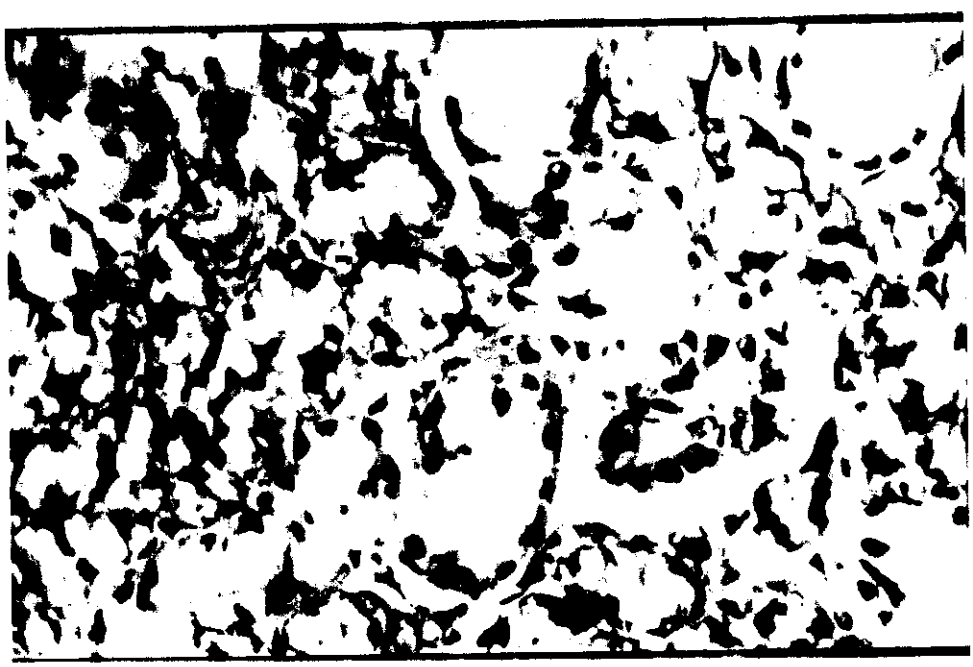
Reticulin :

- Of the control animals and the controls injected with the hormones solvents, the reticular fibres were increased more and more, the acini and ducts were completely surrounded with a relatively thick layer of reticular fibres . (Fig. 40).

- After testosterone, thyroxine and combined injections, the distribution and thickness of reticular fibers were more than the control group (Fig. 41)

PAS Or PAS with diastase :

- Of the control animals, the controls injected with the hormones solvents and thyroxine injections.he acini showed

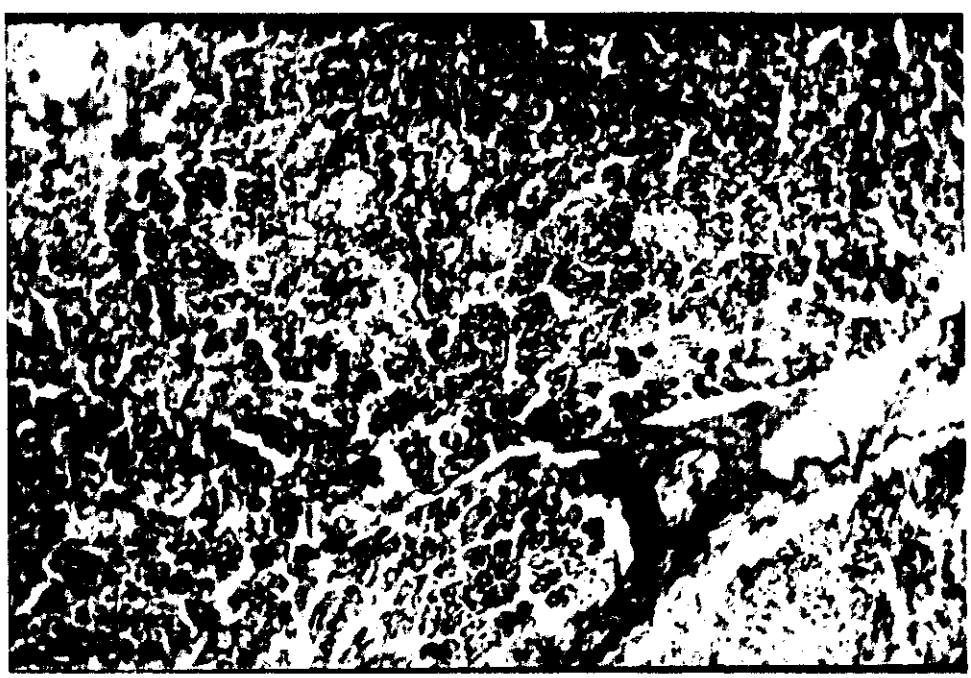


(Fig. 37) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 3)injected with thyroxine hormone showing awell developed granular convoluted tubule (GT).

(Hx & E stain, Proj. 10 x, Obj.40 x.)

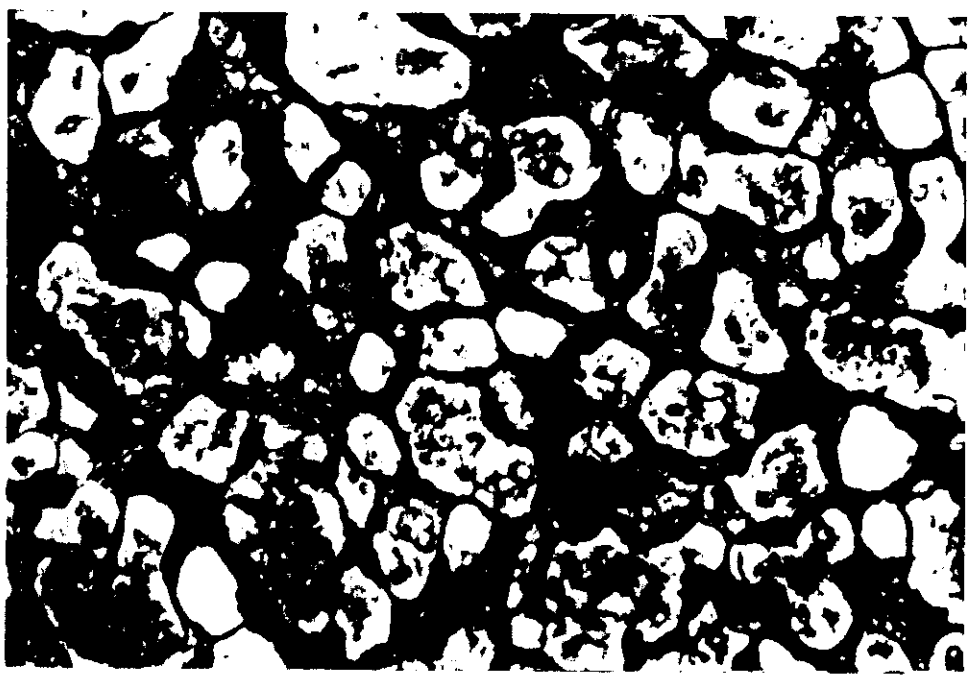
(Fig. 38) : A photomicrograph of a section in the submandibular gland of a male control rat (group 3) showing an increase of the collagenous fibers arond the ducts.

(VerHoeff's stain, Proj. 10 x, Obj. 10x.)



(Fig. 39) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 3) injected with testosterone hormone showing an increase in the thickness of collagenous fibers (arrows).

(VerHoeff's stain, Proj. 10 x, Obj. 10 x.)



(Fig. 40) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 3) showing relatively thick layers of reticular fibers surrounding the acini and duct system (arrows).

(Gorden & Sweet 's,, Proj. 10 x, Obj. 40 x.)

(Fig. 41) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 3) injected with testosterone hormone showing increase in the amount of reticular fibers.

(Gorden & Sweet's, Proj.1o x Obj. 40 x.)

a moderate reaction while their basement membranes showed a strong one. However the striated ducts showed a moderate reaction (Fig. 42)

- After testosterone and combined injections, the reaction did not differe in its character,a uniform, intense, acinar reaction was observed .The duct system was moderate (Fig. 43).

Alcian blue at pH 1 :-

- Of the control animals and the controls injected with the hormones solvents, the serous acini showed a weak reaction while the duct system showed a negative one .

- After testosterone, thyroxine and combined injections, the results were comparable to the control group.

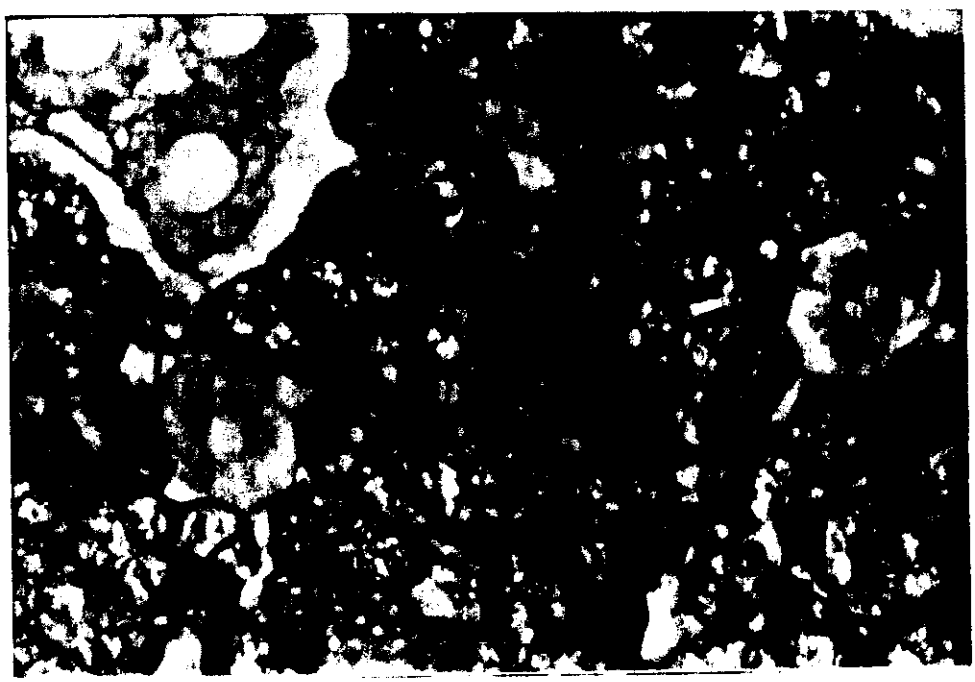
Alcian blue pH 2.5 :-

- Of the control animals and the controls injected with the hormones solvents, The acini showed a moderate reaction while the duct system showed a weak one (Fig.).

- After testosterone, thyroxine and combined injections, the results were comparable to the control group.

PAS + alcian blue at pH 2.5 :-

- Of the control animals and the controls injected with the hormones solvents, the serous acini were stained with the two staines i,e stained moderately with alcian blue at the apical parts and weak with PAS at the base while the duct system was stained moderatly only with PAS (Fig. 45).



(Fig. 42) : A photomicrograph of a section in the submandibular gland of a control male albino rat (group 3) showing the acini (A) had a moderate reaction while there basement membranes had a strong one (arrows). The duct system had a weak reaction (D).

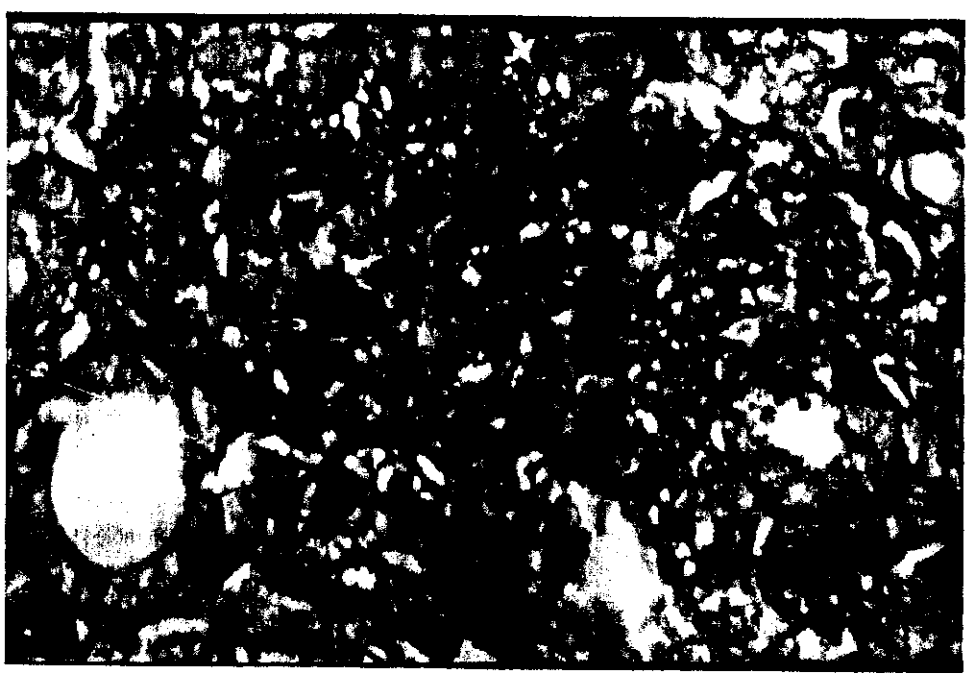
(PAS stain, Proj. 10 x, Obj. 40 x.)

(Fig. 43) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 3)injected with testosterone hormone showing a uniform intense reaction in the acini (arrows) and a moderate one in the ducts (D).

(PAS stain, Proj. 10 x, Obj.40 x.)

(Fig. 44) : A photomicrograph of a section in the submandibular gland of a male control rat (group 3)showing the reaction to alcian blue at pH 2.5. The serous acini showed a moderate reaction (arrow) while the duct system showed a weak one (2 arrows).

(Alcian blue stain at pH 2.5, Proj.10 x, Obj.40 x.)



(Fig. 45) : A photomicrograph of a section in the submandibular gland of a male control rat (group 3)showing the reaction to the combined PAS + alcian blue at pH 2.5. The serous acini were stained moderately with alcian blue and weakly with PAS (arrow), while the duct system was stained moderately with PAS only (2 arrows).

(PAS + alcian blue at 2.5 stain, Proj. 40 x, Obj. 10 x.)

- After testosterone and combined injections, the results were comparable to the control group, however, the PAS became more intense in the acinar cells.

- After thyroxine injections, the results were comparable to the control group.

Toluidine blue :-

- Of the control animals and the controls injected with the hormones solvents, the serous acini of the submandibular gland showed moderate reaction while the duct system showed a negative one (Fig. 46).

- After testosterone, thyroxine and combined injections, the results were comparable to the control group.

Mallory trichrom :-

- Of the control animals and the controls injected with the hormones solvents, the picture was as in the prevous group.

- After testosterone injections, the granules of the formed granular convoluted tubulecells stained moderatly with orang G.

- After thyroxine and combined injections, more granules were found and also, stained with orang G.

(Fig. 46) : A photomicrograph of a section in the submandibular gland of a male control rat (group 3)showing the reaction to toliudine blue stain. The serous acini showed a moderate reaction (arrow) while the duct system showed a negative one (2 arrows).

(Toluidine blue stain, Proj. 40 x, Obj.10 x.)

Histochemical observations :

Succinic dehydrogenase enzyme :-

- Of the control animals and the controls injected with the hormones solvents, a strong reaction was found in the striated and interlobular ducts.

- After testosterone injections, the results were comparable to the control animals.

- After thyroxine and combined injections, the reaction was similar to the control group but the interlobular ducts showed a stronger reaction.

Alkaline phosphatase enzyme :-

- Of the control animals and the controls injected with the hormones solvents, the serous acini and interlobular ducts showed weak reaction. However the capillary endothelien and myoepithelial cells showed strong positive reaction . Interlobular ducts showed negative reaction but weak reaction was found in some places of their basal parts.

- After testosterone injections, The results were comparable to the control animals.

- After thyroxine and combined injections, the reaction was similar to the control group but the interlobular ducts showed a stronger reaction.

ATP ase enzyme :-

- Of the control animals and the controls injected with the hormones solvents, an intense reaction was found in

themyoepithelial cells and endothelium of blood vessels. However, the acini and interlobular ducts showed a weak reaction and interlobular ducts showed a moderate one.

- After testosterone injections, The results were comparable to the control animals.

- After thyroxine and combined injections, the reaction was similar to the control group but the interlobular ducts showed a stronger reaction.

Quantitative observations :

In the control group (Table 18) :-

The diameters of the striated ducts were ranged from 25.1 μm to 35.2 μm with a mean value of 30.01 μm ± 2.01. The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.4 μm ± 0.53.

No granular convoluted tubules were found.

Control injected with the hormones solvents :-

- Olive oil (Table 19), the diameters of the striated ducts were ranged from 25.6 μm to 33.4 μm with an avarage value of 29.9 μm ± 3.15.

The diameters of the acini were ranged from 26.1 umto 26.9 μm with an avarage value of26.4 μm ± 0.52.

- Distilled water (Table 20), the diameters of the striated ducts were ranged from 25.1um to 34.3 μm with a mean value of 30.1 μm ± 2.97.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.5 μm ± 0.69 .

(Table 18) showing the diameters of striated ducts, acini and GCTs in control animals (A) of group 3

No.	STRIATED DUCTS A1	A2	A3	A4	A5	ACINI A1	A2	A3	A4	A5	GCT A1	A2	A3	A4	A5
1	28.0	28.8	32.6	35.1	26.1	26.7	26.9	26.9	26.8	26.9	-----	---	-----	-----	-----
2	27.8	30.7	33.5	34.6	25.9	26.9	26.9	26.8	26.9	26.9	-----	---	-----	-----	-----
3	28.0	30.6	28.2	35.1	26.1	26.9	26.8	26.8	26.8	26.8	-----	---	-----	-----	-----
4	27.8	28.5	26.3	34.8	25.1	26.8	26.8	26.9	26.9	26.6	-----	---	-----	-----	-----
5	28.1	29.5	31.6	33.8	25.2	26.9	26.9	26.7	26.5	26.4	-----	---	-----	-----	-----
6	28.9	32.9	28.2	33.2	26.1	26.9	26.4	26.8	26.4	26.4	-----	---	-----	-----	-----
7	28.2	30.9	30.4	35.1	27.1	26.4	26.9	26.5	26.3	26.5	-----	---	-----	-----	-----
8	28.1	34.0	29.6	35.2	26.3	26.9	26.7	26.7	26.5	26.6	-----	---	-----	-----	-----
9	28.5	32.3	28.2	35.1	26.2	26.8	26.8	26.4	26.9	26.3	-----	---	-----	-----	-----
10	28.2	28.9	25.3	35.1	28.7	26.1	26.8	26.3	26.9	26.9	-----	---	-----	-----	-----
11	28.0	32.4	25.4	33.3	25.1	26.8	26.9	26.9	26.8	26.8	-----	---	-----	-----	-----
12	25.9	29.2	33.0	30.1	26.1	26.7	26.9	26.8	26.9	26.7	-----	---	-----	-----	-----
13	29.7	30.2	30.4	31.7	25.4	26.9	26.8	26.5	26.7	26.7	-----	---	-----	-----	-----
14	25.9	30.9	29.4	34.7	27.8	26.8	26.9	26.4	26.9	26.5	-----	---	-----	-----	-----
15	26.8	29.4	29.3	34.3	26.3	26.6	26.8	26.9	26.9	26.4	-----	---	-----	-----	-----
16	28.2	28.8	32.6	35.2	25.6	26.9	26.9	26.8	26.8	26.5	-----	---	-----	-----	-----
17	29.1	28.9	33.1	35.1	28.2	26.5	26.5	26.3	26.6	26.8	-----	---	-----	-----	-----
18	30.1	32.5	29.8	34.3	28.8	26.9	26.9	26.1	26.6	26.8	-----	---	-----	-----	-----
19	27.0	30.5	28.3	32.0	25.3	26.5	26.5	26.3	26.6	26.1	-----	---	-----	-----	-----
20	26.8	31.2	27.2	35.1	27.9	26.8	26.8	26.8	26.7	26.9	-----	---	-----	-----	-----
21	30.7	28.8	33.4	33.6	27.8	26.7	26.7	26.3	26.5	26.9	-----	---	-----	-----	-----
22	27.8	33.5	33.1	35.1	27.2	26.8	26.8	26.7	26.6	26.7	-----	---	-----	-----	-----
23	26.5	28.7	31.4	34.6	25.4	26.9	26.9	26.5	26.5	26.7	-----	---	-----	-----	-----
24	26.0	30.6	33.2	32.6	26.3	26.9	26.7	26.9	26.7	26.8	-----	---	-----	-----	-----
25	35.1	30.4	32.3	34.1	25.1	26.7	26.8	26.9	26.6	26.6	-----	---	-----	-----	-----
26	29.4	29.0	29.5	32.0	25.9	26.8	26.8	26.7	26.5	26.7	-----	---	-----	-----	-----
27	29.7	28.9	28.5	35.1	25.3	26.8	26.6	26.8	26.3	26.3	-----	---	-----	-----	-----
28	29.1	31.2	31.4	33.8	33.6	26.9	26.7	26.6	26.9	26.9	-----	---	-----	-----	-----
29	26.8	29.2	29.0	34.8	25.1	26.6	26.5	26.6	26.9	26.5	-----	---	-----	-----	-----
30	32.8	30.4	30.3	34.8	33.6	26.5	26.9	26.5	26.9	26.9	-----	---	-----	-----	-----
31	29.5	28.8	33.4	35.2	34.6	26.9	26.8	26.4	26.8	26.8	-----	---	-----	-----	-----
32	27.8	28.5	32.7	33.7	31.7	26.8	26.7	26.3	26.8	26.7	-----	---	-----	-----	-----
33	25.3	30.2	28.6	33.6	25.1	26.7	26.9	26.6	26.7	26.7	-----	---	-----	-----	-----
34	33.2	29.6	30.5	34.1	25.4	26.9	26.5	26.5	26.0	26.3	-----	---	-----	-----	-----
35	25.3	28.8	31.4	35.1	30.6	26.5	26.9	26.8	26.7	26.9	-----	---	-----	-----	-----
36	25.8	31.2	33.3	35.1	25.6	26.9	26.9	26.9	26.7	26.8	-----	---	-----	-----	-----
37	26.0	28.9	33.3	32.6	27.6	26.9	26.9	26.5	26.9	26.9	-----	---	-----	-----	-----
38	25.8	28.5	30.4	35.2	35.0	26.9	26.7	26.5	26.4	26.9	-----	---	-----	-----	-----
39	32.3	28.8	30.6	35.1	25.1	26.8	26.7	26.6	26.4	26.8	-----	---	-----	-----	-----
40	25.7	28.6	32.2	32.8	26.7	26.7	26.9	26.6	26.8	26.1	-----	---	-----	-----	-----
41	27.6	28.5	30.5	35.2	25.6	26.9	26.9	26.4	26.8	26.9	-----	---	-----	-----	-----
42	27.7	28.9	33.3	35.1	27.6	26.8	26.8	26.9	26.8	26.5	-----	---	-----	-----	-----
43	30.4	28.5	33.4	33.2	25.4	26.9	26.9	26.9	26.7	26.9	-----	---	-----	-----	-----
44	35.2	28.8	32.4	33.3	26.7	26.7	26.7	26.9	26.3	26.7	-----	---	-----	-----	-----
45	35.2	29.8	32.3	32.3	25.2	26.9	26.7	26.8	26.1	26.7	-----	---	-----	-----	-----
46	26.3	28.9	30.4	35.1	25.1	26.7	26.9	26.9	26.8	26.9	-----	---	-----	-----	-----
47	26.9	29.1	29.2	29.9	28.8	26.9	26.8	26.7	26.9	26.5	-----	---	-----	-----	-----
48	27.8	28.5	32.4	35.1	34.0	26.6	26.6	26.7	26.7	26.4	-----	---	-----	-----	-----
49	26.3	28.7	30.2	34.0	27.6	26.8	26.9	26.6	26.5	26.9	-----	---	-----	-----	-----
50	25.9	28.5	33.4	35.1	25.1	26.7	26.8	26.9	26.3	26.8	-----	---	-----	-----	-----
	Mean = 30.0					Mean = 26.4					Mean = -----				
	S . D . = 2.01					S . D . = 0.53					S . D . = -----				

(Table 19) showing diameters of striated duct, acini and GCTs in control animals injected with olive oil in group 3

No.	STRIATED DUCT A1	STRIATED DUCT A2	STRIATED DUCT A3	ACINI A1	ACINI A2	ACINI A3	GCT A1	GCT A2	GCT A3
1	27.0	28.2	33.1	26.4	26.9	26.4	-----	-----	-----
2	26.9	30.1	32.6	26.1	26.6	26.4	-----	-----	-----
3	27.0	30.0	33.1	26.1	26.5	26.2	-----	-----	-----
4	26.9	27.9	32.8	26.3	26.8	26.9	-----	-----	-----
5	27.1	28.9	31.8	26.4	26.9	26.1	-----	-----	-----
6	27.7	32.3	31.2	26.9	26.4	26.7	-----	-----	-----
7	27.2	30.3	33.1	26.1	26.5	26.1	-----	-----	-----
8	27.1	33.4	33.2	26.5	26.9	26.4	-----	-----	-----
9	27.4	31.7	33.1	26.4	26.9	26.3	-----	-----	-----
10	27.2	28.3	33.1	26.2	26.2	26.4	-----	-----	-----
11	27.0	31.8	31.3	26.4	26.9	26.3	-----	-----	-----
12	25.5	28.6	28.1	26.3	26.8	26.3	-----	-----	-----
13	28.2	29.6	29.7	26.5	26.5	26.3	-----	-----	-----
14	25.5	30.3	32.7	26.4	26.4	26.4	-----	-----	-----
15	26.2	28.8	32.3	26.2	26.7	26.4	-----	-----	-----
16	27.2	28.2	33.2	26.5	26.8	26.1	-----	-----	-----
17	27.8	28.3	33.1	26.1	26.3	26.1	-----	-----	-----
18	28.5	31.9	32.3	26.5	26.4	26.1	-----	-----	-----
19	26.3	29.9	30.0	26.1	26.9	26.4	-----	-----	-----
20	26.2	30.6	33.1	26.4	26.8	26.3	-----	-----	-----
21	28.9	28.2	31.6	26.3	26.1	26.3	-----	-----	-----
22	26.9	32.9	33.1	26.4	26.8	26.4	-----	-----	-----
23	26.0	28.1	32.6	26.5	26.7	26.1	-----	-----	-----
24	25.6	30.0	30.6	26.3	26.9	26.3	-----	-----	-----
25	32.0	29.8	32.1	26.3	26.4	26.4	-----	-----	-----
26	28.0	28.4	30.0	26.4	26.9	26.3	-----	-----	-----
27	28.2	28.3	33.1	26.5	26.8	26.3	-----	-----	-----
28	27.8	30.6	31.8	26.5	26.1	26.2	-----	-----	-----
29	26.2	28.6	32.8	26.1	26.8	26.4	-----	-----	-----
30	30.4	29.8	32.8	26.5	26.7	26.4	-----	-----	-----
31	28.1	28.2	33.2	26.4	26.9	26.1	-----	-----	-----
32	26.9	27.9	31.7	26.3	26.8	26.5	-----	-----	-----
33	25.1	29.6	31.6	26.5	26.9	26.4	-----	-----	-----
34	30.7	29.0	32.1	26.5	26.9	26.4	-----	-----	-----
35	25.1	28.2	33.1	26.1	26.6	26.3	-----	-----	-----
36	25.5	30.6	33.1	26.5	26.8	26.3	-----	-----	-----
37	25.6	28.3	30.6	26.4	26.9	26.4	-----	-----	-----
38	25.5	27.9	33.2	26.3	26.8	26.4	-----	-----	-----
39	30.1	28.2	33.1	26.3	26.8	26.1	-----	-----	-----
40	25.4	28.0	30.8	26.2	26.7	26.4	-----	-----	-----
41	26.7	27.9	33.2	26.4	26.9	26.2	-----	-----	-----
42	26.8	28.3	33.1	26.5	26.9	26.8	-----	-----	-----
43	28.7	27.9	31.2	26.1	26.6	26.3	-----	-----	-----
44	32.1	28.2	31.3	26.5	26.9	26.9	-----	-----	-----
45	32.1	29.2	30.3	26.5	26.1	26.3	-----	-----	-----
46	25.8	28.3	33.1	26.9	26.4	26.9	-----	-----	-----
47	26.2	28.5	27.9	26.3	26.8	26.2	-----	-----	-----
48	26.9	27.9	33.1	26.3	26.8	26.3	-----	-----	-----
49	25.8	28.1	32.0	26.5	26.9	26.3	-----	-----	-----
50	25.5	27.9	33.1	26.4	26.9	26.4	-----	-----	-----
	Mean = 29.9			Mean = 26.4			Mean = -----		
	S.D. = 3.15			S.D. = 0.52			S.D. = -----		

(Table 20) showing diameters of striated duct, acini, and GCTs in control animals injected with D.W. in group 3

No.	STRIATED DUCT A1	STRIATED DUCT A2	STRIATED DUCT A3	ACINI A1	ACINI A2	ACINI A3	GCT A1	GCT A2	GCT A3
1	26.1	28.7	34.2	26.6	26.3	26.9	-----	-----	-----
2	25.9	30.6	33.7	26.3	26.8	26.7	-----	-----	-----
3	26.1	30.5	34.2	26.2	26.8	26.4	-----	-----	-----
4	25.1	28.4	33.9	26.5	26.6	26.9	-----	-----	-----
5	25.2	29.4	32.9	26.6	26.7	26.6	-----	-----	-----
6	26.1	32.8	32.3	26.1	26.3	26.3	-----	-----	-----
7	27.1	30.8	34.2	26.2	26.7	26.5	-----	-----	-----
8	26.3	33.9	34.3	26.6	26.9	26.1	-----	-----	-----
9	26.2	32.2	34.2	26.6	26.9	26.9	-----	-----	-----
10	28.7	28.8	34.2	26.8	26.8	26.5	-----	-----	-----
11	25.1	32.3	32.4	26.6	26.9	26.9	-----	-----	-----
12	26.1	29.1	29.2	26.5	26.9	26.8	-----	-----	-----
13	25.4	30.1	30.8	26.2	26.9	26.6	-----	-----	-----
14	27.8	30.8	33.8	26.1	26.9	26.5	-----	-----	-----
15	26.3	29.3	33.4	26.4	26.9	26.7	-----	-----	-----
16	25.6	28.7	34.3	26.5	26.6	26.3	-----	-----	-----
17	28.2	28.8	34.2	26.1	26.7	26.7	-----	-----	-----
18	28.8	32.4	33.4	26.1	26.7	26.9	-----	-----	-----
19	25.3	30.4	31.1	26.6	26.5	26.7	-----	-----	-----
20	27.9	31.1	34.2	26.5	26.9	26.9	-----	-----	-----
21	27.8	28.7	32.7	26.8	26.9	26.7	-----	-----	-----
22	27.2	33.4	34.2	26.5	26.7	26.8	-----	-----	-----
23	25.4	28.6	33.7	26.4	26.7	26.7	-----	-----	-----
24	26.3	30.5	31.7	26.6	26.9	26.9	-----	-----	-----
25	25.1	30.3	33.2	26.1	26.9	26.9	-----	-----	-----
26	25.9	28.9	31.1	26.6	26.9	26.9	-----	-----	-----
27	25.3	28.8	34.2	26.5	26.9	26.9	-----	-----	-----
28	33.6	31.1	32.9	26.8	26.8	26.5	-----	-----	-----
29	25.1	29.1	33.9	26.5	26.8	26.9	-----	-----	-----
30	33.6	30.3	33.9	26.4	26.4	26.9	-----	-----	-----
31	34.6	28.7	34.3	26.6	26.7	26.9	-----	-----	-----
32	31.7	28.4	32.8	26.5	26.2	26.1	-----	-----	-----
33	25.1	30.1	32.7	26.6	26.6	26.8	-----	-----	-----
34	25.4	29.5	33.2	26.6	26.5	26.9	-----	-----	-----
35	30.6	28.7	34.2	26.3	26.9	26.8	-----	-----	-----
36	25.6	31.1	34.2	26.5	26.9	26.9	-----	-----	-----
37	27.6	28.8	31.7	26.6	26.9	26.9	-----	-----	-----
38	35.0	28.4	34.3	26.5	26.9	26.8	-----	-----	-----
39	25.1	28.7	34.2	26.5	26.6	26.8	-----	-----	-----
40	26.7	28.5	31.9	26.4	26.8	26.6	-----	-----	-----
41	25.6	28.4	34.3	26.6	26.8	26.9	-----	-----	-----
42	27.6	28.8	34.2	26.6	26.5	26.9	-----	-----	-----
43	25.4	28.4	32.3	26.3	26.9	26.9	-----	-----	-----
44	26.7	28.7	32.4	26.6	26.1	26.8	-----	-----	-----
45	25.2	29.7	31.4	26.8	26.9	26.6	-----	-----	-----
46	25.1	28.8	34.2	26.1	26.4	26.6	-----	-----	-----
47	28.8	29.0	29.0	26.5	26.8	26.9	-----	-----	-----
48	34.0	28.4	34.2	26.5	26.9	26.1	-----	-----	-----
49	27.6	28.6	33.1	26.6	26.9	26.9	-----	-----	-----
50	25.1	28.4	34.2	26.6	26.9	26.9	-----	-----	-----
	Mean = 30.1			Mean = 26.5			Mean = -----		
	S.D. = 2.97			S.D. = 0.69			S.D. = -----		

No granular convoluted tubules were found.

- Olive oil and distilled water (Table 21), the diameters of the striated ducts were ranged from 25.1 μm to 34.5 μm with a mean value of 30.1 μm ± 2.41.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.3 μm ± 0.52.

No granular convoluted tubules were found.

- After testosterone injections (Table 22), the diameters of the striated ducts were ranged from 25.3um to 35.6 μm with a mean value of 30 μm ± 2.03.

The diameters of the acini were ranged from 26.1 umto 26.9 μm with an avarage value of 26.3um ± 0.47.

The diameters of the granular convoluted tubules were ranged from 30.0 μm to 36.4 μm with an avarage value of 33.3um ± 1.4.

- Thyroxine injections (Table 23), the diameters of the striated ducts were ranged from 25.9 μm to 35.1 μm with an avarage value of 30.2 μm ± 2.055.

The diameters of the acini were ranged from 26.2 umto 26.9 μm with an avarage value of 26.4 ± 0.38.

The diameters of the granular convoluted tubules were ranged from 31.5 μm to 38.3 μm with an avarage value of 35.1um ± 1.38.

Combined injections (Table 24) :

The diameters of the striated ducts were ranged from 26.4 μm to 35.2 μm with an avarage of value 30.5 μm ± 1.88.

The diameters of the acini were ranged from 26.1 umto 26.9

(Table 21) showing diameters of striated duct, acini, and GCTs in control animals injected with oil + D.W in group 3

No.	STRIATED DUCT A1	STRIATED DUCT A2	STRIATED DUCT A3	ACINI A1	ACINI A2	ACINI A3	GCT A1	GCT A2	GCT A3
1	28.8	26.1	31.4	26.3	26.7	26.7	-----	-----	-----
2	30.7	25.9	32.2	26.6	26.8	26.3	-----	-----	-----
3	30.6	26.1	27.6	26.8	26.8	26.4	-----	-----	-----
4	28.5	25.1	26.0	26.6	26.7	26.5	-----	-----	-----
5	29.5	25.2	30.5	26.7	26.4	26.5	-----	-----	-----
6	32.9	26.1	27.6	26.3	26.8	26.4	-----	-----	-----
7	30.9	27.2	29.5	26.7	26.3	26.3	-----	-----	-----
8	34.0	26.3	28.8	26.2	26.4	26.3	-----	-----	-----
9	32.3	26.2	27.6	26.9	26.7	26.1	-----	-----	-----
10	28.9	28.8	25.1	26.4	26.8	26.5	-----	-----	-----
11	32.4	25.1	25.2	26.9	26.7	26.5	-----	-----	-----
12	29.2	26.1	31.7	26.9	26.6	26.4	-----	-----	-----
13	30.2	25.4	29.5	26.9	26.4	26.3	-----	-----	-----
14	30.9	27.9	28.6	26.4	26.3	26.1	-----	-----	-----
15	29.4	26.3	28.6	26.9	26.5	26.1	-----	-----	-----
16	28.8	25.6	31.4	26.6	26.1	26.5	-----	-----	-----
17	28.9	28.3	31.8	26.7	26.8	26.3	-----	-----	-----
18	32.5	28.9	29.0	26.3	26.7	26.5	-----	-----	-----
19	30.5	25.3	27.7	26.7	26.8	26.5	-----	-----	-----
20	31.2	28.0	26.7	26.9	26.7	26.4	-----	-----	-----
21	28.8	27.9	32.1	26.9	26.8	26.5	-----	-----	-----
22	33.5	27.3	31.8	26.3	26.6	26.5	-----	-----	-----
23	28.7	25.4	30.4	26.7	26.5	26.4	-----	-----	-----
24	30.6	26.3	31.9	26.9	26.8	26.1	-----	-----	-----
25	30.4	25.1	31.1	26.8	26.8	26.5	-----	-----	-----
26	29.0	25.9	28.7	26.9	26.7	26.4	-----	-----	-----
27	28.9	25.3	27.9	26.9	26.7	26.7	-----	-----	-----
28	31.2	33.8	30.4	26.8	26.3	26.4	-----	-----	-----
29	29.2	25.1	28.3	26.3	26.8	26.5	-----	-----	-----
30	30.4	33.8	29.4	26.5	26.7	26.4	-----	-----	-----
31	28.8	34.9	32.1	26.7	26.7	26.3	-----	-----	-----
32	28.5	31.9	31.5	26.7	26.2	26.1	-----	-----	-----
33	30.2	25.1	27.9	26.3	26.6	26.3	-----	-----	-----
34	29.6	25.4	29.6	26.5	26.7	26.2	-----	-----	-----
35	28.8	30.8	30.4	26.9	26.8	26.4	-----	-----	-----
36	31.2	25.6	32.0	26.9	26.8	26.5	-----	-----	-----
37	28.9	27.7	32.0	26.4	26.7	26.5	-----	-----	-----
38	28.5	35.1	29.5	26.5	26.6	26.3	-----	-----	-----
39	28.8	25.1	29.7	26.6	26.6	26.9	-----	-----	-----
40	28.6	26.7	31.1	26.8	26.4	26.5	-----	-----	-----
41	28.5	25.6	29.6	26.8	26.8	26.3	-----	-----	-----
42	28.9	27.7	32.0	26.5	26.8	26.1	-----	-----	-----
43	28.5	25.4	32.1	26.9	26.7	26.1	-----	-----	-----
44	28.8	26.7	31.2	26.1	26.6	26.4	-----	-----	-----
45	29.8	25.2	31.1	26.9	26.4	26.3	-----	-----	-----
46	28.9	25.1	29.5	26.4	26.4	26.5	-----	-----	-----
47	29.1	28.9	28.5	26.8	26.8	26.1	-----	-----	-----
48	28.5	34.3	31.2	26.9	26.1	26.5	-----	-----	-----
49	28.7	27.7	29.3	26.9	26.8	26.4	-----	-----	-----
50	28.5	25.1	32.1	26.8	26.8	26.2	-----	-----	-----
	Mean = 30.1			Mean = 26.3			Mean =-----		
	S.D. = 2.41			S.D. = 0.52			S.D. =-----		

(Table 22) showing the diameters of striated ducts, acini and GCTs in testosterone animals (A) of group 3

	STRIATED DUCTS					ACINI					GCT				
No.	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	28.0	28.7	31.8	32.5	33.3	26.8	26.8	26.7	26.5	26.7	33.1	31.1	33.1	32.9	33.4
2	27.8	30.6	32.7	32.0	33.1	26.8	26.6	26.8	26.3	26.3	32.9	34.7	32.9	33.1	34.2
3	28.0	30.5	27.4	32.8	33.3	26.9	26.7	26.6	26.9	26.9	33.1	31.9	33.1	32.9	35.0
4	27.8	28.4	25.5	32.2	32.3	26.6	26.5	26.6	26.9	26.5	32.9	31.7	32.9	33.2	34.4
5	28.1	29.4	30.8	31.2	32.4	26.5	26.9	26.5	26.9	26.9	33.2	34.2	33.2	34.0	33.4
6	28.9	32.8	27.4	30.6	33.3	26.9	26.8	26.4	26.8	26.8	34.0	32.2	34.0	33.3	32.8
7	28.2	30.8	29.6	32.8	34.3	26.8	26.7	26.3	26.8	26.7	33.3	33.2	33.3	33.2	35.0
8	28.1	33.9	28.8	32.6	33.5	26.7	26.9	26.6	26.7	26.7	33.2	34.3	33.2	33.6	34.8
9	28.5	32.2	27.4	32.7	33.4	26.9	26.5	26.5	26.0	26.3	33.6	34.6	33.6	33.3	34.9
10	28.2	28.8	25.4	32.5	35.6	26.5	26.9	26.8	26.7	26.9	33.3	31.2	33.3	33.1	34.7
11	28.0	32.3	25.3	30.7	31.8	26.9	26.9	26.9	26.7	26.8	33.1	34.7	33.1	31.0	32.9
12	25.9	29.1	32.2	27.5	33.3	26.9	26.9	26.5	26.9	26.9	31.0	31.2	31.0	34.8	34.3
13	29.7	30.1	29.6	29.1	31.2	26.9	26.7	26.5	26.4	26.9	33.2	31.7	34.8	32.1	34.3
14	25.9	30.8	28.6	32.1	35.0	26.8	26.7	26.6	26.4	26.8	32.2	33.2	32.1	31.9	33.9
15	26.8	29.3	28.5	31.7	33.5	26.7	26.9	26.6	27.0	26.1	31.9	31.1	31.0	33.3	34.9
16	28.2	28.7	31.8	32.7	32.1	26.9	26.9	26.4	26.8	26.9	33.3	31.2	33.3	34.2	32.9
17	29.1	28.8	32.3	32.7	35.4	26.8	26.8	26.9	26.8	26.5	34.1	34.8	34.2	35.2	32.9
18	30.1	32.4	29.0	31.7	35.0	26.9	26.9	26.9	26.7	26.9	33.1	32.8	35.0	32.1	33.3
19	27.0	30.4	27.5	29.4	31.8	26.7	26.7	26.9	26.3	26.7	32.1	34.2	32.1	31.9	33.7
20	26.8	31.1	26.4	32.8	35.1	26.9	26.7	26.8	26.1	26.7	31.9	31.1	31.9	35.8	35.0
21	30.7	28.7	32.6	31.0	35.0	26.7	26.9	26.9	26.8	26.9	35.8	35.5	35.8	32.9	33.2
22	27.8	33.4	32.3	32.5	34.4	26.9	26.8	26.7	26.9	26.5	32.9	36.0	32.9	31.6	34.7
23	26.5	28.6	30.6	32.0	32.1	26.6	26.6	26.7	26.7	26.4	31.6	35.2	31.6	33.4	34.2
24	26.0	30.5	32.4	30.0	33.5	26.8	26.9	26.6	26.5	26.9	31.1	36.0	33.3	31.4	32.2
25	35.6	30.3	31.5	31.5	32.3	26.7	26.8	26.9	26.3	26.8	30.9	32.7	31.4	34.9	33.3
26	29.4	28.9	28.7	29.4	33.1	26.4	26.9	26.5	26.3	26.5	32.0	31.3	34.9	34.8	34.6
27	29.7	28.8	27.7	33.5	30.8	26.9	26.7	26.7	26.5	26.6	33.2	31.2	34.8	34.2	32.4
28	29.1	31.1	30.6	31.2	35.5	26.8	26.8	26.4	26.9	26.3	34.2	33.7	34.2	31.9	33.4
29	26.8	29.1	28.2	32.2	31.3	26.1	26.8	26.3	26.9	26.9	31.9	36.5	31.9	33.4	34.4
30	32.8	30.3	29.5	32.2	35.2	26.8	26.9	26.9	26.8	26.8	37.9	32.7	33.4	32.3	34.4
31	29.5	28.7	32.6	32.6	35.4	26.7	26.9	26.8	26.9	26.7	31.4	36.1	32.3	32.9	32.4
32	27.8	28.4	31.9	31.1	35.5	26.9	26.8	26.5	26.7	26.7	32.9	30.7	32.9	32.8	33.3
33	25.3	30.1	27.8	31.0	32.2	26.8	26.9	26.4	26.9	26.5	32.8	32.5	32.8	32.9	32.1
34	33.2	29.5	29.7	31.5	30.2	26.6	26.8	26.9	26.9	26.4	32.9	33.6	32.9	31.1	35.0
35	25.3	28.7	30.6	32.8	35.6	26.9	26.9	26.8	26.8	26.5	31.1	34.1	31.1	31.0	32.4
36	25.8	31.1	32.5	32.8	32.8	26.5	26.5	26.3	26.6	26.8	31.0	33.5	31.0	31.1	32.1
37	26.0	28.8	32.5	30.0	34.8	26.9	26.9	26.1	26.6	26.8	30.1	34.8	31.1	35.3	34.8
38	25.8	28.4	29.6	32.6	35.6	26.5	26.5	26.3	26.6	26.1	35.3	34.6	35.3	33.7	32.2
39	32.3	28.7	29.8	32.9	30.5	26.8	26.8	26.8	26.7	26.9	34.2	34.1	33.7	31.2	30.7
40	25.7	28.5	31.4	30.2	33.9	26.7	26.7	26.3	26.5	26.9	31.1	35.0	31.2	32.7	34.8
41	27.6	28.4	29.7	32.6	32.8	26.8	26.8	26.7	26.6	26.7	32.7	34.8	32.7	33.3	31.7
42	27.7	28.8	32.5	32.7	34.8	26.9	26.9	26.5	26.5	26.7	35.5	33.6	33.6	33.7	32.1
43	30.4	28.4	32.6	30.6	31.2	26.9	26.7	26.9	26.7	26.8	33.2	33.4	33.1	34.9	32.4
44	35.6	28.7	31.6	30.7	33.9	26.7	26.8	26.9	26.6	26.6	33.1	33.6	33.7	34.5	33.3
45	35.3	29.7	31.5	29.7	30.4	26.7	26.9	26.9	26.9	26.8	34.9	33.7	34.9	33.4	32.4
46	26.3	28.8	29.6	32.5	31.9	26.7	26.8	26.5	26.5	26.3	34.3	35.4	34.5	34.8	34.7
47	26.9	29.0	28.4	27.3	35.5	26.9	26.9	26.9	26.9	26.1	32.9	34.0	33.8	32.4	32.5
48	27.8	28.4	31.6	32.5	35.5	26.4	26.9	26.5	26.5	26.3	34.0	34.5	34.5	33.6	32.1
49	26.3	28.6	29.4	31.4	34.8	26.4	26.8	26.8	26.8	26.8	34.5	34.6	33.4	35.7	33.6
50	25.9	28.4	32.6	32.8	30.5	26.8	26.1	26.7	26.7	26.3	34.1	34.2	34.8	34.5	32.4
	Mean =		30.0			Mean =		26.3			Mean =		33.3		
	S . D . =		2.03			S . D . =		0.47			S . D . =		1.40		

(Table 23) showing the diameters of striated ducts, acini and GCTs in thyroxine animals (A) of group 3

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	29.0	30.1	34.2	31.5	28.6	26.8	26.9	26.9	26.8	26.8	33.1	35.5	31.6	35.2	35.6
2	28.7	31.9	35.1	31.0	28.4	26.7	26.9	26.8	26.9	26.7	32.9	35.2	32.0	34.7	35.4
3	29.0	31.8	29.4	31.8	28.6	26.9	26.8	26.5	26.7	26.7	33.1	35.5	35.0	35.5	35.6
4	28.7	29.8	27.4	31.2	27.7	26.8	26.9	26.4	26.9	26.5	32.9	35.3	33.1	34.8	35.4
5	29.1	30.8	33.1	30.1	27.8	26.6	26.8	26.9	26.9	26.4	34.0	35.6	36.1	33.9	35.7
6	30.0	34.0	29.4	29.5	28.6	26.9	26.9	26.8	26.8	26.5	33.4	35.4	35.0	33.1	36.5
7	29.2	32.1	31.8	31.8	29.5	26.5	26.5	26.3	26.6	26.8	35.6	35.7	37.2	35.5	35.8
8	29.1	35.1	30.9	31.6	28.8	26.9	26.9	26.1	26.6	26.8	33.2	35.6	36.4	35.3	35.7
9	29.5	33.5	25.9	31.7	28.7	26.5	26.5	26.3	26.6	26.1	33.6	36.0	35.0	35.4	36.1
10	29.2	30.2	26.0	31.5	30.9	26.8	26.8	26.8	26.7	26.9	33.3	35.8	31.0	35.2	35.8
11	29.0	33.6	25.9	29.6	27.3	26.7	26.7	26.3	26.5	26.9	33.1	35.5	37.3	33.4	35.6
12	26.6	30.5	34.6	26.2	28.6	26.8	26.8	26.7	26.6	26.7	31.0	36.9	33.3	34.8	33.5
13	30.9	31.5	31.8	27.9	26.8	26.9	26.9	26.5	26.5	26.7	35.4	36.6	36.2	34.8	36.8
14	26.6	32.1	30.7	31.1	30.1	26.9	26.7	26.9	26.7	26.8	36.9	32.3	36.1	34.4	34.4
15	27.6	30.7	30.6	30.7	28.8	26.7	26.8	26.9	26.6	26.6	31.9	34.3	33.1	35.4	35.8
16	29.2	30.1	34.2	31.7	27.6	26.8	26.8	26.7	26.5	26.7	33.3	35.7	31.3	35.4	36.7
17	30.2	30.2	34.7	31.7	30.4	26.8	26.6	26.8	26.3	26.3	34.2	36.6	36.6	35.4	34.5
18	31.3	33.7	31.2	30.7	30.9	26.9	26.7	26.6	26.9	26.9	35.2	36.4	35.1	34.4	34.6
19	27.8	31.8	29.5	28.2	27.3	26.6	26.5	26.6	26.9	26.5	32.1	34.5	34.0	34.2	34.4
20	27.6	32.4	28.3	31.8	30.2	26.5	26.9	26.5	26.9	26.9	31.9	34.3	35.7	35.5	38.3
21	32.0	30.1	35.1	29.9	30.1	26.9	26.8	26.4	26.8	26.8	35.7	38.2	33.1	33.7	35.4
22	28.7	34.6	34.7	31.5	29.6	26.8	26.7	26.3	26.8	26.7	32.9	35.3	34.4	35.2	34.1
23	27.3	30.0	32.9	31.0	27.6	26.7	26.9	26.6	26.7	26.7	31.6	34.0	35.9	34.7	33.6
24	26.7	31.8	34.8	28.9	28.8	26.9	26.5	26.5	26.0	26.3	31.1	33.5	35.7	32.7	33.9
25	35.0	31.7	33.9	30.5	27.7	26.5	26.9	26.8	26.7	26.9	36.9	33.3	36.3	34.2	36.1
26	30.5	30.3	30.8	28.2	28.4	26.9	26.9	26.9	26.7	26.8	34.9	37.3	35.3	35.1	37.3
27	30.9	30.2	29.8	32.6	26.4	26.9	26.8	26.9	26.8	26.8	35.9	37.2	35.4	36.2	36.7
28	30.2	32.4	32.9	30.1	35.1	26.8	26.9	26.9	26.8	26.6	34.2	36.6	33.7	33.9	34.4
29	27.6	30.5	30.3	31.2	26.9	26.8	26.8	26.8	26.9	26.7	36.8	36.7	37.1	34.8	35.9
30	34.4	31.7	31.7	31.2	35.1	26.9	26.9	26.6	26.6	26.5	33.4	36.7	34.6	34.8	34.8
31	30.7	30.1	35.1	31.6	35.0	26.7	26.5	26.4	26.5	26.9	35.4	37.9	36.6	35.3	35.4
32	28.7	29.8	34.3	30.0	33.5	26.8	26.4	26.4	26.9	26.8	32.9	35.3	35.4	33.8	35.3
33	25.9	31.5	29.9	29.9	27.6	26.5	26.3	26.5	26.8	26.7	32.8	36.7	36.7	35.5	35.4
34	34.8	30.9	31.9	30.5	25.9	26.7	26.5	26.6	26.7	26.9	32.9	35.1	35.4	35.5	33.6
35	25.9	30.1	32.9	31.8	32.5	26.4	26.9	26.3	26.9	26.5	36.9	36.1	35.8	35.5	33.5
36	26.5	32.4	34.9	31.8	28.2	26.3	26.9	26.9	26.5	26.9	31.0	34.1	35.8	35.4	33.6
37	26.7	30.2	34.9	28.9	29.9	26.4	26.9	26.8	26.4	26.8	36.9	33.1	36.4	35.3	34.2
38	26.5	29.8	31.8	31.6	35.0	26.5	26.8	26.7	26.3	26.8	35.3	37.1	36.1	35.3	34.7
39	33.8	30.1	32.0	31.9	26.2	26.6	26.7	26.9	26.6	26.7	37.2	36.1	35.7	35.5	33.7
40	26.4	29.9	33.8	29.1	29.1	26.3	26.9	26.5	26.5	26.0	33.4	36.1	36.2	33.4	35.2
41	28.5	29.8	31.9	31.6	28.2	26.9	26.5	26.9	26.8	26.7	36.9	35.1	34.8	35.3	33.8
42	28.6	30.2	34.9	31.7	29.9	26.8	26.9	26.9	26.9	26.7	36.2	37.1	36.1	35.5	35.6
43	31.7	29.8	35.1	29.5	26.8	26.7	26.9	26.9	26.5	26.9	36.8	35.1	35.8	35.3	34.8
44	35.0	30.1	34.0	29.6	29.1	26.7	26.9	26.7	26.5	26.4	36.7	36.1	35.4	35.3	35.0
45	35.1	31.1	33.9	28.5	26.1	26.5	26.8	26.7	26.6	26.4	36.9	37.1	36.2	33.8	34.9
46	27.0	30.2	31.8	31.5	27.4	26.4	26.7	26.9	26.6	27.0	36.8	36.1	35.8	35.4	34.7
47	27.7	30.4	30.5	26.0	30.9	26.5	26.9	26.9	26.4	26.8	36.2	35.1	35.4	35.2	35.0
48	28.7	29.8	34.0	31.5	35.0	26.8	26.8	26.8	26.9	26.8	36.9	36.1	36.1	33.0	34.2
49	27.0	30.0	31.6	30.4	29.9	26.8	26.9	26.9	26.9	26.7	36.7	37.6	35.4	35.2	33.5
50	26.6	29.8	35.1	31.8	26.2	26.1	26.7	26.7	26.9	26.3	36.8	36.7	36.3	34.0	35.1
	Mean = 30.2					Mean = 26.4					Mean = 35.1				
	S . D . = 2.06					S . D . = 0.38					S . D . = 1.38				

(Table 24) showing the diameters of striated ducts, acini and GCTs in combined animals (A) of group 3

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	29.4	26.7	35.7	31.0	29.4	26.8	26.9	26.9	26.4	26.7	36.5	33.6	33.2	37.4	37.1
2	29.2	28.7	35.0	30.6	29.2	26.9	26.8	26.8	26.5	26.4	36.2	38.2	33.6	36.9	36.9
3	29.4	28.6	30.9	31.3	29.4	26.5	26.3	26.6	26.8	26.3	36.3	36.4	36.6	38.0	37.1
4	29.2	26.4	28.8	30.8	28.4	26.9	26.1	26.6	26.8	26.4	36.2	34.2	34.7	37.1	36.9
5	29.5	27.4	34.7	29.9	28.5	26.5	26.3	26.6	26.1	26.5	36.5	37.7	33.2	36.1	37.2
6	30.3	31.0	30.9	29.4	29.4	26.8	26.8	26.7	26.9	26.6	37.3	39.7	36.6	35.5	38.0
7	29.6	28.9	33.4	31.3	30.3	26.7	26.3	26.5	26.9	26.3	36.6	35.7	32.6	37.7	37.3
8	29.5	32.1	32.5	31.1	29.6	26.8	26.7	26.6	26.7	26.9	36.5	37.8	38.9	37.5	37.2
9	29.9	30.3	30.9	31.2	29.5	26.9	26.5	26.5	26.7	26.8	36.9	38.1	34.7	37.6	37.6
10	29.6	26.8	26.5	31.0	31.8	26.7	26.9	26.7	26.8	26.7	36.6	38.7	37.8	37.4	37.3
11	29.4	30.5	26.5	29.5	28.0	26.8	26.9	26.6	26.6	26.7	36.5	38.2	37.7	35.6	37.1
12	27.1	27.1	35.2	26.7	29.4	26.9	26.9	26.9	26.8	26.5	34.3	38.0	34.7	37.0	35.0
13	31.2	28.2	33.4	28.1	27.4	26.8	26.5	26.5	26.3	26.4	38.1	38.2	32.9	37.0	38.8
14	27.1	28.9	32.3	30.7	30.9	26.9	26.9	26.9	26.1	26.5	33.2	36.7	38.2	36.6	36.1
15	28.1	27.3	32.2	30.3	29.6	26.9	26.5	26.5	26.3	26.8	35.2	38.6	36.7	37.6	35.9
16	29.6	26.7	35.7	31.2	28.3	26.8	26.8	26.8	26.8	26.8	36.6	34.7	35.6	37.6	37.3
17	30.5	26.8	35.0	31.2	31.3	26.1	26.7	26.7	26.3	26.1	37.5	36.3	37.3	37.6	38.2
18	31.6	30.6	32.7	30.3	31.9	26.9	26.7	26.9	26.9	26.7	38.5	36.3	36.0	36.6	39.2
19	28.3	28.5	31.0	28.3	28.0	26.9	26.3	26.7	26.6	26.5	35.4	37.7	34.7	36.4	36.1
20	28.1	29.2	29.8	31.3	31.0	26.8	26.1	26.7	26.5	26.9	35.2	34.6	37.5	37.7	35.9
21	32.2	26.7	35.6	29.7	30.9	26.9	26.8	26.9	26.9	26.8	39.1	39.3	37.3	35.9	39.8
22	29.2	31.6	35.4	31.0	30.4	26.7	26.9	26.5	26.8	26.7	36.2	33.5	37.9	37.4	36.9
23	27.8	26.6	34.5	30.6	28.3	26.7	26.7	26.4	26.7	26.9	34.9	38.7	37.0	36.9	35.6
24	27.2	28.6	35.0	28.9	29.6	26.6	26.5	26.9	26.9	26.5	34.4	33.5	37.0	34.9	35.1
25	35.7	28.4	35.5	30.2	28.4	26.9	26.3	26.8	26.5	26.9	34.2	36.2	35.3	36.4	35.4
26	30.8	26.9	32.4	28.3	29.2	26.5	26.3	26.5	26.9	26.9	38.2	34.8	38.7	37.3	38.9
27	31.2	26.8	31.3	31.9	27.1	26.7	26.5	26.6	26.9	26.8	38.1	34.7	36.2	38.4	38.8
28	30.5	29.2	34.5	29.9	35.0	26.4	26.9	26.3	26.8	26.9	37.5	37.0	38.2	36.1	38.2
29	28.1	27.1	31.8	30.8	27.5	26.3	26.9	26.9	26.8	26.8	35.2	34.0	37.0	37.1	35.9
30	34.5	28.4	33.3	30.8	35.2	26.9	26.8	26.8	26.9	26.9	38.2	36.2	38.7	37.1	37.4
31	31.0	26.7	35.4	31.1	35.6	26.8	26.9	26.7	26.7	26.5	38.7	33.6	38.3	37.5	36.3
32	29.2	26.4	35.0	29.8	34.6	26.5	26.7	26.7	26.8	26.4	36.2	34.2	38.6	36.0	36.9
33	26.5	28.2	31.4	29.7	28.4	26.4	26.9	26.5	26.5	26.3	36.1	36.1	38.4	37.7	39.8
34	34.9	27.5	33.5	30.2	26.5	26.7	26.9	26.9	26.7	26.6	36.2	37.1	38.0	37.7	36.9
35	26.5	26.7	34.5	31.3	33.5	26.3	26.7	26.6	26.5	26.6	34.4	34.5	39.0	37.7	35.1
36	27.0	29.2	35.6	31.3	28.9	26.1	26.7	26.5	26.9	26.5	34.3	37.1	37.8	37.6	35.0
37	27.2	26.8	35.4	28.9	30.8	26.8	26.9	26.9	26.8	26.4	33.5	35.1	38.9	37.5	35.1
38	27.0	26.4	33.4	31.1	35.0	26.9	26.5	26.8	26.7	26.3	38.6	33.1	36.4	37.7	39.3
39	33.9	26.7	33.6	31.4	26.8	26.7	26.4	26.7	26.9	26.6	40.5	37.6	39.1	38.2	37.7
40	26.9	26.5	35.4	29.0	29.9	26.5	26.9	26.9	26.5	26.5	32.3	35.4	38.0	37.5	35.2
41	28.9	26.4	33.5	31.1	28.9	26.3	26.8	26.5	26.9	26.8	36.0	35.0	38.8	37.7	36.7
42	29.0	26.8	35.4	31.2	30.8	26.3	26.5	26.9	26.9	26.9	38.2	35.0	38.6	37.5	35.6
43	31.9	26.4	35.0	29.4	27.4	26.5	26.6	26.9	26.8	26.9	36.3	34.6	37.4	37.5	37.1
44	35.7	26.7	35.6	29.5	29.9	26.9	26.3	26.8	26.9	26.9	32.8	37.1	37.0	36.0	36.6
45	35.0	27.8	35.5	28.6	26.7	26.9	26.9	26.8	26.8	26.8	37.8	36.2	38.6	37.6	38.9
46	27.6	26.8	33.4	31.0	28.1	26.8	26.8	26.9	26.9	26.6	36.2	35.6	38.0	37.4	38.5
47	28.2	27.0	32.0	26.5	31.9	26.9	26.7	26.7	26.5	26.4	37.3	34.0	39.0	38.4	37.8
48	29.2	26.4	35.6	31.0	35.0	26.7	26.7	26.8	26.4	26.4	38.5	35.7	39.1	37.4	38.5
49	27.6	26.6	33.2	30.1	30.8	26.9	26.5	26.5	26.3	26.5	32.4	33.5	38.4	39.5	35.7
50	27.1	26.4	35.0	31.3	26.8	26.9	26.9	26.5	26.9	26.5	35.4	37.7	36.2	37.7	36.0
	Mean = 30.5					Mean = 26.4					Mean = 36.7				
	S . D . = 1.88					S . D . = 0.68					S . D . = 1.57				

μm with an avarage value of26.4 μm and ± 0.68.
The diameters of the granular convoluted tubules were ranged from 32.3 μm to 40.5 μm with an avarage value of 36.7 μm ± 1.567.

- Group 4 :

The body weight (Table 1).

In the control animals, it was found that the body weights ranged from 119 g to 131 g with a mean value of 126 g ± 5.24.

The body weight increased by about 34.13% than the control of the previous group which was of a significant value.

Control injected with the hormones solvents :-

- Olive oil, it was found that the body weights ranged from 116 g to 133 g with a mean value of123 g ± 8.87.

- Distilled water, it was found that the body weights ranged from 115 g to 130 g with a mean value of 122 g ±7.5.

- Olive oil and distilled water, it was found that the body weights ranged from 118 g to 135 g with a mean value of 128 g ± 8.8.

- After testosterone injections, it was found that the body weights ranged from 130 g to 145 g with a mean value of 137 g ± 5.74.

The body weight increased by 8.03 % than the control of the same group which was of a significant value.

- After thyroxine injections, it was found that the body weights ranged from 135g to 152 g with a mean of value 141 g ± 6.6.

The body weight increased by 10.64 % than the control of the same group which was of a significant values.

- After combined injections, it was found that the body weights ranged from 138 g to 154 g with a mean value of 145 gm ± 5.8.

The body weight increased by 13.1 % than the control of the samegroup which was of a significant value.

The glandular weight (Table 2).

In the control animals :-

The weights of the glands ranged from 342.8 mg to 358.2 mg with amean value of 352.8 mg ± 6.36.

The glandular weight increased by 22.17 than the control of the previous group which was of a significant value.

In control injected with the hormones solvents :-

- Olive oil, the weights of the glands ranged from 355.3 mg to 368.7 mg with amean value of 350.6 mg ± 8.75.

-D istilled water, the weights of the glands ranged from 340.8 mg to 362.1 mg with a mean value 350.4 mg ± 10.8.

- Olive oil and distilled water, the weights of the glands ranged from 358.9 mg to 369.2 mg with amean value of 349.3 mg ± 17.2.

- After testosterone injections, the weights of the glands ranged from 351.1 mg to 369.8 mg with amean value of 362.1 mg ± 7.39.

The glandular weight increased by 2.57 % than the control of the same age which was of a significant value.

- Thyroxine injections, the weights of the glands ranged from 371.3 mg to 391.9 mg with a mean value of 385.3mg ± 8.27.

The glandular weight increased by 8.43 % than the control which was of a significant value.

-After combined injections, tThe weights of the glands ranged from 379 mg to 398.9 mg with a mean value of389.6 mg ± 9.41.

The glandular weight were increased by 9.45 % than the control of the same group which was of a significant value.

Histological and Histochemical observations :

As the previous group except that vaculaization started to appear in the portion of striated ducts and small granular convoluted tubules were formed in the control group.

Quantitative observations :

-In the control animals (Table 25), the diameters of the striated ducts were ranged from 25.1 μm to 37.0 μm with an avarage value of31.5 μm ± 1.89

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.3 μm ± 0.401. The diameters

(Table 25) showing the diameters of striated ducts, acini and GCTs in control animals (A) of group 4

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	27.9	25.5	32.8	31.3	30.0	26.7	26.9	26.9	26.9	26.8	36.5	36.7	36.1	36.8	36.2
2	27.6	27.4	33.6	30.8	29.8	26.9	26.9	26.8	26.8	26.8	36.3	37.2	36.4	36.4	36.7
3	27.9	27.3	28.9	31.6	30.0	26.9	26.8	26.9	26.9	26.9	36.5	36.9	36.8	37.1	36.7
4	27.6	25.2	27.2	31.0	29.2	26.8	26.8	26.8	26.8	26.9	36.3	36.5	36.2	36.5	36.4
5	28.0	26.2	31.9	30.0	29.3	26.9	26.9	26.7	26.8	26.8	36.6	36.7	36.6	35.5	36.3
6	28.8	29.6	28.9	29.4	30.0	26.9	26.4	26.7	26.9	26.9	37.4	36.4	36.9	34.9	36.1
7	28.1	27.6	30.8	31.6	30.8	26.4	26.9	26.8	26.9	26.8	36.7	37.4	36.3	37.1	36.3
8	28.0	30.7	30.1	31.4	30.2	26.9	26.7	26.8	26.8	26.9	36.6	36.9	36.4	36.9	36.1
9	28.4	29.0	28.9	31.5	30.1	26.8	26.7	26.5	26.8	26.8	37.0	36.9	36.9	37.0	36.4
10	28.1	25.6	25.4	31.3	32.0	26.1	26.8	26.5	26.9	26.7	36.7	37.0	36.5	36.8	36.0
11	27.9	29.1	25.4	29.5	28.8	26.8	26.9	26.8	26.8	26.6	36.5	36.7	36.8	35.0	36.3
12	25.6	25.9	33.1	26.3	30.0	26.7	26.6	26.6	26.9	26.5	36.2	36.7	36.4	36.4	36.4
13	29.7	26.9	30.8	27.9	28.3	26.9	26.8	26.4	26.8	26.9	36.1	36.2	36.9	36.4	36.1
14	25.6	27.6	30.0	30.9	31.3	26.8	26.9	26.8	26.9	26.8	37.1	36.5	36.2	36.0	36.1
15	26.6	26.1	29.9	30.5	30.2	26.6	26.8	26.8	26.9	26.8	36.0	36.6	36.3	37.0	36.3
16	28.1	25.5	32.8	31.5	29.0	26.9	26.9	26.9	26.9	26.9	36.7	36.4	36.5	37.0	36.5
17	29.0	25.6	33.2	31.5	31.6	26.5	26.5	26.7	26.9	26.9	36.6	38.0	36.3	36.9	36.3
18	30.1	29.2	30.3	30.5	32.1	26.9	26.9	26.8	26.9	26.8	38.6	36.9	36.8	36.8	36.1
19	26.8	27.2	29.0	28.2	28.8	26.5	26.8	26.8	26.9	26.7	36.4	37.4	36.1	35.8	36.1
20	26.6	27.9	28.0	31.6	31.4	26.8	26.9	26.9	26.8	26.8	36.5	36.7	36.8	37.1	36.3
21	30.7	25.5	33.5	29.8	31.3	26.7	26.7	26.9	26.9	26.6	38.1	36.6	36.8	35.3	36.4
22	27.6	30.2	33.2	31.3	30.9	26.8	26.6	26.8	26.9	26.8	36.3	36.1	36.9	36.8	36.1
23	26.3	25.4	31.7	30.8	29.0	26.9	26.4	26.9	26.9	26.6	35.0	37.2	36.8	36.2	36.0
24	25.7	27.3	33.3	28.8	30.2	26.8	26.7	26.7	26.8	26.3	34.5	37.2	36.3	34.3	36.1
25	37.0	27.1	32.5	30.3	29.2	26.8	26.8	26.9	26.9	26.4	36.4	37.9	36.4	35.8	36.4
26	29.3	25.7	30.1	28.2	29.8	26.9	26.8	26.7	26.9	26.9	38.3	36.1	36.6	36.7	36.0
27	29.7	25.6	29.2	32.3	28.0	26.6	26.9	26.8	26.9	26.8	38.2	36.4	37.2	37.8	36.1
28	29.0	27.9	31.7	30.0	35.9	26.5	26.9	26.8	26.8	26.7	37.6	36.3	37.8	35.5	36.0
29	26.6	25.9	29.6	31.0	28.4	26.9	26.5	26.9	26.9	26.5	35.3	37.6	36.1	36.5	36.1
30	32.9	27.1	30.8	31.0	35.9	26.8	26.8	26.9	29.7	26.9	38.0	36.8	36.6	36.5	36.4
31	29.4	25.5	33.5	31.4	36.7	26.8	26.8	26.8	26.9	26.7	38.8	36.1	36.7	36.9	36.1
32	27.6	25.2	32.9	29.9	34.4	26.7	26.7	26.7	26.9	26.8	36.3	37.1	37.3	35.4	36.0
33	25.1	26.9	29.3	29.8	29.1	26.9	26.9	26.9	26.8	26.8	36.2	36.1	36.7	37.1	36.1
34	33.4	26.3	30.9	30.3	27.6	26.5	26.5	26.9	26.8	26.9	36.3	37.3	37.9	37.1	36.1
35	25.1	25.5	31.7	31.6	33.5	26.9	26.9	26.9	26.9	26.8	36.4	37.2	36.5	37.2	36.3
36	25.5	27.9	33.4	31.6	29.6	26.9	26.9	26.8	26.8	26.9	37.2	37.8	36.4	35.7	36.1
37	25.7	25.6	33.4	28.8	31.2	26.8	26.9	26.9	26.8	26.7	36.3	36.8	37.0	36.9	36.0
38	25.5	25.2	30.8	31.4	37.0	26.7	26.7	26.8	26.9	26.9	38.7	36.6	37.1	36.4	36.1
39	32.4	25.5	31.0	31.7	27.8	26.9	26.9	26.9	26.7	26.9	38.2	36.9	37.3	35.0	36.4
40	25.4	25.3	32.4	29.0	30.5	26.8	26.9	26.9	26.9	26.8	36.0	36.1	36.2	36.9	36.0
41	27.4	25.2	30.9	31.4	29.6	26.9	26.8	26.8	26.9	26.9	36.1	36.1	37.4	37.1	36.1
42	27.5	25.6	33.4	31.5	31.2	26.7	26.9	26.9	26.9	26.8	38.9	36.9	36.6	36.2	36.0
43	30.4	25.2	33.5	29.4	28.3	26.7	26.7	26.9	26.9	26.8	36.5	36.7	36.4	36.0	36.1
44	37.0	25.5	32.6	29.5	30.5	26.9	26.9	26.9	26.9	26.9	36.7	37.8	37.0	35.4	36.4
45	35.6	26.5	32.5	28.5	27.7	26.6	26.7	26.8	26.9	26.8	37.3	36.8	37.1	36.5	36.3
46	26.1	25.6	30.8	31.3	28.9	26.9	26.8	26.8	26.8	26.9	36.4	36.7	37.3	36.8	36.0
47	26.7	25.8	29.8	26.1	32.1	26.6	26.8	26.9	26.9	26.9	36.3	36.8	36.2	34.6	36.1
48	27.6	25.2	32.6	31.3	36.2	26.8	26.9	26.7	26.8	26.7	37.4	36.9	37.4	36.1	36.0
49	26.1	25.4	30.7	30.2	31.2	26.7	26.7	26.7	26.8	26.8	36.1	36.7	36.6	35.7	36.4
50	25.6	25.2	33.5	31.6	27.8	26.8	26.9	26.9	26.9	26.7	36.1	37.1	36.4	36.2	36.4
	Mean = 31.5					Mean = 26.3					Mean = 36.6				
	S . D . = 1.89					S . D . = 0.40					S . D . = 0.58				

of the granular convoluted tubules were ranged from 34.9 μm to 38.9 μm with an avarage value 36.6um ± 1.89.

The control injected with hormones solvents :-

- Olive oil (Table 26), the diameters of the striated ducts were ranged from 25.1 μm to 36.9 μm with an avarage value of31.3 μm ± 2.22.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.7 μm ± 0.67

The diameters of the granular convoluted tubules were ranged from 33.3 μm to 37.1 μm with an avarage value 35.9 μm ± 1.12.

- Distilled water (Table 27), the diameters of the striated ducts were ranged from 25.1 μm to 36.5 μm with a meanof value of31.6 μm ±2.65.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value 26.4 μm ± 0.51.

The diameters of the granular convoluted tubules were ranged from 32.9 μm to 36.8 μm with an avarage value 36.2um ± 0.95.

- Olive oil and distilled water (Table 28), the diameters of the striated ducts were ranged from 25.1 μm to 37.1 μm with a mean of value 31.5 μm ± 3.11.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of26.5 μm ± 0.79.

The diameters of the granular convoluted tubules were ranged from 33.1 μm to 37.3 μm with an avarage value 36.5um ± 1.32.

(Table 26) showing diameters of striated duct, acini, and GCTs in control animals injected with olive oil in group 4

No.	STRIATED DUCT			ACINI			GCT		
	A1	A2	A3	A1	A2	A3	A1	A2	A3
1	27.0	31.4	27.8	26.8	26.9	26.9	33.7	33.3	34.2
2	26.9	30.9	27.6	26.9	26.6	26.9	34.5	33.0	34.0
3	27.0	31.7	27.8	26.1	26.5	26.7	34.9	34.6	34.3
4	26.4	31.1	27.6	26.2	26.8	26.5	34.9	34.9	33.9
5	26.4	30.1	27.9	26.9	26.9	26.6	36.2	35.2	34.0
6	27.0	29.5	28.8	26.3	26.4	26.2	37.1	36.2	35.2
7	27.6	31.7	28.0	26.4	26.5	26.6	36.9	36.1	35.9
8	27.1	31.5	27.9	26.9	26.9	26.9	36.4	37.0	35.3
9	27.0	31.6	28.4	26.8	26.9	26.8	35.2	37.1	35.6
10	28.6	31.4	28.0	26.1	26.2	26.9	34.9	36.9	36.2
11	26.1	29.6	27.8	26.8	26.9	26.8	34.2	35.4	36.9
12	27.0	26.4	25.6	26.7	26.8	26.8	34.1	35.6	37.1
13	25.7	28.0	29.6	26.9	26.5	26.8	35.6	34.0	36.9
14	28.0	31.0	25.6	26.8	26.4	26.9	33.9	34.9	35.8
15	27.1	30.6	26.6	26.6	26.7	26.9	33.8	33.3	34.7
16	26.2	31.6	28.0	26.9	26.8	26.5	36.9	33.5	37.0
17	28.3	31.6	29.0	26.5	26.3	26.6	35.9	36.0	36.8
18	28.7	30.6	30.0	26.9	26.4	26.6	35.7	36.2	35.7
19	26.1	28.3	26.8	26.5	26.9	26.9	35.4	37.0	34.6
20	28.1	31.7	26.6	26.8	26.8	26.8	37.1	36.9	33.9
21	28.0	29.9	30.7	26.7	26.1	26.8	37.0	36.4	36.7
22	27.7	31.4	27.6	26.8	26.8	26.9	36.9	35.9	35.7
23	26.2	30.9	26.3	26.9	26.7	26.6	36.5	35.4	34.6
24	27.1	28.9	25.7	26.7	26.9	26.8	35.4	35.3	34.5
25	26.4	30.4	36.9	26.7	26.4	26.9	35.2	35.0	35.6
26	26.9	28.3	29.3	26.8	26.9	26.8	35.1	35.2	35.2
27	25.4	32.4	29.6	26.9	26.8	26.8	35.0	34.4	33.9
28	31.6	30.1	29.0	26.9	26.1	26.7	34.2	34.9	33.3
29	25.7	31.1	26.6	26.5	26.8	26.9	33.0	34.4	37.1
30	31.6	31.1	32.9	26.9	26.7	26.9	34.0	34.0	37.0
31	32.2	31.5	29.4	26.8	26.9	26.6	34.2	34.2	33.2
32	30.5	30.0	27.6	26.7	26.8	26.1	34.3	35.1	34.9
33	26.3	29.9	25.1	26.9	26.9	26.9	34.9	35.2	34.8
34	25.1	30.4	33.3	26.9	26.9	26.4	35.2	34.9	35.3
35	29.8	31.7	25.1	26.5	26.6	26.8	36.1	35.0	34.1
36	26.7	31.7	25.5	26.9	26.8	26.8	37.1	36.2	34.9
37	27.9	28.9	25.7	26.8	26.9	26.9	37.0	36.9	36.2
38	32.5	31.5	25.5	26.7	26.8	26.9	36.9	36.4	34.7
39	25.2	31.8	32.4	26.7	26.8	26.5	35.9	36.1	37.0
40	27.4	29.1	25.4	26.6	26.7	26.9	35.2	35.9	33.3
41	26.7	31.5	27.4	26.8	26.9	26.7	34.3	34.0	34.9
42	27.9	31.6	27.5	26.9	26.9	26.4	34.2	34.2	34.8
43	25.7	29.5	30.4	26.5	26.6	26.8	34.9	34.3	35.2
44	27.4	29.6	36.9	26.9	26.9	26.1	35.1	34.5	35.6
45	25.2	28.6	35.5	26.9	26.1	26.8	34.1	33.9	36.2
46	26.1	31.4	26.1	26.3	26.4	26.3	35.2	33.8	36.1
47	28.7	26.2	26.7	26.7	26.8	26.7	35.9	33.9	36.9
48	31.9	31.4	27.6	26.7	26.8	26.8	37.0	35.1	34.2
49	27.9	30.3	26.1	26.9	26.9	26.8	33.3	35.9	34.5
50	25.2	31.7	25.6	26.8	26.9	26.9	33.1	36.3	33.9
	Mean = 31.3			Mean = 26.7			Mean = 35.9		
	S.D. = 2.22			S.D. = 0.67			S.D. = 1.12		

(Table 27) showing diameters of striated duct, acini, and GCTs in control animals injected with D.W. in group 4

No.	STRIATED DUCT			ACINI			GCT		
	A1	A2	A3	A1	A2	A3	A1	A2	A3
1	27.7	27.0	30.9	26.9	26.8	26.8	34.9	36.4	34.9
2	27.5	26.9	30.4	26.8	26.8	26.9	36.1	35.9	36.8
3	27.7	27.0	31.2	26.9	26.6	26.9	36.2	35.9	36.8
4	27.5	26.4	30.6	26.1	26.4	26.1	35.9	35.4	36.0
5	27.8	26.4	29.6	26.5	26.5	26.5	35.4	35.8	36.1
6	28.7	27.0	29.0	26.7	26.1	26.9	34.1	36.0	35.9
7	27.9	27.6	31.2	26.5	26.5	26.4	33.9	36.0	35.8
8	27.8	27.1	31.0	26.9	26.8	26.1	32.9	36.1	33.9
9	28.3	27.0	31.1	26.9	26.7	26.1	32.9	36.2	34.2
10	27.9	28.6	30.9	26.2	26.8	26.9	36.8	36.2	34.3
11	27.7	26.1	29.1	26.9	26.7	26.1	36.7	36.3	34.6
12	25.6	27.0	25.9	26.8	26.7	26.7	36.0	36.5	34.8
13	29.5	25.7	27.5	26.5	26.7	26.2	35.1	36.6	36.8
14	25.6	28.0	30.5	26.4	26.8	26.4	34.9	36.7	35.7
15	26.5	27.1	30.1	26.7	26.8	26.2	34.2	36.8	36.1
16	27.9	26.2	31.1	26.8	26.4	26.1	34.3	35.9	36.2
17	28.9	28.3	31.1	26.3	26.5	26.9	36.2	32.9	35.9
18	29.9	28.6	30.1	26.4	26.5	26.8	36.3	36.4	35.7
19	26.7	26.1	27.8	26.9	26.8	26.1	35.9	36.5	34.9
20	26.5	28.1	31.2	26.8	26.7	26.2	34.2	36.1	35.7
21	30.5	28.0	29.4	26.1	26.7	26.1	34.3	36.0	36.6
22	27.5	27.7	30.9	26.8	26.8	26.7	34.7	35.9	36.1
23	26.2	26.2	30.4	26.7	26.5	26.6	34.2	36.2	35.9
24	25.7	27.1	28.4	26.9	26.7	26.9	35.9	36.3	34.9
25	36.5	26.4	29.9	26.4	26.8	26.1	32.9	36.4	34.7
26	29.2	26.9	27.8	26.9	26.7	26.8	33.1	36.1	36.8
27	29.5	25.4	31.9	26.8	26.7	26.2	34.9	36.9	34.9
28	28.9	31.6	29.6	26.1	26.6	26.4	34.3	36.7	35.9
29	26.5	25.7	30.6	26.1	26.8	26.1	34.2	36.7	35.8
30	32.6	31.6	30.6	26.1	26.8	26.8	34.5	36.2	36.8
31	29.3	32.2	31.0	26.1	26.5	26.8	35.1	36.2	36.1
32	27.5	30.4	29.5	26.8	26.1	26.1	35.2	36.1	36.2
33	25.1	26.3	29.4	26.9	26.8	26.4	35.9	36.2	35.9
34	33.0	25.1	29.9	26.1	26.2	26.8	36.1	36.0	36.4
35	25.1	29.8	31.2	26.6	26.2	26.9	35.4	35.9	34.6
36	25.5	26.7	31.2	26.1	26.4	26.9	36.7	35.7	36.4
37	25.7	27.9	28.4	26.9	26.2	26.8	36.8	35.4	36.1
38	25.5	32.5	31.0	26.8	26.1	26.7	35.9	34.9	34.9
39	32.1	25.2	31.3	26.1	26.4	26.2	35.3	33.9	35.5
40	25.4	27.3	28.6	26.2	26.8	26.5	35.2	36.7	35.8
41	27.3	26.7	31.0	26.9	26.6	26.9	36.8	36.8	35.9
42	27.4	27.9	31.1	26.9	26.3	26.9	36.4	36.2	36.1
43	30.2	25.7	29.0	26.1	26.7	26.8	36.1	36.3	36.2
44	36.5	27.3	29.1	26.1	26.2	26.1	36.7	36.1	35.2
45	35.2	25.2	28.1	26.1	26.7	26.5	36.7	35.9	35.9
46	26.0	26.1	30.9	26.4	26.2	26.5	36.7	35.9	34.3
47	26.6	28.6	25.7	26.1	26.6	26.1	36.6	35.8	36.8
48	27.5	31.9	30.9	26.1	26.7	26.1	36.2	36.1	36.1
49	26.0	27.9	29.8	26.2	26.7	26.1	36.4	36.5	36.4
50	25.6	25.2	31.2	26.9	26.2	26.1	36.1	36.6	35.5
	Mean = 31.6			Mean = 26.4			Mean = 36.2		
	S.D. = 2.65			S.D. = 0.51			S.D. = 0.95		

(Table 28) showing diameters of striated duct, acini, and GCTs in control animals injected with oil + D.W in group 4

No.	STRIATED DUCT			ACINI			GCT		
	A1	A2	A3	A1	A2	A3	A1	A2	A3
1	27.0	32.1	28.0	26.7	26.8	26.1	36.2	37.0	34.2
2	26.9	31.6	27.7	26.7	26.9	26.7	36.4	34.9	35.9
3	27.0	32.4	28.0	26.5	26.9	26.8	35.9	34.2	33.1
4	26.4	31.8	27.7	26.3	26.8	26.9	34.2	35.1	34.2
5	26.4	30.8	28.1	26.4	26.5	26.9	37.0	35.9	36.9
6	27.0	30.2	28.9	26.1	26.9	26.8	36.9	35.4	37.0
7	27.6	32.4	28.2	26.4	26.4	26.7	36.5	35.9	35.9
8	27.1	32.2	28.1	26.7	26.1	26.7	34.9	36.2	35.4
9	27.0	32.3	28.5	26.6	26.8	26.5	33.1	37.1	36.2
10	28.6	32.1	28.2	26.7	26.9	26.9	33.9	36.5	35.1
11	26.1	30.3	28.0	26.6	26.8	26.9	36.2	36.9	34.9
12	27.0	27.1	25.7	26.6	26.7	26.8	35.9	34.2	33.1
13	25.7	28.7	29.8	26.6	26.5	26.7	35.4	33.1	34.9
14	28.0	31.7	25.7	26.7	26.4	26.5	35.2	37.0	35.2
15	27.1	31.3	26.7	26.7	26.6	26.5	37.3	36.2	37.0
16	26.2	32.3	28.2	26.3	26.2	26.9	37.0	36.4	36.5
17	28.3	32.3	29.1	26.4	26.9	26.1	36.9	36.6	36.4
18	28.6	31.3	30.2	26.4	26.8	26.9	36.5	36.5	36.3
19	26.1	29.0	26.9	26.7	26.9	26.9	36.2	35.4	36.5
20	28.1	32.4	26.7	26.6	26.8	26.8	36.2	34.2	36.9
21	28.0	30.6	30.8	26.6	26.9	26.9	36.2	33.1	34.2
22	27.7	32.1	27.7	26.7	26.7	26.9	35.9	37.2	33.1
23	26.2	31.6	26.4	26.4	26.6	26.8	35.9	37.2	37.2
24	27.1	29.6	25.8	26.6	26.9	26.5	36.0	37.1	37.2
25	26.4	31.1	37.1	26.7	26.9	26.9	34.9	36.9	37.3
26	26.9	29.0	29.4	26.6	26.8	26.4	34.7	36.6	34.9
27	25.4	33.1	29.8	26.6	26.8	26.1	34.2	33.1	35.0
28	31.6	30.8	29.1	26.5	26.4	26.8	34.0	34.4	35.0
29	25.7	31.8	26.7	26.7	26.9	26.9	34.9	35.5	35.9
30	31.6	31.8	33.0	26.7	26.8	26.8	36.2	37.0	36.9
31	32.2	32.2	29.5	26.4	26.8	26.7	36.9	36.2	36.8
32	30.4	30.7	27.7	26.2	26.1	26.5	36.0	36.6	37.3
33	26.3	30.6	25.2	26.7	26.7	26.4	33.1	36.1	37.0
34	25.1	31.1	33.5	26.2	26.8	26.6	34.2	37.1	36.9
35	29.8	32.4	25.2	26.6	26.9	26.8	34.5	34.4	36.5
36	26.7	32.4	25.6	26.6	26.9	26.9	36.9	35.5	36.4
37	27.9	29.6	25.8	26.7	26.8	26.9	36.5	35.9	37.1
38	32.5	32.2	25.6	26.7	26.7	26.7	36.5	37.2	37.0
39	25.2	32.5	32.5	26.3	26.7	26.3	36.5	36.2	35.2
40	27.3	29.8	25.5	26.7	26.5	26.9	36.4	36.5	35.4
41	26.7	32.2	27.5	26.5	26.9	26.7	37.0	36.4	35.9
42	27.9	32.3	27.6	26.2	26.9	26.5	37.1	36.2	33.8
43	25.7	30.2	30.5	26.6	26.8	26.4	36.2	36.5	33.4
44	27.3	30.3	37.1	26.1	26.7	26.3	36.9	37.0	37.2
45	25.2	29.3	35.7	26.6	26.5	26.7	35.9	37.1	37.0
46	26.1	32.1	26.2	26.1	26.5	26.9	35.4	36.8	36.5
47	28.6	26.9	26.8	26.5	26.9	26.4	35.2	36.4	37.2
48	31.9	32.1	27.7	26.6	26.1	26.9	34.2	36.9	36.2
49	27.9	31.0	26.2	26.6	26.9	26.8	34.3	35.5	35.2
50	25.2	32.4	25.7	26.7	26.9	26.1	34.7	35.9	35.9
	Mean = 31.5			Mean = 26.5			Mean = 36.5		
	S.D. = 3.11			S.D. = 0.79			S.D. = 1.32		

- After testosterone injections (Table 29), the diameters of the striated ducts were ranged from 26.9 μm to 33.8 μm with a mean value of 31.3um ±1.75.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.4 μm ±0.75.

The diameters of the granular convoluted tubules were ranged from 34.1 μm to 43.9 μm with an avarage value of 37.8um ±1.28.

- After thyroxine injections (Table 30), the diameters of the striated ducts were ranged from 27.1 μm to 34.8 μm with an avarage value of 32um ± 1.43.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.3 μm 0.58.

The diameters of the granular convoluted tubules were ranged from 35.5 μm to 42.1 μm with avarage value of39.7 μm ± 1.58.

- Combined injections (Table 31).The diameters of the striated ducts were ranged from 26.7 μm to 35.2 μm with an avarage value 32.1 μm ±1.54

The diameters of the acini were ranged from 26. μm to 26.9 μm with an avarage value 26.4 μm ± 0.34

The diameters of the granular convoluted tubules were ranged from 38.0 μm to 45.4 μm with avarage value 42.1um ±1.54

(Table 29) showing the diameters of striated ducts, acini and GCTs in testosterone animals of group 4

	STRIATED DUCTS					ACINI					GCT				
No.	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	29.8	27.2	32.8	33.1	29.5	26.9	26.8	26.8	26.9	26.9	37.3	37.7	37.5	38.8	37.1
2	29.5	28.9	33.7	32.5	29.3	26.7	26.9	26.9	26.9	26.8	37.3	38.0	37.6	38.1	37.3
3	29.8	28.8	28.6	33.5	29.5	26.7	26.7	26.9	26.9	26.8	37.2	38.0	37.3	37.8	37.6
4	29.5	26.9	27.4	32.8	28.7	26.9	26.9	26.9	26.9	26.9	37.2	38.1	37.6	38.7	43.3
5	29.9	27.8	31.9	31.6	28.8	26.6	26.7	26.8	26.9	26.8	37.8	38.1	37.4	38.6	38.3
6	30.7	31.0	28.6	30.9	29.5	26.9	26.8	26.8	26.8	26.9	37.0	37.9	37.5	38.0	41.7
7	30.0	29.1	30.7	33.5	30.3	26.6	26.8	26.9	26.9	26.9	37.6	37.9	37.3	38.2	43.9
8	29.9	32.0	29.9	33.2	29.6	26.8	26.9	26.7	26.8	26.7	37.1	38.5	37.0	37.9	43.9
9	30.3	30.4	28.6	33.4	29.6	26.7	26.7	26.7	26.8	26.8	37.2	38.3	37.4	38.0	43.7
10	30.0	27.3	27.0	33.1	31.6	26.8	26.9	26.9	26.9	26.7	37.8	38.0	37.3	38.0	43.8
11	29.8	30.5	27.0	31.0	28.3	26.8	26.8	26.8	26.9	26.7	37.0	37.6	37.7	37.9	38.3
12	27.6	27.5	33.2	27.2	29.5	26.7	26.7	26.7	26.9	26.8	37.2	37.6	36.9	38.2	38.6
13	31.5	28.5	30.7	29.1	27.8	26.9	26.9	26.9	26.8	26.8	37.8	38.2	36.8	38.1	37.1
14	27.6	29.1	29.7	32.7	30.8	26.5	26.5	26.9	26.8	26.9	37.1	38.0	37.1	37.8	37.2
15	28.5	27.7	29.6	32.2	29.6	26.9	26.9	26.9	26.9	26.8	37.0	38.1	37.6	37.9	37.6
16	30.0	27.2	32.8	33.4	28.5	26.9	26.9	26.8	26.8	26.9	37.8	38.0	37.2	37.9	36.8
17	30.9	27.3	33.3	33.4	31.2	26.8	26.9	26.9	26.8	26.7	37.2	38.4	37.3	38.8	36.4
18	31.9	30.6	30.1	32.2	31.6	26.7	26.7	26.8	26.9	26.9	37.5	37.7	37.1	38.5	37.2
19	28.7	28.8	28.7	29.5	28.3	26.9	26.9	26.9	26.7	26.9	37.6	38.1	37.8	38.5	37.4
20	28.5	29.4	27.6	33.5	30.9	26.8	26.9	26.9	26.9	26.8	37.7	37.7	36.9	38.3	38.7
21	32.5	27.2	33.6	31.4	30.8	26.9	26.8	26.8	26.9	26.9	37.0	37.9	37.2	38.4	38.2
22	29.5	31.5	33.3	33.1	30.4	26.7	26.9	26.9	26.9	26.8	37.0	38.4	37.3	38.6	38.3
23	28.2	27.1	31.7	32.5	28.5	26.7	26.7	26.9	26.9	26.8	37.0	38.3	37.7	37.9	38.6
24	27.7	28.8	33.4	30.2	29.6	26.9	26.9	26.9	26.9	26.9	37.2	38.0	37.1	38.3	36.0
25	33.7	28.7	32.5	32.0	28.7	26.7	26.7	26.9	26.9	26.9	37.7	37.9	37.4	38.4	38.4
26	31.2	27.4	29.8	29.5	29.3	26.9	26.9	26.9	26.8	26.8	37.2	37.5	37.5	38.4	37.2
27	31.5	27.3	28.9	33.3	27.5	26.9	26.9	26.8	26.9	26.9	37.6	38.1	37.2	38.0	37.5
28	30.9	29.4	31.7	31.6	33.4	26.8	26.8	26.8	26.8	26.8	37.2	37.5	37.0	38.4	37.6
29	28.5	27.5	29.3	32.8	27.9	26.9	26.9	26.9	26.7	26.8	37.1	38.2	37.1	38.5	34.6
30	33.7	28.7	30.6	32.8	33.2	26.9	26.9	26.4	26.7	26.9	37.0	37.6	37.8	38.4	38.3
31	31.3	27.2	33.6	33.2	33.5	26.4	26.4	26.9	26.8	26.9	37.2	38.1	37.5	37.8	38.6
32	29.5	26.9	32.9	31.5	33.7	26.9	26.9	26.7	26.8	26.8	37.2	38.4	36.8	38.2	38.9
33	27.0	28.5	29.0	31.4	28.6	26.8	26.8	26.7	26.5	26.8	37.7	37.5	37.6	38.7	38.7
34	33.8	27.9	30.8	32.0	27.0	26.1	26.1	26.8	26.5	26.9	37.1	38.0	37.2	38.7	34.1
35	27.0	27.2	31.7	33.5	33.1	26.8	26.8	26.9	26.8	26.8	37.0	37.6	37.4	38.5	38.9
36	27.5	29.4	33.5	33.5	29.1	26.7	26.7	26.6	26.6	26.9	37.2	38.4	37.2	38.7	37.8
37	27.7	27.3	33.5	30.2	30.7	26.9	26.9	26.8	26.4	26.8	37.8	37.6	37.0	38.0	38.7
38	27.5	26.9	30.7	33.2	33.8	26.8	26.8	26.9	26.8	26.9	37.6	37.9	37.3	38.5	37.2
39	33.0	27.2	30.9	33.6	27.2	26.6	26.6	26.8	26.8	26.9	37.2	38.2	37.6	38.6	36.6
40	27.4	27.0	32.4	30.4	30.0	26.9	26.9	26.9	26.9	26.9	37.2	38.1	37.7	38.4	36.7
41	29.3	26.9	30.8	33.2	29.1	26.5	26.5	26.5	26.7	26.9	37.0	38.0	37.4	37.9	36.1
42	29.4	27.3	33.5	33.4	30.7	26.9	26.9	26.9	26.8	26.9	37.0	37.8	37.2	38.2	36.4
43	32.2	26.9	33.6	30.9	27.8	26.5	26.5	26.8	26.8	26.9	37.4	38.3	36.9	38.6	34.7
44	33.4	27.2	32.6	31.0	30.0	26.8	26.8	26.9	26.9	26.8	37.0	37.8	36.9	38.7	36.4
45	33.8	28.1	32.5	29.8	27.2	26.7	26.7	26.7	26.9	26.9	37.6	38.0	37.3	38.6	37.8
46	28.0	27.3	30.7	33.1	28.4	26.8	26.8	26.6	26.8	26.9	37.4	38.4	37.1	38.5	37.1
47	28.6	27.5	29.5	27.0	31.6	26.9	26.9	26.4	26.9	26.9	37.4	38.4	36.9	37.9	37.5
48	29.5	26.9	32.6	33.1	33.7	26.8	26.8	26.7	26.7	26.8	37.1	38.3	37.7	38.4	37.1
49	28.0	27.1	30.5	31.8	30.7	26.8	26.8	26.8	26.9	26.9	37.7	38.3	37.1	38.4	36.7
50	27.6	26.9	33.6	33.5	27.2	26.9	26.9	26.8	26.8	26.9	37.1	37.8	37.2	38.0	36.1
	Mean = 31.3					Mean = 26.4					Mean = 37.8				
	S . D . = 1.75					S . D . = 0.75					S . D . = 1.28				

(Table 30) showing the diameters of striated ducts, acini and GCTs in thyroxine animals (A) of group 4

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	29.9	28.5	33.9	32.7	30.0	26.8	26.8	26.9	26.9	26.9	40.4	39.0	39.2	38.7	38.7
2	29.7	30.4	34.1	32.2	29.8	26.8	26.8	26.8	26.6	26.7	40.3	38.7	38.7	39.2	39.2
3	29.9	30.3	30.8	33.1	30.0	26.9	26.9	26.9	26.9	26.8	40.0	38.5	39.4	38.7	39.5
4	29.7	28.2	29.1	32.4	29.2	26.9	26.9	26.8	26.6	26.8	40.4	39.3	38.6	39.5	39.3
5	30.0	29.2	33.8	31.4	29.2	26.8	26.8	26.9	26.8	26.9	39.9	39.1	38.9	39.4	38.8
6	30.8	32.6	30.8	30.8	30.0	26.9	26.8	26.8	26.7	26.7	39.9	39.5	38.8	38.9	39.0
7	30.1	30.6	32.7	33.1	30.8	26.8	26.9	26.7	26.8	26.9	39.5	38.5	38.8	39.0	39.0
8	30.0	33.7	32.0	32.8	30.1	26.9	26.8	26.6	26.8	26.8	40.3	39.5	39.2	38.9	38.6
9	30.4	32.0	30.8	32.9	30.0	26.8	26.9	26.5	26.7	26.7	40.1	38.9	39.1	38.8	38.5
10	30.1	28.6	27.2	32.7	32.0	26.7	26.8	26.9	26.9	26.9	40.3	38.6	39.3	38.7	38.7
11	29.9	32.1	27.2	30.9	28.7	26.6	26.9	26.8	26.5	26.5	40.2	38.8	38.7	39.4	38.8
12	27.9	28.9	33.8	27.5	30.0	26.5	26.9	26.8	26.9	26.9	39.6	38.7	38.6	39.1	39.0
13	31.6	29.9	32.7	29.2	28.3	26.9	26.9	26.9	26.9	26.9	39.8	38.9	38.7	39.4	39.5
14	27.9	30.6	31.9	32.3	31.3	26.8	26.9	26.9	26.9	26.9	39.5	38.9	39.4	39.0	38.7
15	28.8	29.1	31.8	31.9	30.1	26.8	26.8	26.8	26.8	26.9	40.1	38.7	38.9	38.7	38.8
16	30.1	28.5	34.0	32.9	29.0	26.9	26.9	26.7	26.7	26.6	39.4	38.9	39.3	38.5	39.1
17	31.0	28.6	34.1	32.9	31.6	26.9	26.7	26.9	26.9	26.8	40.3	38.7	39.4	38.9	38.5
18	31.9	32.2	32.2	31.9	27.4	26.8	26.9	26.8	26.8	26.9	39.5	39.3	39.4	39.1	38.7
19	28.9	30.2	30.9	29.5	29.0	26.7	26.9	26.6	26.6	26.8	40.0	39.5	39.3	39.3	39.5
20	28.8	30.9	29.9	33.1	28.0	26.8	26.8	26.9	26.9	26.9	39.8	38.9	38.7	39.3	39.1
21	32.5	28.5	33.8	31.2	29.0	26.6	26.9	26.5	26.5	26.5	40.3	38.8	39.3	39.2	39.1
22	29.7	33.2	34.0	32.7	29.0	26.8	26.8	26.9	26.9	26.9	39.9	38.8	39.4	39.2	39.0
23	28.5	28.4	33.6	32.2	28.0	26.6	26.8	26.5	26.5	26.8	40.4	38.9	38.7	39.0	38.9
24	28.0	30.3	34.1	30.1	27.6	26.3	26.9	26.8	26.8	26.9	39.8	39.3	39.1	39.3	39.0
25	34.1	30.1	34.1	31.7	29.0	26.8	26.8	26.7	26.7	26.7	39.8	38.8	38.9	38.8	39.1
26	31.3	28.7	31.9	29.5	28.0	26.8	26.9	26.8	26.8	26.6	40.0	39.5	39.4	39.2	39.5
27	31.6	28.6	31.0	33.8	28.0	26.9	26.9	26.9	26.9	26.4	40.1	38.9	39.3	38.8	39.3
28	31.0	30.9	33.6	31.4	31.0	26.9	26.7	26.8	26.8	26.7	39.5	39.4	38.6	39.2	42.0
29	28.8	28.9	31.5	32.4	27.4	26.8	26.8	26.8	26.8	26.8	39.5	39.1	39.5	38.8	39.5
30	34.1	30.1	32.7	32.4	31.0	26.9	26.7	26.9	26.9	26.8	39.9	38.9	38.9	39.3	38.7
31	31.4	28.5	34.1	32.8	31.8	26.8	26.8	26.9	26.9	26.9	39.9	39.2	38.9	38.7	39.4
32	29.7	28.2	34.0	31.3	29.4	26.9	26.8	26.8	26.8	26.8	39.8	38.6	39.5	38.7	38.9
33	27.3	29.9	31.1	31.2	28.0	26.8	26.9	26.9	26.9	26.7	39.9	39.1	38.9	39.2	41.0
34	34.0	29.3	32.8	31.7	27.2	26.7	26.9	26.9	26.4	26.7	39.9	38.9	38.7	38.9	39.4
35	27.3	28.5	33.6	33.1	28.6	26.6	26.4	26.4	26.9	26.8	39.8	39.4	38.7	38.7	38.9
36	27.8	30.9	34.1	33.1	28.0	26.5	26.9	26.9	26.7	26.8	39.5	38.5	38.8	39.3	39.1
37	28.0	28.6	34.0	30.1	27.4	26.9	26.8	26.8	26.7	26.5	40.0	39.3	39.0	38.9	39.0
38	27.8	28.2	32.7	32.8	32.1	26.8	26.1	26.1	26.8	26.5	40.3	38.6	39.0	38.7	40.0
39	34.1	28.5	32.9	33.2	27.7	26.8	26.8	26.8	26.9	26.8	39.5	38.7	38.9	38.8	38.6
40	27.7	28.3	34.1	30.3	30.4	26.9	26.7	26.7	26.6	26.6	39.5	39.2	39.5	38.7	38.9
41	29.5	28.2	32.8	32.8	29.6	26.9	26.9	26.9	26.8	26.4	40.1	39.0	39.4	38.6	38.7
42	29.6	28.6	33.9	32.9	31.2	26.8	26.8	26.8	26.9	26.8	39.9	39.2	39.2	38.6	40.0
43	32.2	28.2	34.1	30.8	28.3	26.7	26.6	26.6	26.8	26.8	39.9	38.6	38.6	39.5	38.7
44	34.0	28.5	34.0	30.9	30.4	26.8	26.9	26.9	26.9	26.9	39.8	39.0	39.4	39.3	39.2
45	34.0	29.5	34.1	29.8	27.6	26.6	26.5	26.5	26.5	26.7	40.0	39.2	38.8	38.8	40.0
46	28.3	28.6	32.7	32.7	28.8	26.8	26.9	26.9	26.9	26.8	39.8	39.0	39.0	39.5	39.2
47	28.8	28.8	31.7	27.3	28.4	26.6	26.5	26.5	26.8	26.8	39.8	38.6	39.0	38.7	38.8
48	29.7	28.2	34.0	32.7	31.3	26.3	26.8	26.8	26.9	26.9	40.4	38.5	38.5	39.1	39.5
49	28.3	28.4	32.6	31.6	27.4	26.4	26.7	26.7	26.7	26.9	40.4	38.9	39.3	38.6	39.0
50	27.9	28.2	34.1	33.1	27.4	26.9	26.8	26.8	26.6	26.8	40.0	39.0	39.3	38.6	39.1
	Mean = 32.0					Mean = 26.3					Mean = 39.7				
	S . D . = 1.43					S . D . = 0.58					S . D . = 1.58				

(Table 31) showing the diameters of striated ducts, acini and GCTs in combined animals (A) of group 4

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	29.5	27.1	34.1	32.6	28.5	26.9	26.9	26.9	26.8	26.8	43.3	41.7	41.9	43.0	42.1
2	29.3	28.8	34.9	32.1	28.4	26.8	26.9	26.9	26.8	26.9	43.7	41.5	41.2	43.7	42.8
3	29.5	28.7	30.2	32.9	28.5	26.8	26.8	26.9	26.8	26.8	43.2	41.2	41.8	44.0	42.2
4	29.3	26.8	28.6	32.3	27.6	26.9	26.7	26.6	26.6	26.8	43.5	41.1	41.2	43.2	42.4
5	29.6	27.7	33.2	31.3	27.7	26.7	26.9	26.8	26.4	26.9	43.2	41.9	41.6	43.5	42.3
6	30.4	30.7	30.2	30.7	28.5	26.7	26.8	26.9	26.8	26.9	43.4	41.3	41.4	43.5	42.7
7	29.7	28.9	32.2	32.9	29.5	26.9	26.6	26.8	26.8	26.9	43.5	41.5	41.3	43.9	42.8
8	29.6	31.7	31.5	32.7	28.7	26.8	26.9	26.9	26.8	26.8	43.5	45.4	41.2	43.6	42.4
9	30.0	30.2	30.2	32.8	28.6	26.7	26.9	26.8	26.8	26.8	43.3	41.1	41.2	43.2	42.8
10	29.7	27.2	26.7	32.6	31.1	26.9	26.9	26.8	26.9	26.9	43.6	41.9	41.3	43.6	42.5
11	29.5	30.3	26.7	30.8	27.1	26.9	26.9	26.9	26.9	26.9	43.2	41.6	41.5	43.6	42.5
12	27.4	27.4	34.5	27.6	28.5	26.9	26.9	26.8	26.8	26.8	43.8	41.5	38.1	43.6	42.6
13	31.2	28.3	32.2	29.2	27.0	26.8	26.8	26.9	26.9	26.8	43.3	41.2	41.4	43.6	42.3
14	27.4	28.9	31.3	32.2	30.2	26.8	26.9	26.9	26.8	26.9	43.7	41.3	39.0	43.9	42.8
15	28.3	27.6	31.2	31.8	28.7	26.8	26.8	26.7	26.9	26.8	43.6	41.3	41.5	43.5	40.0
16	29.7	27.1	34.1	32.8	27.4	26.6	26.8	26.8	26.8	26.9	44.0	41.9	41.9	43.2	40.0
17	30.6	27.2	34.6	32.8	30.6	26.4	26.9	26.7	26.7	26.8	43.3	41.8	41.4	40.0	40.0
18	31.5	30.4	31.7	31.8	31.1	26.8	26.9	26.7	26.6	26.9	43.1	41.4	44.0	43.9	42.1
19	28.5	28.6	30.3	29.5	27.1	26.8	26.9	26.8	26.5	26.9	43.7	39.3	41.2	43.2	40.0
20	28.3	29.2	29.4	32.9	30.3	26.9	26.8	26.8	26.9	26.9	43.3	41.4	41.5	43.6	42.8
21	32.1	27.1	34.8	31.1	30.2	26.7	26.8	26.9	26.8	26.9	43.3	41.9	43.0	40.0	42.2
22	29.3	31.3	34.6	32.6	29.6	26.8	26.9	26.8	26.8	26.8	43.6	41.6	41.2	43.8	40.0
23	28.0	27.0	33.1	32.1	27.4	26.8	26.7	26.7	26.6	26.6	43.6	41.8	41.4	41.0	42.3
24	27.5	28.7	34.7	30.1	28.7	26.9	26.9	26.9	26.8	26.4	43.6	41.1	41.7	43.4	40.0
25	35.0	28.5	33.9	31.6	27.6	26.9	26.8	26.8	26.9	26.8	43.2	43.0	42.0	43.1	42.1
26	30.9	27.2	31.4	29.5	28.4	26.8	26.6	26.6	26.8	26.8	43.6	41.6	42.1	42.3	39.0
27	31.2	27.2	30.5	33.6	28.0	26.9	26.9	26.9	26.9	26.9	43.2	41.2	42.0	43.8	42.1
28	30.6	29.2	33.1	31.3	35.1	26.7	26.5	26.5	26.5	26.7	43.6	41.2	41.8	43.9	38.0
29	28.3	27.4	30.9	32.3	27.1	26.9	26.9	26.9	26.9	26.8	43.9	42.0	41.1	43.6	42.6
30	34.2	28.5	32.1	32.3	35.0	26.8	26.5	26.5	26.8	26.8	43.7	41.1	41.7	42.0	40.0
31	31.0	27.1	34.8	32.7	28.0	26.9	26.8	26.8	26.9	26.9	44.0	41.4	41.4	43.0	42.3
32	29.3	26.8	34.2	31.2	33.9	26.8	26.7	26.7	26.7	26.9	43.7	41.5	41.5	42.0	40.0
33	26.8	28.3	30.6	31.1	27.5	26.8	26.8	26.8	26.6	26.8	43.5	41.9	41.4	43.3	42.5
34	34.6	27.8	32.3	31.6	27.0	26.9	26.9	26.9	26.4	26.9	43.9	41.9	41.1	44.0	42.4
35	26.8	27.1	33.1	32.9	32.9	26.9	26.8	26.8	26.7	26.7	43.2	41.4	43.0	40.0	40.0
36	27.3	29.2	34.7	32.9	28.1	26.8	26.8	26.8	26.8	26.9	44.0	41.9	41.7	43.6	42.9
37	27.5	27.2	34.7	30.1	30.0	26.8	26.9	26.9	26.8	26.8	43.0	41.1	41.8	42.0	40.0
38	27.3	26.8	32.2	32.7	27.1	26.9	26.9	26.9	26.9	26.9	43.1	41.7	41.3	40.0	42.2
39	33.7	27.1	32.4	33.0	28.0	26.8	26.8	26.8	26.8	26.8	43.1	41.9	41.2	43.3	40.0
40	27.2	26.9	33.8	30.3	29.1	26.9	26.9	26.9	26.7	26.8	43.5	41.6	41.9	43.5	42.0
41	29.1	26.8	32.3	32.7	28.1	26.8	26.9	26.4	26.7	26.9	43.5	42.0	43.0	43.0	42.1
42	29.2	27.2	34.7	32.8	30.0	26.9	26.4	26.9	26.8	26.9	43.6	41.9	41.9	41.0	40.0
43	31.8	26.8	34.8	30.7	27.0	26.9	26.9	26.7	26.8	26.8	43.3	41.8	41.2	42.0	42.9
44	35.2	27.1	33.9	30.8	29.1	26.9	26.8	26.7	26.5	26.8	43.8	41.6	41.4	40.0	42.8
45	35.0	28.0	33.9	29.8	27.0	26.9	26.1	26.8	26.5	26.9	44.0	41.2	43.2	40.0	42.6
46	27.8	27.2	32.2	32.6	27.2	26.9	26.8	26.9	26.8	26.8	43.9	41.4	41.8	43.5	42.7
47	28.4	27.3	31.1	27.4	31.1	26.9	26.7	26.6	26.6	26.9	43.6	41.8	41.0	43.6	42.7
48	29.3	26.8	33.9	32.6	35.0	26.8	26.9	26.8	26.4	26.8	43.4	41.4	42.0	43.8	42.7
49	27.8	27.0	32.0	31.5	30.0	26.9	26.8	26.9	26.8	26.9	43.5	41.2	41.2	43.8	42.5
50	27.4	26.8	34.8	32.9	27.0	26.9	26.8	26.8	26.8	26.8	43.5	41.0	43.9	43.2	42.5
	Mean = 32.1					Mean = 26.4					Mean = 42.1				
	S . D . = 1.54					S . D . = 0.34					S . D . = 1.54				

- Group 5 :

The body weight (Table 1).

- In the control group, it was found that the body weights ranged from 158 g to 179 g with a mean value of 165 g ± 9.27.

The body weight increased by about 23.64 % than the control of the previous group which was of a significant value.

- Control injected with the hormones solvents:

- Olive oil, it was found that the body weights ranged from 151 g to 183 g with a mean value of 161g ± 16.6.

- Distilled water, it was found that the body weights ranged from 165 g to 176 g with a mean value of 171 g ± 7.21.

- Olive oil and distilled water, it was found that the body weights ranged from 153 g to 175 g with a mean value of 163 g ± 11.13.

No significant diffefence between them and the control animals.

- After testosterone injections, it was found that the body weights ranged from 172 g to 188 g with a mean value of 179 g ± 6.1.

The body weight increased by 7.82 % than control of the same group which was of a significant value.

- After thyroxine injections, it was found that the body weights ranged from 179 g to 198 g with a mean value of 182 g ± 8.13.

The body weight increased by 9.34 than the control of the

same group which was of a significant value.

- After combined injections, it was found that the body weights ranged from 175 gto 195 g with a mean value of 186 gm ± 7.5.

The body weight increased by 11.29% than the control of the samegroup which was of a significant value.

The glandular weight (Table 2).

- The control animals, the weights of the glands ranged from 381.7 mg to 395.6 mg with a mean value of 389.1 mg ± 5.88

The glandular weight increased by 9.79 % than control of the previous group which was of a significant value.

Control injected with the hormones solvents :-

- Olive oil, the weights of the glands ranged from 378.2 mg to 399.9 mg with a mean value of 385.9 mg ± 12.1.

- Distilled water, the weights of the glands ranged from 373.7 mg to 391.5 mg with a mean value of 372.8 mg ± 8.90.

- Olive oil and distilled water, the weights of the glands ranged from 375.7 mg to 404.6 mg with a mean value of 381.1 mg ± 16.06.

- After testosterone injections, the weights of the glands ranged from 389.5 mg to 410.9 mg with a mean value of 400.1 mg ± 4.93.

The glandular weight increased by 20.24 % than control of the same which was of a significant value.

- After thyroxine injections, the weights of the glands ranged from 411.9 mg to 429.8 mg with a mean value of 423.2 mg ± 7.24.

The glandular weight increased by 24.6 % than the control of the same group which was of a significant value.

- After combined injections, the weights of the glands ranged from 422.1 mg to 442 mg with mean value of 430.6 mg ± 8.78.

The glandular weight increased by 25.89% than the control of the samegroup which was of a significant value.

Histological observations:

Hx. & E.:-

- Of the control animals and the controls injected with the hormones solvents.

The development of the submandibular gland was accompanied by changes in the number of various types of cells. From the eightth week onward, vacuolization in the portions of the striated ducts had become extensive. The more mature granular convoluted tubule cells showed more accumulation of acidophilic granules, basal nuclei and loss of basal striatiosn.

- After testosterone, thyroxine and combined injections, the cells of the proximal portion of striated ducts were completely replaced by well developed granular convoluted tubule cells. These cells were large in size, columnar in shape and contained basal, rounded or flat nuclei which were located in the basal part of the cells.

VerHoeff's :-

- Of the control animals and the controls injected with the hormones solvents, there was an increase in the thickness of the capsule and septa.

- After testosterone and thyroxine injections, the fibers became thicker than the control.

- After combined injections, The fibers became much thicker than the control and also, than the others which injected with the single hormones.

Reticulin :-

- Of the control animals and the controls injected with the hormones solvents, the reticular fibers became more thinner than the controls of the previous group.

- After testosterone and thyroxine injections, the fibers became thinner than the control.

- After combined injections, the reticular fibers became much thinner than the control and than the others which injected with the single hormones.

PAS & PAS with diastase :

- Of the control animals, the controls injected with the hormones solvents and after thyroxine injections, sections stained with PAS or PAS after digestion with saliva were similar in the their staining affinity. The basement membrane of the acini and the capillaries showed strong positive reactions. The serous acini and luminal border of the convoluted granular tubules showed amoderate reaction.

Weak reaction was found in thestriated ducts and excretory ducts. The mucous acini of the sublingual gland showed an intense reaction.(Fig. 47).

- After testosterone and combined injections, a uniform intense, acinar reaction while the duct system was moderate (Fig.48).

Alcian blue at pH 1 :-

- In the control animals as well, after different injections,the serous acini showed a weak reaction while the duct system showed a negative one. An intense reaction was observed in the mucous acini of the sublingual gland

Alcian blue at pH 2.5 :-

- In the control animals as well, after different injections,the serous acini showed a moderate reaction while the duct system showed a weak reaction.

PAS + alcian blue at pH 2.5 :-

- Of the control animals the controls injected with the hormones solvents and thyroxine injections,the serous acini were stained with the two staines i,e stained moderately with alcian blue and weakly with PAS while the duct system stained moderatly only with PAS

- After testosterone and combined injections,the distribution of the reaction was similar to the control, however the PAS stain became intense.

(Fig. 47) : A photomicrograph of a section in the submandibular gland of a male control rat showing part of the submandibular gland (SM) and part of the sublingual gland (SL).

The basment membrane of the acini and the capillaries showed a strong positive reaction (1 arrow). The serous acini and the luminal border of granular convoluted tubules showed a moderate reaction (2 arrows). The sublingual gland showed an intense reaction.

(PAS stain, Proj.10 x,Obj. 40 x.)

(Fig. 48) : A photomicrograph of a section in the submandibular gland of a male rat (group 5) injected with testosterone hormone showing a uniform intense reaction in the acini and granular convoluted tubules (arrows) and a moderate one in the striated ducts (D).

(PAS stain, Proj. 10 x, Obj.40 x.)

Toluidine blue :-

- In the control animals as well, after different injections,the serous acini of the submandibular gland showed moderate reaction while the duct system showed a negative one.

Mallory trichrom :

- Of the control animals and the controls injected with the hormones solvents, apical zymogen granules, in the acini with affinity to aniline blue were evident (Fig. 49). While the granules of granular convoluted tubule cells had affinity to orange G stain.

- After testosterone and thyroxine injections, there was an increase in the stainning of the granules of the granular convoluted tubules with orang G.than the control.

- After combined injections, the increase stainability of the granules of the granular convoluted tubules with orang G.than was still more than the others which injected with the single hormones.

Histochemical observations.

Succinic dehydrogenase enzyme :-

- Of the control animals, the controls injected with the hormones solvents and after testosterone,a strong reaction in the form of blue formazangranules was found all over the cells lining the striated ducts and the interlobular ducts. And in the basal parts of the granular convolated tubules.However,a negative reaction was found in the serous

(Fig. 49) : A photomicrograph of a section in the submandibular gland of a control male rat (group 5) showing the granules of the acini which had affinity to aniline (thick arrow)blue and the granules of the granular convoluted tubules which had affinity to orange G.(thin arrow).

(Mallory 's stain, Proj. 10 x, Obj. 40.)

acini (Fig. 50).

- After thyroxine and combined injections, a stronger reaction was observed in the interlobular ducts (Fig. 51).

Alkaline phosphatase enzyme :-

- Of the control animals, the controls injected with the hormones solvents and after testosterone,the serous acini and the intralobular ductsshowed aweak reaction. However, the capillary endothelium and myoepithelial cells showed astrong positive reaction .Interlobular ducts showed negative reaction but aweak reaction was found in some places of their basal parts (Fig. 52).

- After thyroxine and combined injections, a stronger reaction was observed in the interlobular ducts (Fig. 53).

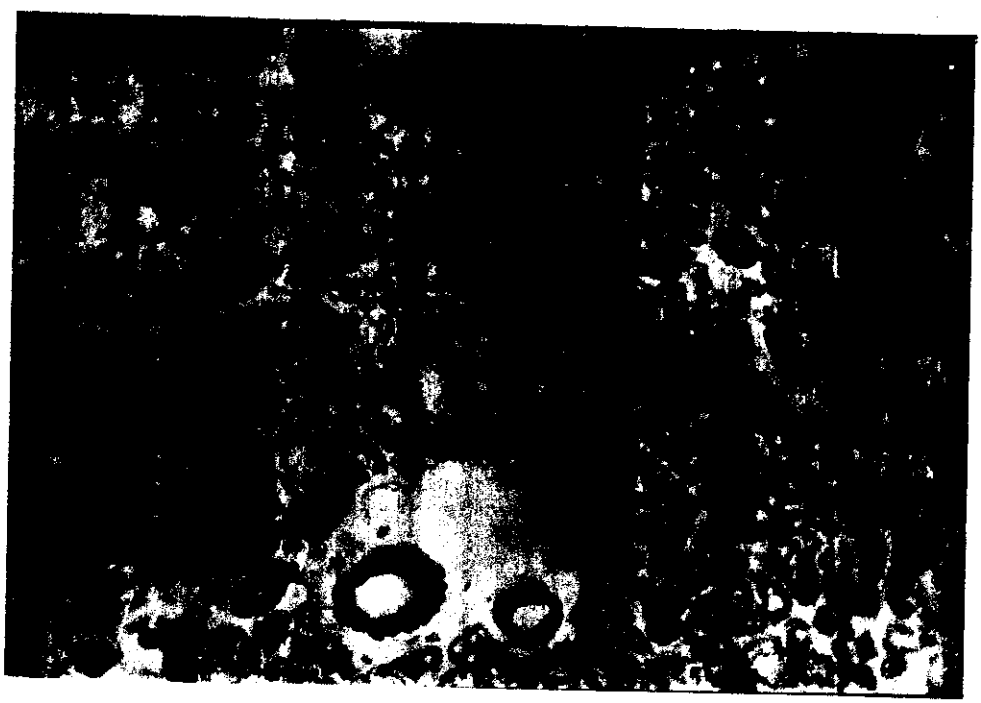
ATP ase enzyme :-

- Of the control animals, the controls injected with the hormones solvents and after testosterone,an intense reaction was found in themyoepithelial cells and endothelium of blood vessels. However, the acini showed aweak reaction. Granular convoluted tubule cells showed weak reaction. The striated and the interlobular ducts showed moderate reaction (Fig. 54).

- After thyroxine and combined injections, a stronger reaction was observed in the interlobular ducts (Fig. 55).

Quantitative observations :

- In the control animals (Table 32), the diameters of the striated ducts were ranged from 26.7 μm to 33.6 μm with

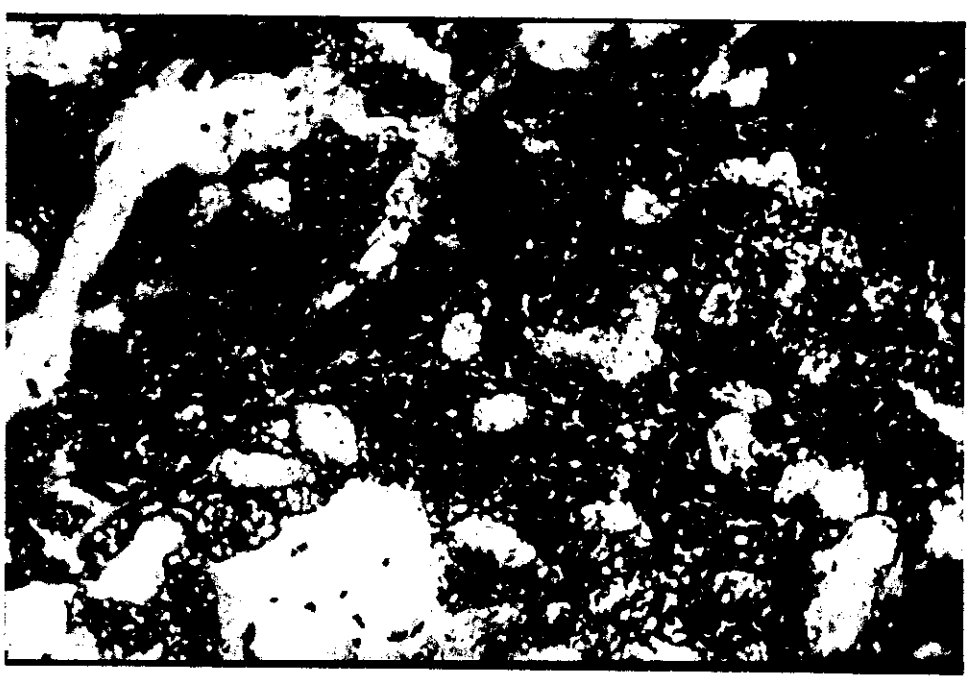


(Fig. 50) : A photomicrograph of a section in the submandibular gland of a male control rat (group 5) showing a negative reaction of the serous acini (A), a moderate reaction of basal parts of granular convoluted tubules (G).and a strong reaction of striated ducts (S) and interlobular ducts (I) .

(Pearse method for succinic dehydro. Proj. 10x, Obj. 10x.)

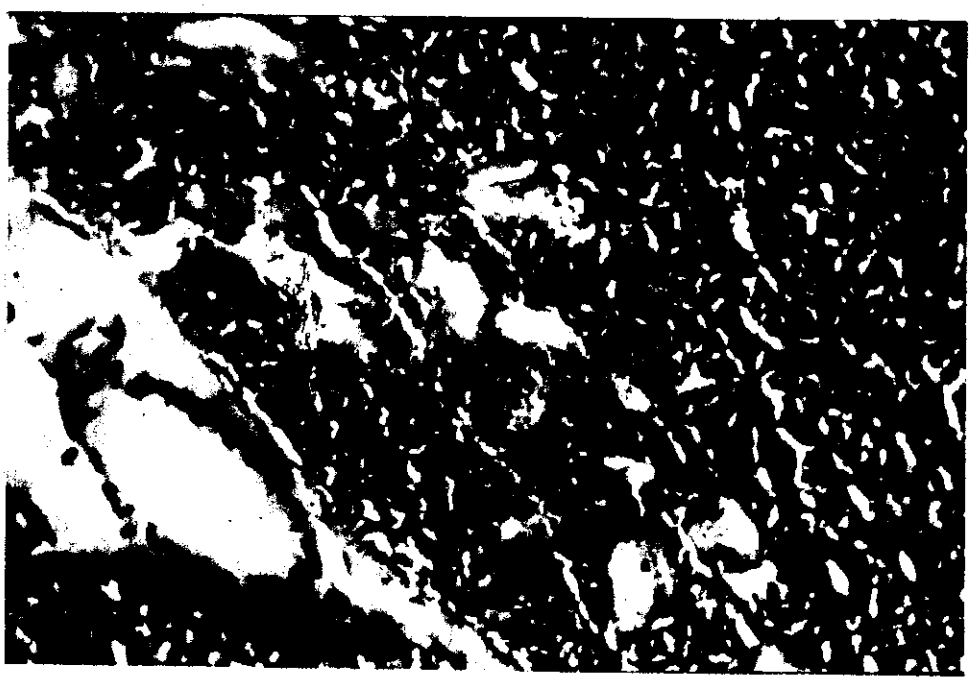
(Fig. 51) : A photomicrograph of a section in the submandibular gland of a male rat (group 5) treated with thyroxine hormone showing the activity of succinic dehydrogenase enzyme. Note that the interlobular duct showed more intense reaction (arrow).

(Pearse method Proj.10 x, Obj. 10 x.)



(Fig. 52) : A photomicrograph of a section in the submandibular gland of a male control rat (group 5)showing astrong reaction of the myoepithelial cells , capillaries (arrows), and in the basal parts of interlobular ducts (I).and a weak reaction of serous acini (A), granular convoluted tubule (G) and striated intralobular ducts.

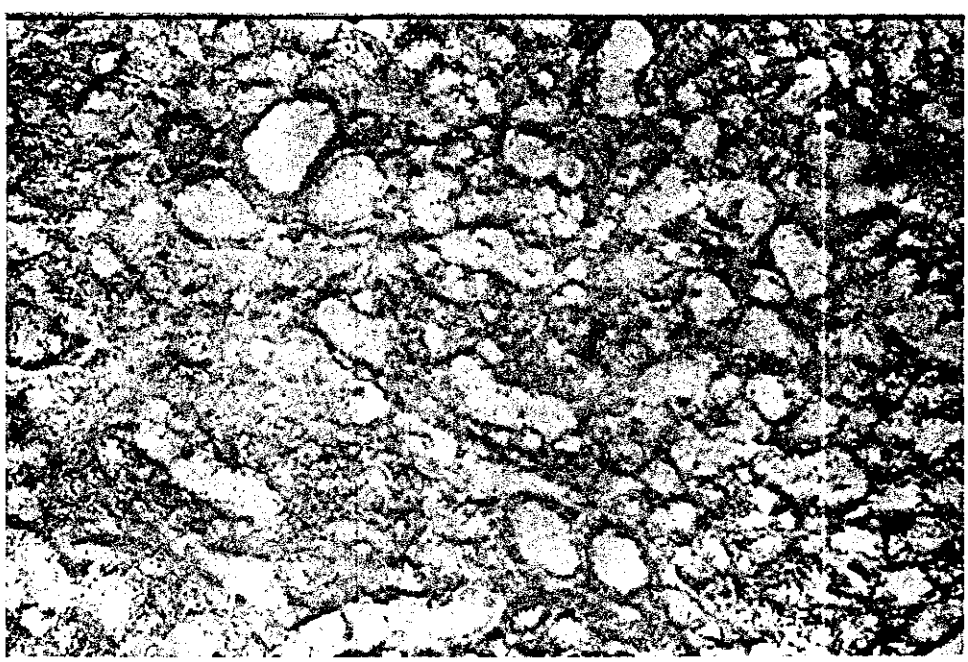
(Gomori method for alk. phosph., Proj.10 x, Obj.10 x.)



(Fig. 53) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 5) treated with thyroxine hormone showing the activity of alkaline phosphatase enzyme.

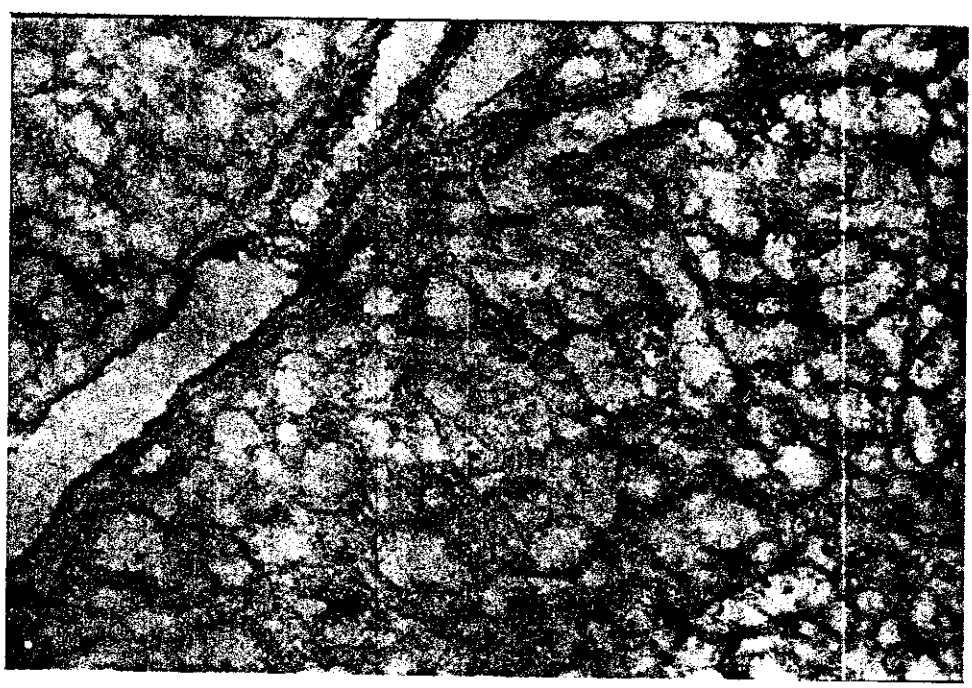
Note the strong reaction in an interlobular duct (arrow).

(Gomori method, Proj.10 x, Obj.10 x.)



(Fig. 54) : A photomicrograph of a section in the submandibular gland of a male control rat (group 5) showing an intense reaction in the myoepithelial cells & endothelium of blood vessels (A & V), a moderate reaction in the interlobular ducts (I) and a weak reaction in granular convoluted tubules (G), and striated ducts (S)

(Wachstein and Meisel method,Proj. 10 x, Obj. 10 x.)



(Fig. 55) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 5) treated with thyroxine hormone showing the activity of AtPase enzyme.Note the strong reaction in an interlobular duct (arrows).

(Wachstein and Meisel method for ATPase Proj.10 x, Obj.10 x.)

(Table 32) showing the diameters of striated ducts, acini and GCTs in control animals (A) of group 5

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	29.4	27.0	32.8	32.8	30.4	26.7	26.9	26.7	26.9	26.8	37.1	36.5	36.1	36.8	37.1
2	29.2	29.0	33.6	32.4	30.2	26.9	26.9	26.9	26.8	26.8	37.3	36.3	36.4	36.4	37.3
3	29.4	28.9	28.9	33.0	30.4	26.9	26.8	26.9	26.9	26.8	37.5	36.5	36.8	37.1	37.5
4	29.2	26.7	27.2	32.5	29.3	26.8	26.8	26.8	26.9	26.8	38.3	37.4	36.2	36.5	37.0
5	29.5	27.7	31.9	31.7	29.4	26.9	26.9	26.9	26.8	26.9	37.9	36.3	36.6	35.5	37.9
6	30.3	31.3	28.9	31.2	30.4	26.9	26.4	26.9	26.9	26.8	37.1	36.6	36.9	34.9	37.1
7	29.6	29.2	30.8	33.0	31.5	26.4	26.9	26.4	26.8	26.8	38.1	36.7	36.3	37.1	37.2
8	29.5	32.5	30.1	32.9	30.6	26.9	26.7	26.9	26.9	26.9	37.6	37.0	36.4	36.9	37.6
9	29.9	30.7	28.9	32.9	30.5	26.8	26.8	26.7	26.8	26.9	37.6	36.7	36.9	37.0	37.2
10	29.6	27.1	26.9	32.8	33.3	26.1	26.8	26.7	26.8	26.9	37.3	36.7	36.4	36.8	37.3
11	29.4	30.8	26.7	31.3	28.7	26.8	26.9	26.7	26.8	26.6	37.4	36.5	36.8	35.0	37.4
12	27.3	27.4	33.2	28.6	30.4	26.7	26.6	26.7	26.8	26.9	38.2	36.2	36.4	36.4	37.1
13	31.1	28.5	30.8	30.0	28.0	26.9	26.8	26.7	26.8	26.8	37.2	36.1	36.9	36.4	37.2
14	27.3	29.2	29.9	32.4	32.3	26.8	26.8	26.6	26.8	26.8	37.6	37.1	36.2	36.0	37.6
15	28.2	27.6	29.8	32.1	30.6	26.6	26.9	26.7	26.9	26.8	37.9	36.0	36.2	37.0	36.8
16	29.6	27.0	32.8	32.9	29.0	26.9	26.9	26.7	26.9	26.8	37.5	36.7	36.4	37.0	36.4
17	30.5	27.1	33.2	32.9	32.7	26.5	26.5	26.6	26.8	26.8	37.3	37.6	36.3	37.0	37.2
18	31.5	30.9	30.3	32.1	33.4	26.9	26.9	26.5	26.8	26.8	36.9	38.6	36.8	36.0	36.6
19	28.4	28.8	29.0	30.2	28.7	26.5	26.5	26.9	26.9	26.7	36.7	36.4	36.4	35.8	36.0
20	28.2	29.5	28.0	33.0	32.4	26.8	26.8	26.8	26.9	26.6	37.2	36.5	36.9	37.1	37.2
21	32.1	27.0	33.5	31.5	32.3	26.7	26.7	26.9	26.6	26.8	38.0	38.1	36.2	35.3	38.0
22	29.2	31.9	33.2	32.8	31.6	26.8	26.8	26.9	26.9	26.6	37.6	36.3	36.3	36.8	37.6
23	27.9	26.9	31.7	32.4	29.0	26.9	26.9	26.5	26.9	26.8	37.2	35.0	36.9	36.2	37.2
24	27.4	28.9	33.3	30.7	30.6	26.7	26.7	26.9	26.8	26.3	38.4	34.5	36.3	34.3	36.2
25	33.4	28.7	32.5	31.9	29.3	26.7	26.8	26.8	26.9	26.4	37.2	36.4	36.8	35.8	37.2
26	30.8	27.2	30.0	30.2	30.2	26.8	26.8	26.7	26.9	26.9	36.1	38.3	36.1	36.7	37.5
27	31.1	27.1	29.1	33.6	27.6	26.9	26.9	26.8	26.8	26.8	37.6	38.2	36.8	37.8	37.6
28	30.5	29.5	31.7	31.7	33.6	26.9	26.6	26.9	26.9	26.8	37.9	37.6	36.8	35.5	36.7
29	28.2	27.4	29.6	32.5	33.5	26.6	26.5	26.4	26.9	26.9	38.2	35.3	36.9	36.5	37.3
30	33.2	28.7	30.7	32.5	33.6	26.5	26.9	26.7	26.8	26.7	36.2	38.0	36.7	36.5	36.2
31	30.9	27.0	33.5	32.9	33.5	26.9	26.8	26.9	26.8	26.8	37.2	38.8	37.0	36.9	37.2
32	29.2	26.7	32.9	31.6	33.6	26.8	26.8	26.8	26.9	26.8	37.0	36.3	37.4	35.4	37.0
33	26.7	28.5	29.2	31.5	29.1	26.7	26.9	26.8	26.9	26.9	36.8	36.2	38.1	37.1	36.8
34	33.4	27.9	30.9	31.9	26.9	26.9	26.8	26.9	26.8	26.8	37.2	36.3	37.2	37.1	37.2
35	26.7	27.0	31.7	33.0	33.4	26.5	26.8	26.9	27.0	26.8	37.3	36.4	37.8	37.1	36.7
36	27.2	29.5	33.4	33.0	29.8	26.9	26.9	26.9	26.9	26.9	37.7	37.2	38.2	37.3	36.4
37	27.4	27.1	33.4	30.7	32.1	26.9	26.9	26.8	26.7	26.9	37.2	36.4	36.6	36.9	37.2
38	27.2	26.7	30.8	32.9	33.6	26.8	26.8	26.9	26.9	26.8	37.9	36.6	37.6	36.4	36.6
39	33.4	27.0	31.0	33.1	27.2	26.7	26.9	26.8	26.5	26.9	37.2	38.2	37.3	35.0	36.7
40	27.1	26.8	32.4	30.9	31.0	26.9	26.7	26.9	26.9	26.7	38.2	36.0	37.9	36.9	37.2
41	29.0	26.7	30.9	32.9	29.8	26.8	26.9	26.9	26.9	26.9	38.0	38.1	37.7	37.1	37.0
42	29.1	27.1	33.4	32.9	32.1	26.9	26.8	26.8	26.8	26.9	37.1	36.7	36.5	36.2	37.1
43	31.8	26.7	33.5	31.2	28.0	26.7	26.9	26.9	26.7	26.8	37.0	36.5	37.3	36.0	36.4
44	33.4	27.0	32.6	31.3	31.0	26.9	26.9	26.8	26.9	26.9	37.2	36.7	37.0	36.2	37.2
45	33.6	28.1	32.5	30.5	27.1	26.7	26.7	26.9	26.8	26.8	36.9	37.3	37.1	36.5	36.9
46	27.7	27.1	30.8	32.8	28.8	26.6	26.8	26.9	26.9	26.9	36.4	37.4	37.3	36.8	36.4
47	28.3	27.3	29.7	28.5	33.4	26.9	26.8	26.9	26.7	26.8	38.5	36.3	38.0	36.1	36.7
48	29.2	26.7	32.6	32.8	33.6	26.6	26.8	26.9	26.8	26.9	38.4	37.9	37.4	36.5	36.7
49	27.7	26.9	30.7	31.9	32.1	26.8	26.8	26.8	26.8	26.8	38.2	36.4	36.6	36.4	36.7
50	27.3	26.7	33.5	33.0	27.2	26.7	26.7	26.9	26.8	26.8	37.6	36.1	38.3	36.2	36.1
	Mean = 31.6					Mean = 26.6					Mean = 36.9				
	S . D . = 2.02					S . D . = 0.56					S . D . = 0.75				

a mean value of31.6 μm ± 2.018.

The diameters of the acini were ranged from 26.1 μm to 26.8 μm with a mean value of 26.6 μm ± 0.56.

The diameters of the granular convoluted tubules were ranged from 34.3 μm to 38.8 μm with an avarage value of 36.9 μm ± 0.75

The control injected with hormones solvents :

- Olive oil (Table 33), the diameters of the striated ducts were ranged from 26.7 μm to 33.6 μm with an avarage value of31.5 μm ± 3.10.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.5 μm ± 0.81.

The diameters of the granular convoluted tubules were ranged from 32.6 μm to 37.4 μm with an avarage value 36.7of μm ± 0.65.

- Distilled water (Table 34), the diameters of the striated ducts were ranged from 26.7 μm to 33.6 μm with an avarage value of 31.4 μm ±3.75 .

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.6 μm ± 0.57.

The diameters of the granular convoluted tubules were ranged from 33.1 μm to 37.9 μm with an avarage value of 36.8 μm ± 1.41.

- Olive oil and distilled water (Table 35), the diameters of the striated ducts were ranged from 26.8 μm to 33.5 μm with an avarage value of 31.6 μm ± 2.11.

The diameters of the acini were ranged from 26.1 μm to

(Table 33) showing diameters of striated duct, acini, and GCTs in control animals injected with olive oil in group 5

No.	STRIATED DUCT			ACINI			GCT		
	A1	A2	A3	A1	A2	A3	A1	A2	A3
1	30.1	30.6	29.4	26.7	26.2	26.2	33.9	33.2	32.8
2	29.9	30.3	29.2	26.1	26.3	26.7	34.0	34.4	34.7
3	30.1	30.9	29.4	26.6	26.5	26.8	34.6	32.8	34.0
4	29.1	30.4	29.2	26.7	26.2	26.6	35.3	33.6	34.5
5	29.2	29.7	29.5	26.2	26.9	26.1	33.3	35.2	34.6
6	30.1	29.2	30.3	26.9	26.4	26.3	34.7	37.2	32.6
7	31.2	30.9	29.6	26.7	26.5	26.1	34.5	33.5	34.1
8	30.4	30.7	29.5	26.1	26.9	26.1	34.1	36.8	33.6
9	30.3	30.8	29.9	26.8	26.9	26.4	33.7	35.8	32.7
10	33.0	30.6	29.6	26.1	26.2	26.1	34.8	36.7	33.0
11	28.5	29.3	29.4	26.8	26.9	26.3	35.0	37.4	34.3
12	30.1	26.9	27.3	26.1	26.1	26.1	35.1	37.2	33.6
13	27.9	28.1	31.1	26.9	26.5	26.2	37.0	34.7	32.6
14	32.0	30.3	27.3	26.8	26.4	26.5	37.0	33.1	32.9
15	30.4	30.0	28.2	26.6	26.7	26.1	35.6	37.1	37.1
16	28.9	30.8	29.6	26.1	26.8	26.2	37.1	36.1	33.9
17	32.4	30.8	30.5	26.5	26.3	26.7	37.2	37.0	37.2
18	33.1	30.0	31.5	26.2	26.4	26.7	36.9	37.2	32.9
19	28.5	28.3	28.4	26.5	26.9	26.5	34.3	35.5	33.6
20	32.1	30.9	28.2	26.1	26.2	26.4	35.2	36.9	33.0
21	32.0	29.5	32.1	26.7	26.1	26.9	33.7	34.7	37.1
22	31.3	30.6	29.2	26.2	26.2	26.2	33.8	37.1	33.9
23	28.9	30.3	27.9	26.1	26.7	26.7	37.0	34.7	34.2
24	30.4	28.8	27.4	26.7	26.9	26.4	33.3	37.0	37.0
25	29.1	29.9	33.4	26.1	26.4	26.5	34.6	32.7	33.7
26	29.9	28.3	30.8	26.8	26.2	26.1	37.4	36.0	33.2
27	27.4	31.4	31.1	26.4	26.8	26.9	32.7	37.2	34.3
28	33.3	29.7	30.5	26.9	26.1	26.8	33.7	34.3	33.0
29	33.2	30.4	28.2	26.1	26.1	26.1	32.7	37.1	33.8
30	33.3	30.4	33.2	26.9	26.7	26.3	35.3	33.9	37.2
31	33.2	30.7	30.9	26.8	26.2	26.7	37.1	34.9	34.6
32	33.3	29.6	29.2	26.1	26.8	26.1	33.5	33.2	33.0
33	29.0	29.5	26.7	26.9	26.1	26.4	33.4	36.9	33.2
34	26.8	29.9	33.4	26.9	26.9	26.5	34.8	37.0	32.8
35	33.1	30.9	26.7	26.5	26.2	26.9	37.3	36.9	33.3
36	29.6	30.9	27.2	26.1	26.8	26.9	33.4	37.2	34.5
37	31.8	28.8	27.4	26.8	26.9	26.2	33.1	37.0	34.1
38	33.3	30.7	27.2	26.7	26.8	26.2	33.4	32.8	32.7
39	27.1	30.9	33.4	26.7	26.1	26.6	35.5	36.7	37.0
40	30.8	28.9	27.1	26.6	26.7	26.9	35.5	36.5	32.7
41	29.6	30.7	29.0	26.8	26.9	26.1	35.5	34.4	34.2
42	31.8	30.8	29.1	26.9	26.9	26.5	34.1	35.8	33.4
43	27.9	29.2	31.8	26.5	26.6	26.9	35.3	35.2	37.2
44	30.8	29.3	33.4	26.9	26.9	26.1	35.1	35.4	33.5
45	27.0	28.6	33.6	26.9	26.1	26.3	34.6	33.9	34.2
46	28.6	30.6	27.7	26.3	26.4	26.4	33.1	33.1	33.1
47	33.1	26.8	28.3	26.1	26.8	26.8	34.6	34.6	32.8
48	33.3	30.6	29.2	26.7	26.8	26.1	35.4	34.2	33.2
49	31.8	29.8	27.7	26.2	26.9	26.5	33.5	33.7	34.0
50	27.1	30.9	27.3	26.8	26.2	26.9	34.5	33.7	37.0
	Mean = 31.5			Mean = 26.5			Mean = 36.7		
	S.D. = 3.10			S.D. = 0.81			S.D. = 0.07		

(Table 34) showing diameters of striated duct, acini, and GCTs in control animals injected with D.W. in group 5

No.	STRIATED DUCT A1	A2	A3	ACINI A1	A2	A3	GCT A1	A2	A3
1	30.7	32.8	29.3	26.4	26.9	26.8	37.4	33.7	35.9
2	30.3	33.4	29.1	26.2	26.9	26.9	33.4	33.8	34.7
3	30.9	28.9	29.3	26.9	26.7	26.9	33.9	33.9	37.7
4	30.4	27.2	29.1	26.2	26.5	26.8	34.1	33.2	36.2
5	29.7	31.9	29.4	26.4	26.6	26.5	33.3	33.4	36.3
6	29.2	28.9	30.2	26.9	26.2	26.9	34.3	33.6	36.6
7	30.9	30.9	29.5	26.4	26.6	26.4	34.9	37.9	36.3
8	30.7	30.1	29.4	26.9	26.9	26.2	34.1	33.8	36.6
9	30.8	28.9	29.8	26.9	26.8	26.8	34.9	35.0	36.9
10	30.7	26.9	29.5	26.2	26.9	26.9	34.7	33.5	33.3
11	29.3	26.7	29.3	26.9	26.8	26.8	34.4	37.9	36.8
12	26.9	33.2	27.2	26.8	26.8	26.7	37.8	37.0	33.6
13	28.1	30.9	31.0	26.5	26.8	26.5	37.4	33.5	36.7
14	30.4	30.0	27.2	26.4	26.9	26.4	34.9	33.9	34.6
15	30.1	29.9	28.1	26.7	26.9	26.6	34.0	35.1	37.6
16	30.8	32.8	29.5	26.8	26.5	26.2	37.6	34.7	37.4
17	30.8	33.3	30.4	26.3	26.6	26.9	33.5	37.9	36.9
18	30.1	30.3	31.4	26.4	26.6	26.8	34.5	33.5	35.3
19	28.3	29.0	28.3	26.9	26.9	26.9	37.8	33.7	37.3
20	30.9	28.0	28.1	26.8	26.8	26.8	37.4	34.5	33.8
21	29.5	33.6	32.0	26.1	26.8	26.9	33.6	34.6	35.5
22	30.7	33.3	29.1	26.8	26.9	26.7	37.9	37.8	34.7
23	30.3	31.8	27.8	26.7	26.6	26.6	37.2	35.0	37.9
24	28.8	33.4	27.3	26.9	26.8	26.9	33.7	33.4	37.4
25	29.9	32.6	33.3	26.4	26.9	26.9	37.6	36.9	37.1
26	28.3	30.1	30.7	26.9	26.8	26.8	34.8	35.1	34.5
27	31.4	29.2	31.0	26.8	26.8	26.8	34.1	37.4	37.0
28	29.7	31.8	30.4	26.1	26.7	26.4	35.1	33.8	37.1
29	30.4	29.6	28.1	26.8	26.9	26.9	37.4	37.9	34.0
30	30.4	30.8	33.1	26.7	26.9	26.8	34.1	34.9	33.8
31	30.7	33.6	30.8	26.9	26.6	26.8	33.3	34.9	36.9
32	29.6	32.9	29.1	26.8	26.1	26.1	33.2	33.2	36.1
33	29.5	29.2	26.7	26.9	26.9	26.7	36.4	33.8	34.4
34	29.9	31.0	33.3	26.9	26.4	26.8	36.4	37.6	37.9
35	30.9	31.8	26.7	26.6	26.8	26.9	36.2	33.8	37.9
36	30.9	33.5	27.1	26.8	26.8	26.9	34.2	37.8	37.9
37	28.8	33.5	27.3	26.9	26.9	26.8	35.0	37.0	37.9
38	30.7	30.9	27.1	26.8	26.9	26.7	36.4	33.3	37.0
39	31.0	31.0	33.3	26.8	26.5	26.7	34.7	33.5	37.8
40	28.9	32.5	27.0	26.7	26.9	26.5	35.1	37.8	37.2
41	30.7	31.0	28.9	26.9	26.7	26.9	35.1	34.2	34.3
42	30.8	33.5	29.0	26.9	26.4	26.9	34.3	33.3	37.9
43	29.2	33.6	31.7	26.6	26.8	26.8	37.9	34.6	37.9
44	29.3	32.7	33.3	26.9	26.1	26.7	34.4	34.9	35.4
45	28.6	32.6	33.5	26.1	26.8	26.5	33.2	35.2	37.0
46	30.7	30.9	27.6	26.4	26.3	26.5	34.2	35.0	33.3
47	26.8	29.8	28.2	26.8	26.7	26.9	34.3	34.6	33.4
48	30.7	32.7	29.1	26.8	26.8	26.1	35.1	33.7	36.9
49	29.8	30.7	27.6	26.9	26.8	26.9	33.5	33.2	35.6
50	30.9	33.6	27.2	26.9	26.9	26.9	34.4	34.5	34.6
	Mean = 31.4 S.D. = 3.75			Mean = 26.6 S.D. = 0.57			Mean = 36.8 S.D. = 1.41		

(Table 35) showing diameters of striated duct, acini, and GCTs in control animals injected with oil + D.W in group 5

No.	STRIATED DUCT			ACINI			GCT		
	A1	A2	A3	A1	A2	A3	A1	A2	A3
1	30.6	33.2	30.8	26.2	26.7	26.8	35.9	35.1	35.6
2	30.3	33.4	30.4	26.3	26.4	26.8	36.5	35.6	36.1
3	30.9	29.1	31.0	26.8	26.3	26.6	35.7	34.8	34.7
4	30.4	27.3	30.6	26.1	26.6	26.4	35.6	36.0	35.6
5	29.7	32.2	29.8	26.2	26.7	26.5	36.4	34.9	36.0
6	29.2	29.1	29.4	26.7	26.2	26.1	34.7	36.3	35.9
7	30.9	31.1	31.0	26.4	26.3	26.5	35.5	36.3	35.6
8	30.7	30.4	30.9	26.3	26.7	26.8	36.2	35.2	35.9
9	30.8	29.1	30.9	26.2	26.7	26.7	36.0	35.4	36.3
10	30.6	27.0	30.8	26.5	26.1	26.8	35.6	36.0	35.6
11	29.3	26.8	29.5	26.2	26.7	26.7	35.7	35.9	34.9
12	26.9	33.3	27.1	26.1	26.6	26.7	34.6	35.0	34.6
13	28.1	31.1	28.3	26.3	26.3	26.7	35.5	36.4	35.6
14	30.3	30.2	30.5	26.2	26.2	26.8	36.3	36.1	36.0
15	30.0	30.1	30.2	26.1	26.5	26.8	35.3	36.1	36.3
16	30.8	33.2	30.9	26.3	26.6	26.4	35.2	35.4	35.8
17	30.8	33.3	30.9	26.4	26.1	26.5	34.8	35.7	34.9
18	30.0	30.6	30.2	26.3	26.2	26.5	36.2	35.0	34.6
19	28.3	29.2	28.5	26.6	26.7	26.8	36.4	35.5	34.9
20	30.9	28.1	31.0	26.2	26.6	26.7	35.6	35.2	36.0
21	29.5	33.4	29.7	26.1	26.2	26.7	34.9	35.0	34.9
22	30.6	33.5	30.8	26.2	26.6	26.8	35.1	35.1	35.2
23	30.3	32.1	30.4	26.3	26.5	26.5	36.4	34.8	34.7
24	28.8	33.2	29.0	26.1	26.7	26.7	34.6	37.1	36.4
25	29.9	32.9	30.0	26.1	26.2	26.8	35.7	35.5	35.4
26	28.3	30.3	28.5	26.2	26.7	26.7	35.7	35.8	35.4
27	31.4	29.3	31.5	26.3	26.6	26.7	34.7	35.1	36.3
28	29.7	32.1	29.8	26.4	26.2	26.6	36.1	35.2	34.7
29	30.4	29.8	30.6	26.3	26.6	26.8	35.9	37.1	36.1
30	30.4	31.0	30.6	26.3	26.5	26.8	35.6	36.0	35.6
31	30.7	33.2	30.9	26.2	26.7	26.5	35.6	35.6	34.9
32	29.6	33.3	29.8	26.1	26.6	26.1	36.3	35.8	35.2
33	29.5	29.4	29.7	26.3	26.7	26.8	34.8	35.6	34.8
34	29.9	31.2	30.0	26.3	26.7	26.3	38.2	37.5	37.9
35	30.9	32.1	31.0	26.2	26.4	26.7	38.4	36.7	36.9
36	30.9	33.4	31.0	26.3	26.6	26.7	37.3	38.5	36.6
37	28.8	33.5	29.0	26.2	26.7	26.8	36.5	37.5	37.0
38	30.7	31.1	30.9	26.1	26.6	26.8	37.3	35.1	36.9
39	30.9	31.3	31.1	26.1	26.6	26.4	37.5	37.3	36.8
40	28.9	32.8	29.1	26.1	26.5	26.8	36.8	37.0	38.0
41	30.7	31.2	30.9	26.2	26.7	26.6	38.5	37.5	37.0
42	30.8	33.5	30.9	26.3	26.7	26.3	38.4	38.4	37.9
43	29.2	33.1	29.4	26.2	26.4	26.7	37.1	36.7	37.0
44	29.3	33.0	29.5	26.3	26.7	26.2	36.8	38.0	38.3
45	28.6	32.9	28.7	26.3	26.2	26.7	37.4	37.7	36.8
46	30.6	31.1	30.8	26.1	26.2	26.2	37.7	37.0	38.2
47	26.8	30.0	27.0	26.1	26.6	26.6	37.8	37.3	36.6
48	30.6	33.0	30.8	26.1	26.6	26.7	37.1	37.7	36.8
49	29.8	30.9	30.0	26.3	26.7	26.7	38.1	38.1	37.8
50	30.9	33.5	31.0	26.2	26.7	26.8	38.3	37.6	37.9
	Mean = 31.6			Mean = 26.4			Mean = 37.1		
	S.D. = 2.11			S.D. = 0.64			S.D. = 1.53		

26.9 μm with an avarage value of 26.4 μm ± 0.64.
The diameters of the granular convoluted tubules were ranged from 34.5 μm to 38.2 μm with an avarage value of 37.1 μm ± 1.53.

- Testosterone injections (Table 36), the diameters of the striated ducts were ranged from 26.9 μm to 34.1 μm with an avarage value of 32 um ± 1.954.
The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value 26.5um ± 0.42.
The diameters of the granular convoluted tubules were ranged from 36.1 μm to 46.0 μm with an avarage value 40.1 um ± 1.28.

- Thyroxine injections (Table 37), the diameters of the striated ducts were ranged from 27.2 μm to 34.1 μm with a mean value 32.9 μm ± 1.99.
The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.6 μm and ± 0.57.
The diameters of the granular convoluted tubules were ranged from 37.4 μm to 46.4 μm with avarage value of42.1 μm ± 1.59.

- Combined injections (Table 38), the diameters of the striated ducts were ranged from 26.8 μm to 35.3 μm with a mean value of 31.8 μm ± 1.258.
The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value 26.6 μm ± 0.45.
The diameters of the granular convoluted tubules were ranged from 38.5 μm to 47.7 μm with a mean value of 43.8um ± 1.58.

(Table 36) showing the diameters of striated ducts, acini and GCTs in testosterone animals of group 5

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	28.9	28.8	33.2	32.4	28.3	26.7	26.8	26.9	26.7	26.5	39.5	40.5	41.6	40.2	39.3
2	28.7	30.7	34.0	31.8	28.1	26.7	26.8	26.9	26.9	26.9	39.7	40.3	41.6	40.2	39.5
3	28.9	30.6	29.3	32.7	28.3	26.7	26.8	26.6	26.9	26.5	39.9	40.5	39.1	40.2	39.8
4	28.7	28.5	27.6	32.0	27.4	26.7	26.8	26.9	26.8	26.8	40.7	40.6	39.5	43.2	45.5
5	29.0	29.5	32.3	31.0	27.5	26.7	26.8	26.8	26.9	26.7	40.3	41.4	38.9	41.3	40.5
6	29.6	32.9	29.3	30.4	28.3	26.6	26.8	26.8	26.9	26.8	39.5	40.3	39.3	43.2	43.9
7	29.1	30.9	31.2	32.7	29.1	26.7	26.9	26.8	26.4	26.9	40.5	40.7	39.1	40.2	46.1
8	29.0	34.0	30.5	32.5	28.4	26.7	26.9	26.8	26.9	26.7	40.0	40.7	39.6	40.5	45.9
9	29.3	32.3	29.3	32.6	28.4	26.6	26.8	26.8	26.8	26.8	40.0	41.0	39.1	40.7	46.0
10	29.1	28.9	27.0	32.4	28.8	26.5	26.8	26.8	26.1	26.8	39.7	40.7	41.4	39.4	40.5
11	28.9	32.4	27.0	30.5	27.0	26.9	26.9	26.7	26.8	26.8	39.8	40.5	41.6	40.7	40.8
12	27.2	29.2	33.6	27.2	26.9	26.8	26.9	26.6	26.7	26.8	40.6	38.4	39.6	39.6	39.3
13	27.3	30.2	31.2	28.9	29.1	26.9	26.6	26.8	26.9	26.8	39.6	42.2	38.9	39.2	39.4
14	29.0	30.9	30.4	31.9	28.1	26.9	26.9	26.6	26.8	26.8	40.0	38.3	41.6	41.3	39.8
15	28.0	29.4	30.3	31.5	26.9	26.5	26.9	26.8	26.6	26.8	40.4	39.3	39.1	39.5	39.0
16	26.9	28.8	33.2	32.6	28.3	26.9	26.8	26.3	26.9	26.9	39.8	40.7	39.3	39.4	38.6
17	26.9	28.9	33.6	32.6	28.4	26.8	26.9	26.4	26.5	26.9	39.6	41.6	39.5	43.4	39.4
18	27.6	32.5	30.7	31.5	28.9	26.8	26.9	26.4	26.8	26.8	39.3	40.3	39.1	40.1	39.6
19	27.9	30.5	29.4	29.2	28.0	26.9	26.7	26.9	26.9	26.9	39.1	39.5	39.6	40.4	40.9
20	28.0	31.2	28.4	32.7	28.2	26.7	26.8	26.7	26.8	26.7	39.6	39.3	38.9	37.1	40.4
21	28.1	28.8	33.9	30.8	28.1	26.9	26.8	26.7	26.8	26.9	40.4	40.2	39.1	38.6	40.5
22	29.0	33.5	33.6	32.4	27.6	26.7	26.9	26.7	26.8	26.9	40.0	40.3	39.6	38.0	40.8
23	28.0	28.7	32.1	31.8	27.0	26.6	26.6	26.7	26.8	26.8	39.6	39.0	39.0	36.1	40.6
24	29.0	30.6	33.7	29.8	26.9	26.9	26.8	26.7	26.8	26.9	40.8	38.5	39.5	40.2	38.2
25	33.4	30.4	32.9	31.3	27.0	26.6	26.8	26.6	26.8	26.9	39.6	38.3	41.6	38.5	39.4
26	27.1	29.0	30.4	29.2	26.9	26.8	26.9	26.7	26.9	26.4	40.5	42.3	41.4	39.2	39.7
27	27.3	28.9	29.5	33.4	27.0	26.7	26.9	26.7	26.9	26.9	40.0	42.2	39.5	40.7	39.8
28	26.9	31.2	32.1	31.0	32.9	26.9	26.8	26.7	26.8	26.7	40.3	41.6	39.6	40.2	36.9
29	27.9	29.2	30.0	32.0	28.0	26.8	26.8	26.9	26.8	26.7	40.6	39.3	41.6	40.5	40.5
30	32.9	30.4	31.2	32.0	32.9	26.9	26.8	26.7	26.9	26.7	38.6	40.0	41.6	40.7	40.8
31	30.1	28.8	33.9	32.5	33.8	26.9	26.8	26.6	26.6	26.9	39.6	40.9	40.1	40.5	41.1
32	28.7	28.5	33.3	30.9	31.3	26.8	26.9	26.9	26.8	26.9	39.4	40.3	40.8	45.3	40.5
33	26.9	30.2	29.6	30.8	28.0	26.9	26.8	26.6	26.8	26.8	39.2	40.2	41.6	40.7	36.8
34	33.2	29.6	31.3	31.3	27.0	26.8	26.8	26.8	26.9	26.9	39.6	40.3	40.5	39.6	41.1
35	26.9	28.8	32.1	32.7	30.4	26.9	26.9	26.7	26.9	26.9	39.7	38.5	40.2	40.5	40.0
36	27.1	31.2	33.8	32.7	26.9	26.8	26.9	26.7	26.5	26.4	40.1	40.4	40.6	39.7	40.9
37	27.2	28.9	33.8	29.8	27.9	26.8	26.9	26.9	26.9	26.9	39.6	38.5	40.4	39.7	39.4
38	27.1	28.5	31.2	32.5	34.1	26.8	26.6	26.9	26.5	26.7	40.3	41.2	41.6	39.4	38.8
39	29.5	28.8	31.4	32.8	28.0	26.8	26.9	26.8	26.8	26.9	40.6	41.4	41.4	39.6	38.9
40	27.0	28.6	32.8	30.0	27.2	26.8	26.7	26.9	26.7	26.9	39.6	40.1	41.6	40.1	38.3
41	28.6	28.5	31.3	32.5	27.0	26.9	26.9	26.8	26.7	26.8	40.4	41.4	41.6	40.4	38.6
42	28.7	28.9	33.8	32.6	27.9	26.9	26.8	26.8	26.9	26.8	40.4	40.0	41.7	38.4	36.9
43	27.9	28.5	33.9	30.4	27.9	26.8	26.9	26.8	26.7	26.9	39.5	36.9	41.4	38.6	40.0
44	34.1	28.8	33.0	30.5	27.2	26.9	26.9	26.8	26.6	26.6	39.4	42.3	40.7	39.0	38.6
45	32.0	29.8	32.9	29.5	27.3	26.8	26.8	26.9	26.9	26.8	39.6	41.9	41.6	38.6	39.3
46	27.5	28.9	31.2	32.4	28.5	26.9	26.9	26.8	26.6	26.8	39.3	40.3	41.5	38.7	39.7
47	28.0	29.1	30.2	27.0	28.9	26.8	26.6	26.5	26.5	26.9	38.3	41.4	41.4	38.6	39.3
48	28.7	28.5	33.0	32.4	33.3	26.8	26.8	26.8	26.8	26.8	40.9	40.8	39.6	39.4	38.9
49	27.5	28.7	31.1	31.2	27.9	26.8	26.8	26.7	26.7	26.9	40.8	41.1	41.4	40.7	38.5
50	27.2	28.5	33.9	32.7	27.3	26.8	26.5	26.5	26.9	26.9	40.0	41.9	39.6	36.1	38.3
	Mean = 32.0					Mean = 26.5					Mean = 40.1				
	S . D . = 1.95					S . D . = 0.42					S . D . = 1.28				

(Table 37) showing the diameters of striated ducts, acini and GCTs in thyroxine animals (A) of group 5

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	47.2	46.5	37.2	48.1	43.2	26.8	26.8	26.7	26.9	26.9	42.3	41.7	38.5	42.6	41.8
2	47.0	46.4	37.9	47.6	43.0	26.9	26.9	26.8	26.8	26.8	42.1	41.6	39.3	42.1	41.6
3	47.2	46.1	40.5	48.4	43.2	26.9	26.6	26.9	26.9	26.8	42.3	41.3	42.3	42.9	41.8
4	47.0	46.1	38.9	47.8	43.3	26.6	26.5	26.4	26.9	26.9	42.1	41.3	40.4	42.3	41.9
5	47.3	46.4	33.2	46.7	44.0	26.5	26.9	26.7	26.8	26.7	42.4	41.6	34.0	41.3	42.7
6	48.2	47.1	40.5	46.1	44.8	26.9	26.8	26.9	26.8	26.8	43.3	42.4	42.3	40.7	43.7
7	47.3	46.5	42.5	48.4	43.3	26.8	26.8	26.8	26.9	26.8	42.4	41.7	44.5	42.9	41.9
8	47.3	46.4	41.8	48.2	43.3	26.7	26.9	26.8	26.9	26.9	42.4	41.6	43.7	42.7	41.9
9	48.0	46.7	40.5	48.3	43.6	26.9	26.8	26.9	26.8	26.8	43.1	42.0	42.3	42.8	42.3
10	47.2	46.5	28.0	48.1	43.4	26.5	26.8	26.9	27.0	26.8	42.3	41.7	38.3	42.6	42.0
11	47.2	46.3	27.9	46.2	43.2	26.9	26.9	26.9	26.9	26.9	42.3	41.5	44.6	40.8	41.8
12	45.1	44.4	38.9	47.6	28.4	26.9	26.9	26.8	26.7	26.9	40.2	39.4	40.4	42.1	42.0
13	48.9	47.8	41.6	47.7	27.9	26.8	26.8	26.9	26.9	26.8	44.0	43.2	43.5	42.2	41.0
14	44.0	43.6	41.5	47.2	38.7	26.7	26.9	26.8	26.5	26.9	39.1	38.4	43.4	41.8	40.0
15	46.1	45.2	38.9	48.3	29.0	26.9	26.7	26.9	26.9	26.7	41.2	40.3	40.4	42.8	43.5
16	47.3	46.5	42.7	48.3	27.9	26.8	26.9	26.9	26.9	26.9	42.4	41.7	44.7	42.8	40.8
17	48.3	47.2	42.0	48.3	39.2	26.9	26.8	26.8	26.8	26.9	43.4	42.6	43.9	42.8	40.6
18	49.3	48.1	40.6	47.2	40.4	26.7	26.9	26.9	26.7	26.8	44.4	43.6	42.4	41.8	42.0
19	46.2	45.4	39.7	47.0	29.0	26.9	26.9	26.8	26.9	26.9	41.3	40.5	41.3	41.6	42.9
20	46.0	45.2	41.2	48.4	42.0	26.7	26.7	26.9	26.8	26.8	41.1	40.3	43.0	42.9	43.9
21	49.9	48.7	42.7	46.5	39.2	26.6	26.8	26.9	26.9	26.9	45.0	44.2	44.7	41.1	40.6
22	47.0	46.1	38.9	48.1	42.5	26.9	26.8	26.9	26.7	26.8	42.1	41.3	40.4	42.6	44.5
23	45.7	45.0	41.3	47.6	28.2	26.6	26.8	26.9	26.8	26.9	40.8	40.0	43.2	42.1	40.8
24	45.2	44.5	41.2	45.5	28.0	26.8	26.8	26.8	26.8	26.8	40.3	39.5	43.0	40.1	41.6
25	34.0	44.4	41.7	47.0	29.3	26.7	26.7	26.9	26.8	26.8	40.1	39.3	43.6	41.6	40.3
26	49.0	47.9	41.0	48.0	28.1	26.7	26.9	26.7	26.9	26.8	44.1	43.3	42.8	42.5	39.8
27	48.9	47.8	40.9	49.1	28.0	26.9	26.9	26.9	26.8	26.8	44.0	43.2	42.7	43.6	40.1
28	48.3	47.2	39.4	46.7	41.7	26.9	26.8	26.9	26.9	26.8	43.4	42.6	41.0	41.3	43.6
29	46.0	45.2	42.4	47.8	29.1	26.8	26.8	26.8	26.9	26.8	41.1	40.3	44.4	42.3	43.5
30	34.0	50.5	40.2	47.8	41.1	26.9	26.9	26.9	26.8	26.9	47.1	46.3	41.9	42.3	42.9
31	49.5	48.3	42.0	48.2	39.2	26.9	26.4	26.9	26.9	26.8	44.6	43.8	43.9	42.7	40.6
32	47.0	46.1	40.9	47.8	40.5	26.4	26.9	26.4	26.8	26.8	42.1	41.3	42.7	42.3	42.1
33	27.5	46.0	42.4	46.6	28.0	26.9	26.7	26.9	26.9	26.9	42.0	41.2	44.4	41.2	41.0
34	34.0	46.1	42.1	48.4	29.0	26.8	26.8	26.7	26.8	26.9	42.1	41.3	44.0	42.9	41.6
35	27.5	44.5	42.3	46.8	40.0	26.1	26.8	26.7	26.8	26.9	40.3	39.5	44.3	41.4	41.5
36	45.1	44.4	42.1	48.4	28.9	26.8	26.9	26.7	26.8	26.6	40.2	39.4	44.1	42.9	41.6
37	47.2	43.7	41.8	46.8	38.5	26.7	26.6	26.7	26.8	26.9	42.3	38.6	43.7	41.4	39.8
38	49.4	48.2	42.7	48.2	38.4	26.9	26.8	26.7	26.8	26.8	44.5	43.7	44.7	42.7	39.7
39	51.3	49.9	41.6	46.4	27.6	26.8	26.8	26.6	26.8	26.8	46.4	45.6	43.5	41.0	39.8
40	43.1	42.7	42.6	46.2	42.0	26.6	26.9	26.7	26.9	26.8	38.2	37.4	44.6	40.8	44.0
41	46.8	45.9	42.3	48.2	28.0	26.9	26.9	26.7	26.9	26.8	41.9	41.1	44.3	42.7	42.4
42	49.6	48.4	42.8	47.0	39.4	26.5	26.5	26.6	26.8	26.8	44.7	43.9	44.8	41.6	40.9
43	47.2	46.3	41.8	48.2	28.0	26.9	26.9	26.5	26.8	26.8	42.3	41.5	43.7	42.7	41.0
44	34.0	43.1	40.0	45.4	38.9	26.5	26.5	26.9	26.9	26.7	38.7	37.9	41.7	40.0	40.3
45	34.1	47.4	42.3	46.6	29.2	26.8	26.8	26.8	26.9	26.6	44.1	42.8	44.3	41.2	41.8
46	48.6	47.5	41.3	48.3	28.0	26.7	26.7	26.9	26.6	26.8	43.7	42.9	43.1	42.8	41.3
47	47.0	46.1	42.4	48.1	41.7	26.8	26.8	26.9	26.9	26.6	42.1	41.3	44.4	42.6	43.6
48	48.1	47.1	41.5	45.8	41.4	26.9	26.9	26.5	26.9	26.8	43.2	42.4	43.4	40.4	43.2
49	49.2	48.1	41.8	48.1	40.8	26.7	26.7	26.9	26.8	26.3	44.3	43.6	43.7	42.6	42.5
50	50.3	42.8	42.7	46.9	27.5	26.7	26.8	26.8	26.9	26.4	45.4	37.5	44.7	41.5	43.2
	Mean = 32.9					Mean = 26.6					Mean = 42.1				
	S . D . = 1.99					S . D . = 0.57					S . D . = 1.59				

(Table 38) showing the diameters of striated ducts, acini and GCTs in combined animals (A) of group 5

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	29.3	29.8	34.6	32.2	27.8	26.8	26.8	26.8	26.9	26.8	43.8	40.5	40.4	44.7	44.1
2	29.1	31.7	35.1	31.7	27.6	26.7	26.9	26.8	26.9	26.9	43.2	45.1	40.8	44.2	43.9
3	29.3	31.6	30.6	32.6	27.8	26.9	26.8	26.9	26.8	26.8	43.8	43.3	43.8	45.0	44.1
4	29.1	29.5	28.8	31.9	26.9	26.5	26.8	26.9	27.0	26.8	43.4	41.1	41.9	44.4	43.9
5	29.4	30.5	33.7	30.9	27.0	26.9	26.9	26.9	26.9	26.9	43.7	44.6	38.5	43.4	44.2
6	30.2	33.9	30.6	30.3	27.8	26.9	26.9	26.8	26.7	26.9	44.5	45.6	43.8	42.8	45.0
7	29.5	31.9	32.6	32.6	28.6	26.8	26.8	26.9	26.9	26.8	43.8	43.6	46.0	45.0	44.3
8	29.4	35.0	31.9	32.3	28.0	26.7	26.9	26.8	26.5	26.9	43.7	46.7	45.2	44.8	44.2
9	29.8	33.3	30.6	32.5	27.9	26.9	26.7	26.9	26.9	26.7	44.1	45.0	43.8	44.9	44.6
10	29.5	29.9	26.9	32.2	30.0	26.8	26.9	26.9	26.9	26.9	43.8	40.6	39.8	44.7	44.3
11	29.3	33.4	26.9	30.4	27.4	26.9	26.8	26.8	26.8	26.9	43.4	45.1	46.1	42.9	44.1
12	27.2	30.2	35.0	27.0	27.8	26.7	26.9	26.9	26.7	26.8	41.5	41.9	41.9	44.3	42.0
13	31.0	31.2	32.6	28.7	27.2	26.9	26.9	26.8	26.9	26.9	45.3	42.1	45.0	44.3	45.8
14	27.2	31.9	31.7	31.8	29.2	26.7	26.7	26.9	26.8	26.8	40.4	43.6	44.9	43.9	43.1
15	28.1	30.4	31.6	31.4	28.0	26.6	26.8	26.9	26.9	26.9	42.4	40.5	41.9	44.9	42.9
16	29.5	29.8	34.6	32.5	26.8	26.9	26.8	26.9	26.7	26.8	43.8	41.6	40.1	44.9	44.3
17	30.4	29.9	35.1	32.5	29.6	26.6	26.8	26.9	26.8	26.9	44.7	45.2	45.4	44.9	45.2
18	31.4	33.5	32.0	31.4	30.1	26.8	26.8	26.8	26.8	26.8	45.7	43.2	43.9	43.9	46.2
19	28.3	31.5	30.7	29.0	26.9	26.7	26.7	26.9	26.8	26.8	42.6	44.6	42.8	43.7	43.1
20	28.1	32.2	29.7	32.6	29.3	26.7	26.9	26.7	26.9	26.8	42.4	41.5	44.5	45.0	42.9
21	32.0	29.8	35.3	30.7	29.2	26.9	26.9	26.9	26.8	26.8	46.3	46.2	43.0	43.2	46.8
22	29.1	34.5	35.1	32.2	28.7	26.7	26.9	26.9	26.8	26.9	43.4	40.4	41.9	44.7	43.9
23	27.8	29.7	33.5	31.7	26.8	26.9	26.4	26.9	26.9	26.8	42.1	45.6	44.7	44.2	42.6
24	27.3	31.6	35.2	29.6	28.0	26.8	26.9	26.4	26.8	26.8	41.6	40.4	44.5	42.2	42.1
25	35.0	31.4	34.3	31.2	26.9	26.9	26.7	26.9	26.9	26.9	41.4	43.1	45.1	43.7	42.4
26	29.7	30.0	31.8	29.0	27.6	26.7	26.8	26.7	26.8	26.9	45.4	41.7	44.3	44.6	38.9
27	30.0	29.9	30.8	33.3	27.0	26.9	26.8	26.7	26.8	26.9	45.3	41.6	44.2	45.7	45.8
28	29.4	32.2	33.5	30.9	34.1	26.7	26.9	26.7	26.8	26.6	44.7	43.9	42.5	43.4	45.2
29	27.1	30.2	31.3	31.9	26.9	26.6	26.6	26.7	26.8	26.9	42.4	40.9	45.9	44.4	42.9
30	33.1	31.4	32.5	31.9	34.1	26.9	26.8	26.7	26.8	26.8	48.4	43.1	43.4	44.4	44.4
31	29.8	29.8	35.3	32.3	35.0	26.6	26.8	26.6	26.8	26.8	45.9	40.5	45.4	44.8	43.3
32	28.1	29.5	34.7	30.8	32.5	26.8	26.9	26.7	26.9	26.8	43.4	41.1	44.2	43.3	43.9
33	27.0	31.2	30.9	30.7	26.9	26.7	26.9	26.7	26.9	26.8	43.3	42.9	45.9	45.0	43.8
34	33.5	30.6	32.7	31.2	27.1	26.7	26.5	26.6	26.8	26.8	43.4	44.0	45.5	45.0	43.9
35	27.0	29.8	33.5	32.6	31.6	26.9	26.9	26.5	26.8	26.8	41.6	41.5	45.8	45.0	42.1
36	27.1	32.2	35.3	32.6	27.4	26.9	26.5	26.9	26.9	26.7	41.5	43.9	45.6	44.9	42.0
37	27.3	29.9	35.3	29.6	29.1	26.8	26.8	26.8	26.9	26.6	40.7	40.6	45.2	44.8	45.1
38	27.1	29.5	32.6	32.3	35.3	26.9	26.7	26.9	26.6	26.8	45.4	40.8	46.2	45.0	46.3
39	33.6	29.8	32.8	32.7	27.0	26.9	26.8	26.9	26.9	26.6	47.7	44.5	45.0	42.9	44.7
40	27.0	29.6	34.2	29.8	28.3	26.4	26.9	26.5	26.9	26.8	39.5	40.5	46.1	44.8	42.2
41	28.9	29.5	32.7	32.3	27.4	26.9	26.7	26.9	26.8	26.3	43.2	40.5	43.6	45.0	43.7
42	29.0	29.9	35.3	32.5	29.1	26.8	26.8	26.8	26.9	26.4	45.8	41.9	46.3	44.8	42.6
43	31.7	29.5	35.3	30.3	27.0	26.1	26.8	26.8	26.8	26.8	43.8	41.7	45.2	44.8	44.1
44	35.0	29.8	34.4	30.4	28.3	26.8	26.8	26.9	26.7	26.9	40.0	44.0	46.0	43.3	43.6
45	35.1	30.8	34.3	29.3	26.9	26.7	26.8	26.9	26.8	26.9	45.4	43.1	45.8	44.9	45.9
46	27.6	29.9	32.6	32.2	27.1	26.9	26.8	26.4	26.9	26.5	45.0	42.5	44.6	44.7	45.5
47	28.2	30.1	31.5	26.8	30.1	26.8	26.8	26.9	26.7	26.9	43.4	40.9	44.2	42.5	44.8
48	29.1	29.5	34.4	32.2	34.5	26.6	26.8	26.8	26.8	26.8	44.5	42.6	45.8	44.7	45.5
49	27.6	29.7	32.4	31.1	29.1	26.9	26.9	26.9	26.7	26.9	45.7	40.4	45.2	43.6	42.7
50	27.2	29.5	35.3	32.6	27.0	26.5	26.9	26.9	26.7	26.9	39.6	44.6	46.2	45.0	42.0
	Mean = 31.8					Mean = 26.6					Mean = 43.8				
	S . D . = 1.26					S . D . = 0.45					S . D . = 1.58				

- Group 6 :

The body weight (Table 1)

- The control animals, it was found that the body weights ranged from 183 g to 200.9 g with a mean value of 192 g = 11.4.

The body weight increased by about 14.06 % than the control of the previous group which was of a significant values.

The control injected with hormones solvents :

- Olive oil, it was found that the body weights ranged from 179 g to 200.9 g with a mean value of 192 g ± 11.5.

- Distilled water, it was found that the body weights ranged from 180 g to 204.9 g with a mean value of 194 g ± 12.1.

- Olive oil and distilled water, it was found that the body weights ranged from 178 g to 199.9 g with a mean value of 185 g ± 11.8.

- Testosterone injections, it was found that the body weights ranged from 204 g to 220 g with a mean value of 213 g ± 6.78.

The body weight increased by 9.86 % than the control of the same group which was of a significant values.

- Thyroxine injections, it was found that the body weights ranged from 204 g to 230 gwith a mean value of 216 g ± 10.87.

The body weight increased by 11.11 % than the control of the same group which was of a significant value.

- Combined injections, it was found that the body weights ranged from 209 g to 230 g with a mean value of 221 g ± 8.67.

The body weight increased by 13.12 % than the control group of the same group which is of a significant value.

The glandular weight (Table 2).

- The control animal, the weights of the glands ranged from 619.1 mg to 641.1 mg with a mean value of 630.8 mg and ± 10.46.

The glandular weight increased 49. 41 % than the control of the previous group which was of a significant value.

The control injected with hormones solvents :

- Olive oil, the weights of the glands ranged from 612.1 mg to 640.6 mg with a mean value of 633.8 mg ± 15.7

- Distilled water, the weights of the glands ranged from 621.1 mg to 645.1 mg with a mean value of 635.8 mg ± 12.8.

- Olive oil and distilled water, the weights of the glands ranged from 610.8 mg to 638.1 mg with a mean value of 630.8 mg ± 9.69.

- Testosterone injections, the weights of the glands ranged from 636.9 mg to 665.9 mg with a mean value of 642.2 mg ± 11.7.

The glandular weight increased by 1.78 % than the control of the same group which was of a significant value.

- Thyroxine injections, the weights of the glands ranged from 641.9 mg to 675.9 mg with a mean value of

668.1 mg ± 14.6.

The glandular weight increased by 5.58 % than the control of the same group which wasof a significant value.

- Combined injections, the weights of the glands ranged from 659.2 mg to 688.3 mg with a mean value of 670.9 mg ± 12.89.

The glandular weight increased by 5.95 % than the control group of the same group which was of a significant value.

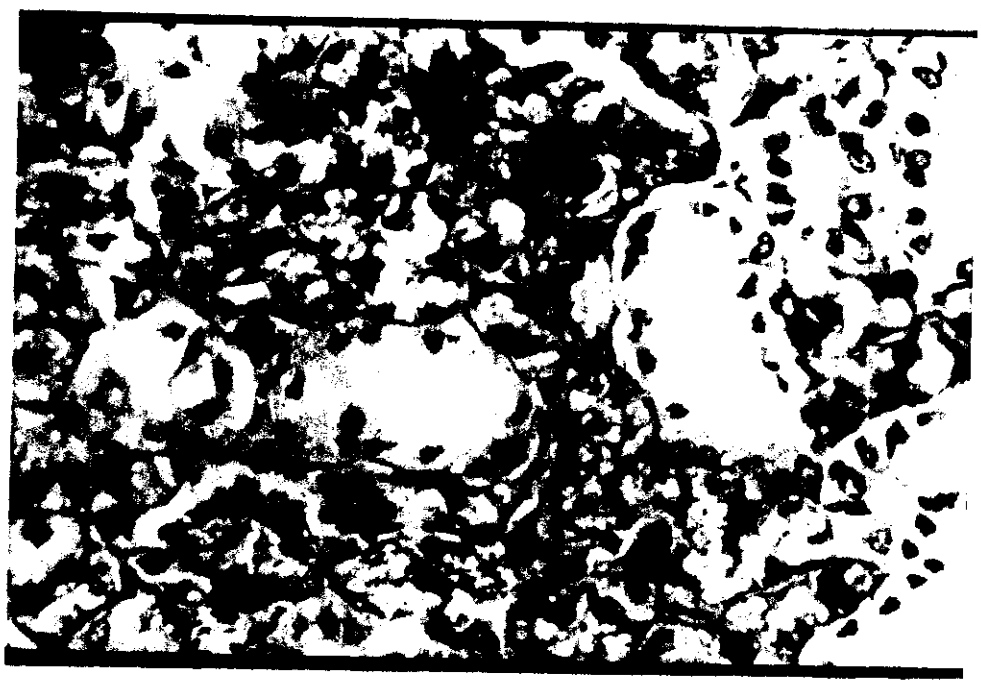
Histological observations :

Hx. & E. :

- In the control animals and the control injected with hormones solvents,the cells of the proximal portion of striated ducts were completely replaced by well developed granular convoluted tubule cells. These cells were large in size, columnar in shape and contained rounded or flat nuclei which were located in the basal part of the cells.The submandibular gland of the adult male rat was found to be divided into variable sized lobules by thin connective tissue septa in which blood vessels and excretory ducts were seen (Fig. 56).A lobule of such a gland appeared as a compact structure containing various epithelial elements. There were four main parts through which made up the glandular unit was proceeding from end pieces to an interlobular duct; viz., acini; intercalated ducts, convoluted tubles, and intralobuar "striated" ducts (Fig. 57).

(Fig. 56) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing variable lobules dividing by thin connective tissue septa.

(Hx. & E. stain, Proj. 10 x, Obj. 10 x.)



(Fig. 57) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing serous acini (A), granular convoluted tubules (G) and striated ducts (S).

(Hx. & E stain, Proj. 10 x Obj. 40 x.)

The serous acini were more or less rounded and lined by pyramidal cells with a foamy basophilic cytoplasm; the basophilia being strongest near the base of the cell. Each cell had a more or less basal rounded nucleus with a prominent nucleolus (Fig. 57).

Flattened nuclei of myoepithelial cells were seen between the cells lining the acini and the basement membrane (Fig. 58).

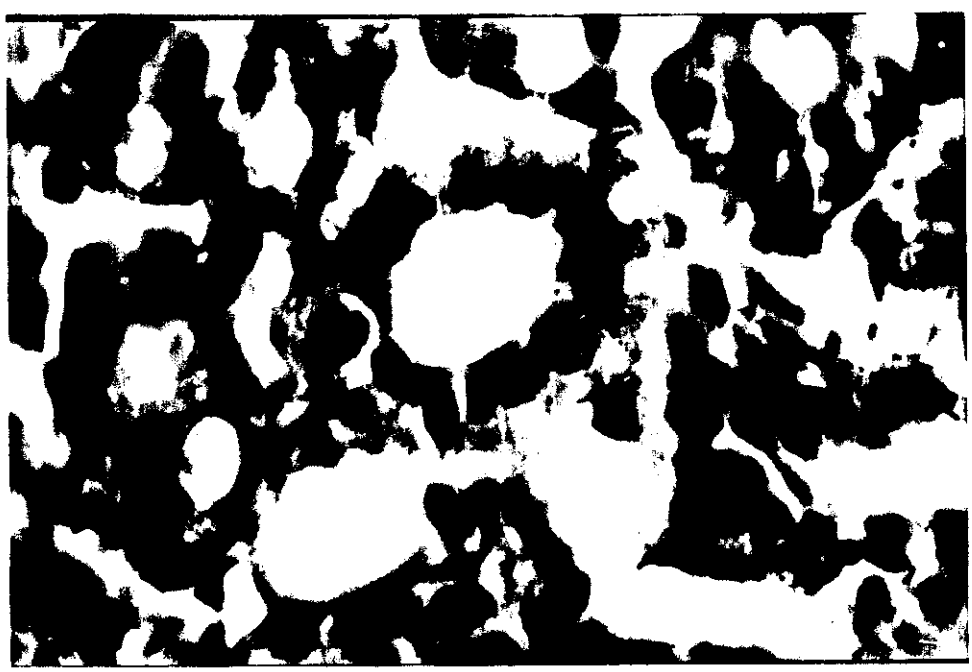
The intercalated ducts lined by flat epithelial cells (Fig. 59).

- The granular convoluted tubules were the most striking epithelial component. They appeared oval or tubular, they had large dimensions and were lined by tall columnar epithelial cells..The nuclei were basal and rounded (Fig. 57). The appearance of the cytoplasm above the nucleus depended on the type of fixation and staining. For instance, after Boien fixation and staining with haematoxylin and eosin, the cytoplasm appeared rater empty, almost vacuolated (Fig. 60). On the other hand,after fixation with Susa, the cytoplasm was more or less packed and full with large distinct granules (Fig. 61).

- Striated ducts, with wide lumina, were found intralobularly. They were lined with cuboidal cells with more or less centrally or even apically placed nuclei and

(Fig. 58) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing the myoepithelium cells (arrow).

(Hx. & E stain, Proj. 10 x, Obj. 100 x.)



(Fig. 59) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing the striated duct (S) and an intercalated duct (I).

(Hx. & E. stain, Proj. 10 x, Obj. 100 x.)

(Fig. 60) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing the granular convoluted tubules (G) with vacuolated cytoplasm after Boin fixtive.

(Hx. & E. stain. proj. 10 x, Obj. 100 x.)

(Fig. 61) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing the granular convoluted tubules (G) paked with larg granules after Susa fixtive

(Hx. & E. stain Proj. 10, x, Obj. 100 x.)

basal striation (Fig. , 59).

Interlobular ducts were lined with columnmmar cells but the large excretory ducts were lined with pseudostratified columnmar epithelien and surrounded by a fibrous sheath of connective tissue (Fig. 62).

- After testosterone injections, the main changes were found in the granular convoluted tubules. It was found that their number increased due to more differntiation of the striated ducts (Fig. 63). The nucleus was pushed basally (Figs.63 and 64). And the cytoplasm was full of many coarse granules (Fig. 65).

- After thyroxine injections, again, the main changes were found in granular convoluted tubules which increased in diameter than those of the control group and also, than those of the group which were injected by testosterone hormone.

-After combined injections.Also, the main changes were found in granular convoluted tubules which increased in diameter than those of the control group and also, than those of the groups which were injected by testosterone or thyroxine hormones. They were found crowded in the sections and their nuclei were flattened and pushed bassally .

VerHoeff's :

In the control animals and the control injected with hormones solvents,The surface of the gland was covered by a

(Fig. 62) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing 2 larg excretory ducts with connective tissue in between. (E) denotes the lumen of each duct.

(Hx. & E. stain, Proj. 10 x, Obj. 100 x.)

(Fig. 63) : A photomicrograph of a section in the submandibular gland of a male albino rat (group 6) injected with testosterone hormone showing the increased number and size of granular convoluted tubules, also their nuclei were flattened and displased basally (arrows).

(Hx & E stain, Proj. 10 x, Obj. 40 x.)

(Fig. 64) : A photomicrograph of a section in the submandibular gland of a male rat injected with testosterone hormone showing the granular convoluted tubule.

(Hx & E stain, Proj.10 x, Obj. 100 x.)

(Fig. 65) : A photomicrograph of a section in the submandibular gland of a male rat injected with testosterone hormone showing the granular convoluted tubule (the specimen was fixed in suza). Note the increase of granules.

(Hx & E stain, Proj.10 x, Obj.100 x.)

well formed capsule. Two different layers could be distinguished, an outer condensed layer and an inner loose one. The inter lobular ducts were surrounded by a layer of collagenous fibers which were thicker than in the previous groups. The striated ducts were surrounded by a thin layer of collagenous fibers. The granular convoluted tubules were surrounded by few fibers (Fig. 66).And also, there was an increase in the collagenous fibers in the septa (Fig. 67).

- After testosterone and thyroxine injections, The capsule became thicker than the control group. Also, an increase of the collagenous fibres was noticed in the interlobular septa and around the interlobular and the intralobular ducts (Fig. 68).

- After combined injections, The collagenous fibers,they were increased and ran in bundles and took a wavy coarse (Fig. 69).

Reticulin :

- In the control animals and the control injected with hormones solvents,The thickness of the reticular fibers became thinner than the previous control groups (Fig 70).

- After testosterone, thyroxine and combined injections, The reticular fibers were reduced in amount and thickness in comparison with the previous ages, and with the same age of control (Fig. 71 & 72).

PAS and PAS with diastase :

(Fig. 66) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing thick capsule (arrow), the interlobular ducts were surrounded by a layer of collagenous fibers (2 arrows).

(VerHoeff 's stain, Proj. 10 x, Obj. 10 x .)

(Fig. 67) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing the collagenous fibers and fibroblasts (arrow) in capsule and septa

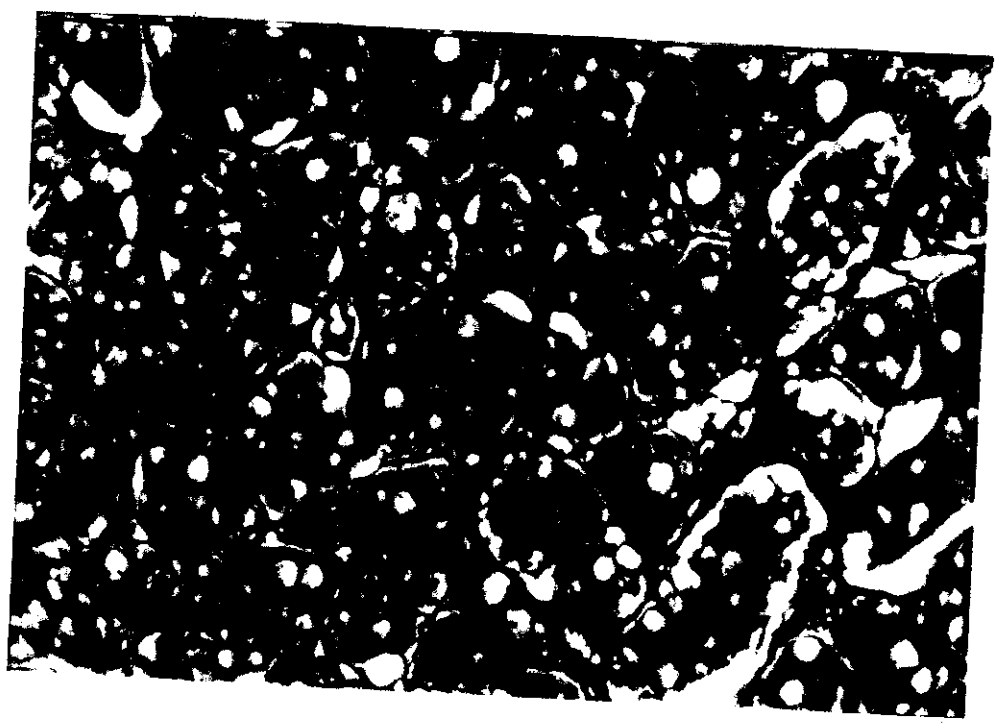
(VerHoeff's stain, Proj. 10 x, Obj. 10 x.)

(Fig. 68) : A photomicrograph of a section in the submandibular gland of a male albino rat injected with testosterone hormone (group 6)showing increased thickness of collagenous fibers.

(VerHoeff's stain, Proj. 10 x, Obj. 10 x.)

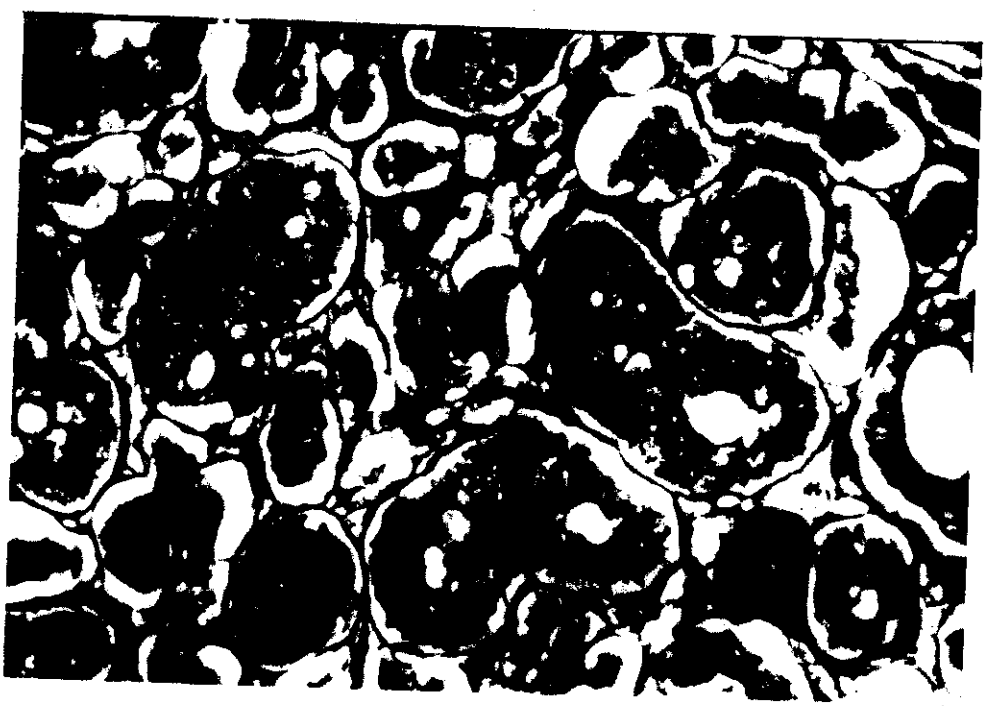
(Fig. 69) : A photomicrograph of a section in the submandibular gland of a male rat treated with the 2 hormones (group 6) showing the distribution and thickness of collagenous fibers.

(VerHoeff's stain, proj. 10 x, Obj. 10x.)



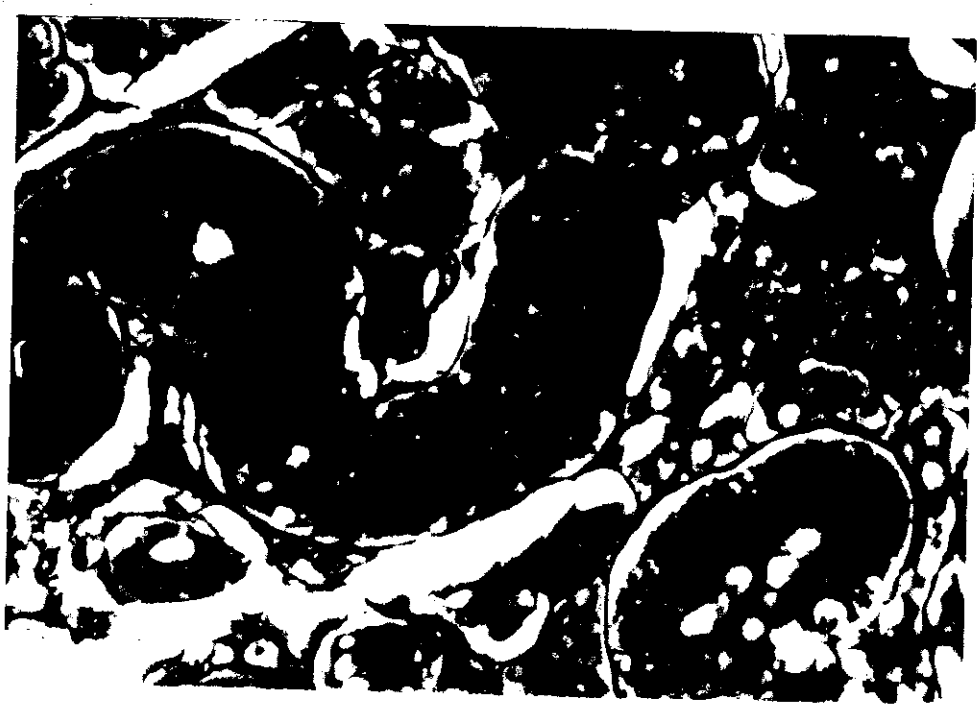
(Fig. 70) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing anetwork of reticular fibers surrouding the acini, blood vessels and tubules.

(Gorden & Sweet's reticulin stain, Proj. 40x, Obj. 10 x.)



(Fig. 71) : A photomicrograph of a section in the submandibular gland of an adult male rat (group 6) injected with testosterone hormone showing decrease in reticular fibers.

(Gorden & Sweet's stain, Proj. 10 x, Obj. 40 x.)



(Fig. 72) : A photomicrograph of a section in the submandibular gland of an adult male rat (group 6) treated with the 2 hormones showing the distribution and thickness of reticular fibers.

(Gorden & Sweet's stain, Proj, 10 x, Obj. 40 x.)

- In the control animals and the control injected with hormones solvents,the basement membrane of the acini and the capillaries showed astrong reaction. The serous acini and luminal border of convoluted granular tubules showed amoderate reaction. Weak reaction was found in striated ducts and excretory ducts. The mucous acini of the sublingual gland showed anintense reaction.

- After testosterone injections, there was a uniform intense, acinar reaction while the duct system was moderate.

- After thyroxine injections, the result was comparable to the control.However, the granular convoluted tubules showed a strong reaction, i,e filled with granuled (Fig. 73).

- After combined injections, the reaction showed an intense acinar reaction and also, the granular convoluted tubules showed astrong reaction.

Alcian blue at pH 1 :-

In the control animals and those injected with hormones, the serous acini showed a weak reaction while the duct system showed a negative one.

Alcian blue at pH 2.5 :-

In the control animals and those injected with hormones, the serous acini showed moderate reaction while the duct system showed weak reaction .

(Fig. 73) : A photomicrograph of a section in the submandibular gland of a male rat (group 6)treated with thyroxine hormone showing the strong reaction of granular convoluted tubules (G).

(PAS stain, Proj. 10x, Obj. 40x.)

PAS + alcian blue at pH 2.5 :-

In the control animals and those injected with hormones, the results as the previous group.

Toluidine blue :-

In the control animals and those injected with hormones, the serous acini of the submandibular gland showed moderate reaction while the duct system showed anegative one

Mallory :

- The control animal and those injected with hormones solvents, apical zymogen granules, inthe acini which had affinity to aniline blue in mallory stain, were evident. While the granules of granular convoluted tubule cells had affinity to orange G stain (Fig. 74).

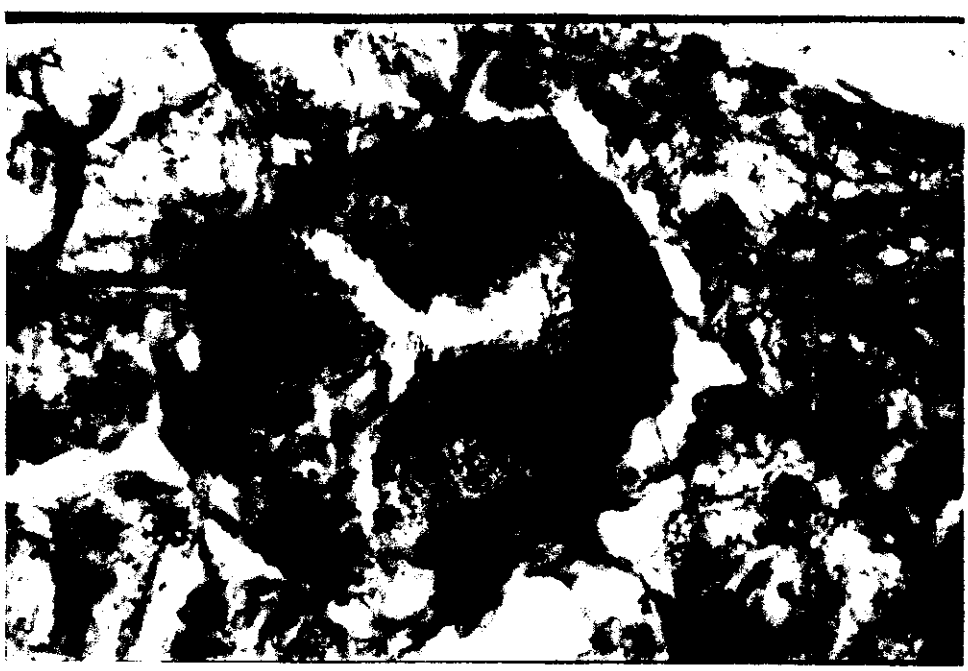
- After testosterone and thyroxine injections, increase in the stainning of the granules of the granular convoluted tubules with orang G.than the control (Fig. 75).

- Combined injections, there was anincrease in the stainning of the granules of the granular convoluted tubules with orang G. more than the controland also, than the others which injected with the single hormones (Fig. 76).

Histochemical observations :

Similar to the previous group.

(Fig. 74) : A photomicrograph of a section in the submandibular gland of a control male rat (group 6) showing that the granules were more stained with orang G (arrows). (Mallory Trichrome stain, Proj. 10 x, Obj. 40 x.)



(Fig. 75) : A photomicrograph of a section in the submandibular gland of a male rat (group 6) treated with thyroxine hormone showing more granules in cells of a granular convoluted tubule.

(Mallory Trichrome stain, Proj. 10 x, Obj. 100 x.)

(Fig. 76) : A photomicrograph of a section in the submandibular gland of an adult male rat (group 6) treated with the 2 hormones showing that the granular convoluted tubules were full of granules which stained with orang G.

(Mallory Trichrome stain, Proj. 10 x, Obj. 40 x.)

Quantitative observations :

The control animal (Table 39) :

The diameters of the striated ducts were ranged from 28.2 μm to 39.5 μm with a mean valueof 35.1 μm ± 1.75.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.6 μm ± o.52.

The diameters of the granular convoluted tubules were ranged from 38.0 μm to 46.2 μm with an avarage value of 43.3 μm ± 1.39.

- The control injected with hormones solvents :

-Olive oil (Table 40), the diameters of the striated ducts were ranged from 30.1um to 37.8 μm with an avarage value 35.2 μm ± 1.64

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.4 μm ± o.35.

The diameters of the granular convoluted tubules were ranged from 37.1 μm to 45.6 μm with an avarage value 43.9 μm ± 2.91.

- Distilled water (Table 41), the diameters of the striated ducts were ranged from 28.2 μm to 38. μm with an avarage value of 35.4 μm ± 2.03

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value 26.5 μm ± o.41.

The diameters of the granular convoluted tubules were ranged from 36.7 μm to 45.8 μm with an avarage value 42.9 ± 2.12.

- Olive oil and distilled water (Table 42), the diameters of the striated ducts were ranged from 28.2 μm to

(Table 39) showing the diameters of striated ducts, acini and GCTs in control animals (A) of group 6

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	30.7	29.2	37.6	33.3	31.7	26.9	26.8	26.9	26.8	26.8	43.6	43.3	40.1	43.7	42.1
2	30.5	30.8	38.5	32.9	31.4	26.8	26.8	26.8	26.9	26.8	42.9	45.7	40.5	43.2	44.3
3	30.7	30.7	33.2	33.6	31.7	26.7	26.9	26.8	26.9	26.9	43.7	43.9	43.5	43.0	42.1
4	30.5	29.0	31.3	33.1	30.5	26.9	26.8	26.9	26.8	26.8	42.9	43.2	41.6	43.5	44.7
5	30.8	29.8	36.6	32.3	30.7	26.5	26.8	26.9	27.0	26.8	43.2	45.2	45.2	42.4	42.2
6	31.5	32.5	33.2	31.8	31.7	26.9	26.9	26.9	26.9	26.9	44.0	46.2	43.5	43.5	43.0
7	30.8	30.9	35.4	33.6	32.8	26.9	26.9	26.8	26.7	26.9	43.3	44.2	45.7	43.0	42.3
8	30.8	33.4	34.6	33.4	31.9	26.8	26.8	26.9	26.9	26.8	43.2	43.6	44.9	43.8	42.2
9	31.1	32.1	33.2	33.5	31.8	26.7	26.9	26.8	26.5	26.9	43.6	45.6	43.5	43.9	43.9
10	30.8	29.3	29.2	33.3	34.6	26.9	26.7	26.9	26.9	26.7	43.4	43.2	41.2	43.7	43.2
11	30.7	32.1	29.2	31.8	30.0	26.8	26.9	26.9	26.9	26.9	43.5	45.7	45.8	41.9	44.5
12	28.7	29.6	38.0	29.2	31.7	26.9	26.8	26.8	26.8	26.9	41.0	42.5	41.6	43.3	40.0
13	32.2	30.4	35.4	30.5	29.3	26.7	26.9	26.9	26.7	26.8	44.8	42.7	41.7	43.3	43.8
14	28.7	30.9	34.4	33.0	33.6	26.9	26.9	26.8	26.9	26.9	39.9	44.2	44.6	42.9	43.1
15	29.6	29.7	34.3	32.7	31.9	26.7	26.7	26.9	26.8	26.8	41.9	43.2	41.6	43.5	44.6
16	30.8	29.2	37.6	33.5	30.3	26.6	26.8	26.9	26.9	26.9	43.3	42.2	42.3	43.6	42.3
17	31.7	29.3	38.1	33.5	34.0	26.9	26.8	26.9	26.7	26.8	44.2	45.8	45.1	43.9	43.2
18	32.6	32.2	34.8	32.7	34.7	26.6	26.8	26.9	26.8	26.9	45.2	43.8	43.6	42.9	44.2
19	29.8	30.6	33.3	30.8	30.0	26.8	26.8	26.8	26.8	26.8	42.1	45.2	42.5	43.9	43.1
20	29.6	31.2	32.2	33.6	33.7	26.7	26.7	26.9	26.8	26.8	41.9	42.1	44.2	43.9	43.6
21	33.1	29.2	38.4	32.1	33.6	26.7	26.9	26.7	26.9	26.8	42.9	43.0	42.9	42.4	44.8
22	30.5	33.0	38.1	33.3	32.9	26.9	26.9	26.9	26.8	26.8	45.8	43.5	44.6	43.7	43.7
23	29.3	29.2	36.4	32.9	30.3	26.9	26.8	26.9	26.9	26.8	41.6	43.4	44.4	43.2	40.6
24	28.8	30.7	38.2	31.3	31.9	26.8	26.8	26.8	26.9	26.8	41.1	43.0	44.2	43.7	40.1
25	38.9	30.5	37.3	32.5	30.5	26.9	26.9	26.9	26.8	26.9	40.9	42.3	44.8	42.7	39.9
26	31.9	29.4	34.5	30.8	31.4	26.9	26.4	26.9	26.9	26.8	44.9	42.2	43.9	43.6	43.9
27	32.2	29.3	33.5	34.2	28.9	26.4	26.9	26.4	26.8	26.8	44.2	43.0	43.9	43.5	43.8
28	31.7	31.2	36.4	32.3	39.0	26.9	26.6	26.9	26.9	26.8	44.8	43.1	42.2	42.4	43.2
29	29.6	29.6	34.0	33.1	29.4	26.6	26.5	26.4	26.9	26.9	41.9	43.7	45.6	43.2	40.9
30	35.0	30.5	35.3	33.1	38.8	26.5	26.9	26.7	26.8	26.7	47.9	43.3	43.1	43.3	46.9
31	32.0	29.2	38.4	33.4	39.0	26.9	26.8	26.9	26.8	26.8	45.4	43.7	45.1	43.1	43.9
32	30.5	29.0	37.7	32.2	37.9	26.8	26.8	26.8	26.9	26.8	42.9	44.6	43.9	42.3	43.2
33	28.2	30.4	33.6	32.1	30.4	26.7	26.9	26.8	26.9	26.9	42.8	43.5	45.0	43.3	43.7
34	35.4	29.9	35.5	32.5	28.2	26.9	26.8	26.9	26.8	26.8	42.9	42.1	44.6	43.2	41.9
35	28.2	29.2	36.4	33.6	36.7	26.5	26.8	26.9	27.0	26.8	41.1	43.5	44.1	43.3	40.1
36	28.7	31.2	38.3	33.6	31.1	26.9	26.9	26.9	26.9	26.9	41.0	43.2	45.3	44.7	40.0
37	28.8	29.3	38.3	31.3	33.3	26.9	26.9	26.8	26.7	26.9	40.2	43.7	44.9	44.6	39.2
38	28.7	29.0	35.4	33.4	39.0	26.8	26.8	26.9	26.9	26.8	40.3	43.0	41.8	43.2	43.1
39	34.6	29.2	35.6	33.7	28.5	26.7	26.9	26.8	26.5	26.9	45.3	43.9	44.7	43.9	46.1
40	28.6	29.1	37.2	31.4	32.3	26.9	26.7	26.9	26.9	26.7	47.2	43.5	42.3	43.9	38.0
41	30.3	29.0	35.5	33.4	31.1	26.8	26.9	26.9	26.9	26.9	39.0	42.5	43.3	43.3	41.7
42	30.4	29.3	38.3	33.5	33.3	26.9	26.8	26.8	26.8	26.9	42.7	42.3	41.5	43.7	43.1
43	32.9	29.0	38.4	31.8	29.3	26.7	26.9	26.9	26.7	26.8	45.5	44.6	44.9	44.7	43.7
44	39.5	29.2	37.4	31.8	32.3	26.9	26.9	26.8	26.9	26.9	43.2	43.7	45.7	43.7	38.5
45	37.3	30.0	37.3	31.0	28.4	26.7	26.7	26.9	26.8	26.8	39.5	43.1	45.5	43.9	43.9
46	29.1	29.3	35.4	33.3	30.1	26.6	26.8	26.9	26.9	26.9	44.9	43.5	44.3	43.7	43.5
47	29.7	29.5	34.2	29.0	34.7	26.6	26.8	26.9	26.9	26.9	44.5	43.1	43.9	43.0	41.9
48	30.5	29.0	37.4	33.3	39.0	26.6	26.8	26.9	26.9	26.9	42.9	43.2	45.5	43.7	43.0
49	29.1	29.2	35.2	32.4	33.3	26.6	26.8	26.9	26.9	26.9	44.0	43.4	49.9	42.6	43.0
50	28.7	29.0	38.4	33.6	28.5	26.6	26.8	26.9	26.9	26.9	43.2	43.7	45.9	43.7	38.1
	Mean = 35.1					Mean = 26.6					Mean = 43.3				
	S . D . = 1.75					S . D . = 0.52					S . D . = 1.39				

(Table 40) showing diameters of striated duct, acini, and GCTs in control animals injected with olive oil in group 6

No.	STRIATED DUCT			ACINI			GCT		
	A1	A2	A3	A1	A2	A3	A1	A2	A3
1	33.0	32.3	35.2	26.8	26.9	26.1	44.5	39.4	44.2
2	34.6	32.1	34.8	26.8	26.6	26.4	41.8	40.6	41.8
3	34.5	32.3	35.5	26.9	26.5	26.8	39.2	42.8	41.6
4	32.8	31.3	35.0	26.5	26.8	26.6	40.5	41.9	40.9
5	33.6	31.4	34.2	26.3	26.9	26.7	44.1	37.1	38.9
6	36.3	32.3	33.7	26.7	26.4	26.3	40.5	40.9	39.0
7	34.7	33.4	35.5	26.4	26.5	26.7	42.0	42.5	40.9
8	37.2	32.6	35.3	26.9	26.9	26.6	42.9	41.6	44.0
9	35.9	32.4	35.4	26.8	26.9	26.9	44.1	44.0	43.8
10	33.1	35.1	35.2	26.1	26.2	26.2	41.6	41.9	42.8
11	35.9	30.7	33.7	26.8	26.9	26.9	38.4	43.1	41.6
12	33.4	32.3	31.1	26.7	26.8	26.9	39.1	42.6	45.1
13	34.2	30.1	32.4	26.9	26.5	26.9	40.0	39.0	40.6
14	34.7	34.2	34.9	26.8	26.4	26.7	40.0	39.4	43.1
15	33.5	32.6	34.6	26.6	26.7	26.3	43.5	43.1	40.7
16	33.0	31.0	35.4	26.9	26.8	26.6	45.6	43.8	37.8
17	33.1	34.6	35.4	26.5	26.3	26.7	41.6	40.0	44.2
18	36.0	35.2	34.6	26.9	26.4	26.7	44.0	41.9	41.3
19	34.4	30.7	32.7	26.5	26.9	26.8	45.1	38.8	45.0
20	35.0	34.3	35.5	26.8	26.8	26.9	42.1	42.9	44.1
21	33.0	34.2	34.0	26.7	26.1	26.9	41.6	42.6	42.1
22	36.8	33.5	35.2	26.8	26.8	26.3	41.9	43.9	43.5
23	33.0	31.0	34.8	26.9	26.7	26.7	42.1	41.8	39.5
24	34.5	32.6	33.2	26.7	26.9	26.9	41.0	41.7	39.4
25	34.3	31.3	34.4	26.7	26.4	26.4	39.9	40.0	40.3
26	33.2	32.1	32.7	26.8	26.9	26.9	38.7	43.1	43.1
27	33.1	29.6	36.1	26.9	26.8	26.9	40.2	45.2	41.3
28	35.0	39.4	34.2	26.9	26.1	26.8	41.0	44.0	44.5
29	33.4	30.2	35.0	26.5	26.8	26.3	41.7	41.6	44.4
30	34.3	39.2	35.0	26.9	26.7	26.6	42.8	38.4	41.5
31	33.0	39.4	35.3	26.8	26.9	26.7	42.9	37.9	40.6
32	32.8	38.4	34.1	26.7	26.8	26.2	42.7	40.5	38.4
33	34.2	31.2	34.0	26.9	26.9	26.5	42.0	40.9	43.1
34	33.7	29.0	34.4	26.9	26.9	26.5	41.6	39.7	44.0
35	33.0	37.2	35.5	26.5	26.6	26.9	41.2	43.8	42.8
36	35.0	31.8	35.5	26.9	26.8	26.9	42.5	44.2	40.1
37	33.1	34.0	33.2	26.8	26.9	26.3	45.0	44.9	39.4
38	32.8	39.4	35.3	26.7	26.8	26.1	41.6	41.6	44.0
39	33.0	29.3	35.6	26.7	26.8	26.6	41.8	43.4	40.5
40	32.9	33.0	33.3	26.6	26.7	26.1	42.0	45.0	43.7
41	32.8	31.8	35.3	26.8	26.9	26.8	42.0	41.7	43.0
42	33.1	34.0	35.4	26.9	26.9	26.5	44.1	40.6	42.9
43	32.8	30.1	33.7	26.5	26.6	26.9	43.0	40.2	41.6
44	33.0	33.0	33.7	26.9	26.9	26.1	43.8	41.1	39.1
45	33.8	29.2	32.9	26.9	26.1	26.9	43.1	43.7	45.0
46	33.1	30.8	35.2	26.3	26.4	26.4	43.6	43.2	44.3
47	33.3	35.2	30.9	26.7	26.8	26.8	42.9	42.8	39.8
48	32.8	39.4	35.2	26.7	26.8	26.9	41.3	40.7	40.4
49	33.0	34.0	34.3	26.9	26.9	26.9	40.5	39.9	44.1
50	32.8	29.3	35.5	26.8	26.9	26.1	41.6	40.0	43.8
	Mean = 35.2			Mean = 26.4			Mean = 43.9		
	S.D. = 1.64			S.D. = 0.35			S.D. = 2.91		

(Table 41) showing diameters of striated duct, acini, and GCTs in control animals injected with D.W. in group 6

No.	STRIATED DUCT A1	STRIATED DUCT A2	STRIATED DUCT A3	ACINI A1	ACINI A2	ACINI A3	GCT A1	GCT A2	GCT A3
1	36.9	31.4	37.6	26.8	26.4	26.9	41.6	40.6	39.4
2	37.7	31.2	38.5	26.1	26.8	26.9	44.9	43.0	40.6
3	32.8	31.4	33.2	26.3	26.8	26.8	39.4	42.5	45.0
4	31.0	30.4	31.3	26.8	26.6	26.9	40.5	40.6	41.3
5	35.9	30.5	36.6	26.4	26.7	26.6	42.0	39.5	36.9
6	32.8	31.4	33.2	26.9	26.3	26.4	42.9	36.7	45.0
7	34.8	32.5	35.4	26.6	26.7	26.5	43.7	41.6	41.6
8	34.1	31.6	34.6	26.8	26.8	26.1	40.9	43.7	42.8
9	32.8	31.5	33.2	26.8	26.9	26.9	39.4	43.6	37.4
10	29.0	34.1	29.2	26.1	26.3	26.8	44.5	41.9	37.9
11	29.0	29.9	29.2	26.8	26.9	26.9	37.9	42.5	40.6
12	37.3	31.4	38.0	26.7	26.9	26.8	39.5	42.0	40.7
13	34.8	29.2	35.4	26.4	26.9	26.6	40.0	43.8	43.9
14	33.9	33.2	34.4	26.3	26.7	26.5	41.6	41.9	43.0
15	33.8	31.6	34.3	26.6	26.3	26.7	42.6	39.2	41.9
16	36.9	30.2	37.6	26.7	26.6	26.3	43.2	38.4	41.0
17	37.4	33.6	38.1	26.2	26.7	26.7	41.5	39.1	41.8
18	34.3	34.2	34.8	26.3	26.6	26.9	44.1	40.3	40.9
19	32.8	29.9	33.3	26.8	26.7	26.6	45.8	43.0	40.1
20	31.8	33.3	32.2	26.7	26.9	26.9	41.3	44.1	39.4
21	37.6	33.2	38.4	26.1	26.9	26.8	41.2	38.4	44.5
22	37.4	32.6	38.1	26.7	26.7	26.8	41.3	45.0	44.0
23	35.8	30.2	36.4	26.6	26.7	26.7	43.9	41.6	41.5
24	37.4	31.6	38.2	26.8	26.9	26.9	40.6	44.9	40.9
25	36.6	30.4	37.3	26.3	26.3	26.1	40.0	40.7	45.0
26	34.0	31.2	34.5	26.8	26.9	26.9	39.7	42.0	42.3
27	33.0	28.8	33.5	26.7	26.9	26.9	44.0	38.4	39.4
28	35.8	38.3	36.4	26.1	26.8	26.5	41.3	40.6	38.2
29	33.5	29.3	34.0	26.7	26.4	26.4	42.8	37.0	40.9
30	34.7	38.1	35.3	26.6	26.5	26.9	41.6	42.5	41.5
31	37.6	38.3	38.4	26.8	26.7	26.9	38.2	37.5	41.5
32	37.0	37.3	37.7	26.7	26.2	26.1	37.9	38.6	41.6
33	33.1	30.3	33.6	26.8	26.3	26.8	41.6	42.0	43.5
34	34.9	28.2	35.5	26.8	26.5	26.9	42.6	41.6	45.0
35	35.8	36.1	36.4	26.5	26.9	26.8	43.4	40.9	45.1
36	37.5	30.9	38.3	26.7	26.9	26.9	44.1	43.2	39.9
37	37.5	33.0	38.3	26.8	26.5	26.9	41.2	41.8	42.5
38	34.8	38.3	35.4	26.7	26.3	26.8	40.0	39.2	40.0
39	35.0	28.5	35.6	26.7	26.6	26.8	43.1	43.5	43.5
40	36.5	32.1	37.2	26.6	26.1	26.6	40.9	40.8	40.9
41	34.9	30.9	35.5	26.8	26.8	26.8	38.8	42.5	45.1
42	37.5	33.0	38.3	26.8	26.5	26.3	43.1	44.0	44.1
43	37.6	29.2	38.4	26.5	26.9	26.9	44.1	41.6	42.6
44	36.7	32.1	37.4	26.8	26.1	26.8	39.9	44.3	38.9
45	36.6	28.4	37.3	26.1	26.9	26.6	43.1	41.8	37.9
46	34.8	30.0	35.4	26.3	26.4	26.6	41.5	44.6	44.1
47	33.7	34.2	34.2	26.7	26.8	26.1	43.1	45.8	43.1
48	36.7	38.3	37.4	26.7	26.9	26.1	40.7	44.2	40.6
49	34.6	33.0	35.2	26.8	26.9	26.7	42.8	40.0	44.2
50	37.6	28.5	38.4	26.8	26.1	26.1	41.3	40.5	43.6
	Mean = 35.4 S.D. = 2.03			Mean = 26.5 S.D. = 0.41			Mean = 42.9 S.D. = 2.12		

(Table 42) showing diameters of striated duct, acini, and GCTs in control animals injected with oil + D.W in group 6

No.	STRIATED DUCT A1	A2	A3	ACINI A1	A2	A3	GCT A1	A2	A3
1	37.4	36.6	30.4	26.5	26.9	26.1	36.2	36.9	44.0
2	37.0	37.5	30.2	26.5	26.9	26.7	35.9	36.4	36.7
3	37.7	32.2	30.4	26.3	26.4	26.8	35.9	37.1	35.3
4	37.2	30.3	30.2	26.1	26.9	26.9	35.3	37.0	36.9
5	36.4	35.6	30.4	26.2	26.6	26.9	35.8	35.6	37.0
6	35.9	32.2	31.1	26.8	26.3	26.8	36.3	45.2	35.7
7	37.7	34.4	30.5	26.2	26.5	26.7	35.4	36.9	39.7
8	37.5	33.6	30.4	26.5	26.1	26.7	36.2	35.6	38.0
9	37.6	32.2	30.8	26.4	26.9	26.5	35.7	37.1	36.9
10	37.4	28.2	30.5	26.5	26.5	26.9	35.3	36.3	35.7
11	35.9	28.2	30.4	26.4	26.9	26.9	36.0	36.9	38.4
12	33.3	37.0	28.7	26.4	26.8	26.8	35.6	45.1	35.6
13	34.6	34.4	31.7	26.4	26.6	26.7	35.8	36.1	35.7
14	37.1	33.4	28.7	26.5	26.5	26.5	36.0	35.7	35.7
15	36.8	33.3	29.4	26.5	26.7	26.5	35.5	37.0	36.8
16	37.6	36.6	30.5	26.1	26.3	26.9	35.7	35.6	36.6
17	37.6	37.1	31.2	26.2	26.3	26.1	35.3	36.1	36.9
18	36.8	33.8	32.0	26.2	26.9	26.9	35.4	44.0	44.0
19	34.9	32.3	29.6	26.5	26.4	26.9	36.0	35.5	35.5
20	37.7	31.2	29.4	26.4	26.9	26.8	36.2	35.5	35.4
21	36.2	37.4	32.5	26.4	26.3	26.9	35.5	36.8	36.1
22	37.4	37.1	30.2	26.5	26.8	26.9	40.5	35.7	35.3
23	37.0	35.4	29.2	26.2	26.7	26.8	35.7	43.9	45.1
24	35.4	37.2	28.8	26.4	26.9	26.5	35.5	36.2	36.4
25	36.6	36.3	37.6	26.5	26.8	26.9	35.3	36.9	37.1
26	34.9	33.5	31.5	26.4	26.9	26.4	36.1	35.7	35.7
27	38.3	32.5	31.7	26.4	26.9	26.1	35.8	36.5	37.2
28	36.4	35.4	31.2	26.3	26.5	26.8	35.8	36.8	35.4
29	37.2	33.0	29.4	26.5	26.4	26.9	36.0	43.5	37.2
30	37.2	34.3	34.2	26.5	26.9	26.8	44.3	36.1	36.1
31	37.5	37.4	31.6	26.2	26.9	26.7	35.4	35.3	36.1
32	36.3	36.7	30.2	26.7	26.1	26.5	35.3	37.3	40.6
33	36.2	32.6	28.2	26.5	26.8	26.4	35.6	37.0	35.9
34	36.6	34.5	34.5	26.1	26.9	26.6	36.3	35.5	36.8
35	37.7	35.4	28.2	26.4	26.7	26.8	42.6	36.5	37.2
36	37.7	37.3	28.6	26.4	26.9	26.9	36.0	35.9	35.6
37	35.4	37.3	28.8	26.5	26.9	26.9	35.4	36.6	37.5
38	37.5	34.4	28.6	26.5	26.8	26.7	35.9	36.1	37.2
39	37.8	34.6	33.8	26.1	26.8	26.3	35.4	35.7	35.4
40	35.5	36.2	28.5	26.5	26.6	26.9	35.7	36.5	35.5
41	37.5	34.5	30.0	26.3	26.3	26.7	36.2	35.7	36.3
42	37.6	37.3	30.1	26.1	26.4	26.5	35.6	36.5	40.2
43	35.9	37.4	32.3	26.4	26.9	26.4	35.6	35.4	37.0
44	35.9	36.4	38.1	26.6	26.8	26.3	35.5	35.6	44.6
45	35.1	36.3	36.2	26.4	26.6	26.7	35.4	35.7	35.7
46	37.4	34.4	29.0	26.9	26.6	26.9	36.2	37.3	36.0
47	33.1	33.2	29.5	26.3	26.4	26.4	36.0	36.8	44.0
48	37.4	36.4	30.2	26.4	26.1	26.9	35.9	36.1	35.4
49	36.5	34.2	29.0	26.4	26.7	26.8	35.5	36.6	35.8
50	37.7	37.4	28.7	26.5	26.9	26.1	36.2	36.1	36.0
	Mean = 35.3			Mean = 26.6			Mean = 43.5		
	S.D. = 2.51			S.D. = 0.59			S.D. = 1.05		

38.3 μm with an avarage value 35.3 μm ± 2.51.
The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.6 μm ± o.59.
The diameters of the granular convoluted tubules were ranged from 35.3 μm to 45.2 μm with an avarage value 43.5 μm ± 1.05.

- Testosterone injections (Table 43), The diameters of the striated ducts were ranged from 30.9 μm to 38.2 μm with an avarage value of 35.3 μm and ± 1.56
The diameters of the acini were ranged from 26.1 umto 27.0 μm with an avarage value of 26.5 μm and ± 0.28.
The diameters of the granular convoluted tubules were ranged from 37.2 μm to 55.1 μm with an avarage value 45.7 μm ± 1.594.

- Thyroxine injections (Table 44), the diameters of the striated ducts were ranged from 33.4 μm to 36.8 μm with an avarage value 34.9 μm ± 1.323 The diameters of the acini were ranged from 26.1 umto 27.0 μm with an avarage value 26.5 μm and ± 0.74.
The diameters of the granular convoluted tubules were ranged from 42.1 μm to 56.6 μm with an avarage value of 47.3 μm ± 1.51.

- Combined injections (Table 45), the diameters of the striated ducts were ranged from 33.7 μm to 36.5 μm with an avarage value of 35.3 μm ± 1.58
The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value 26.7 μm ± 0.52.
The diameters of the granular convoluted tubules were

(Table 43) showing the diameters of striated ducts, acini and GCTs in testosterone animals of group 6

	STRIATED DUCTS					ACINI					GCT				
No.	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	33.2	31.3	38.0	35.9	34.0	26.5	26.8	26.9	27.0	26.8	50.2	45.8	42.1	44.2	45.8
2	33.1	33.5	37.9	35.4	33.8	26.9	26.9	26.9	26.9	26.9	45.7	45.5	42.5	43.7	45.6
3	33.2	33.4	33.6	36.2	34.0	26.9	26.9	26.8	26.7	26.9	50.0	45.9	42.1	43.5	45.8
4	33.1	31.0	31.7	35.6	33.0	26.8	26.8	26.9	26.9	26.8	46.0	45.5	45.5	47.5	45.6
5	33.3	32.1	37.0	34.7	33.1	26.7	26.9	26.8	26.5	26.9	46.8	45.8	43.6	47.7	45.9
6	34.0	35.9	33.6	34.1	34.0	26.9	26.7	26.9	26.9	26.7	46.1	46.6	37.2	46.8	46.7
7	33.4	33.7	35.8	36.2	34.9	26.7	26.9	26.8	26.4	26.9	46.0	45.9	45.5	44.5	46.0
8	33.3	37.2	35.0	36.0	34.2	26.7	26.9	26.8	26.9	26.7	46.4	45.8	47.7	50.5	45.9
9	33.7	35.3	31.0	36.1	34.1	26.6	26.8	26.8	26.8	26.8	46.1	46.2	46.9	48.0	46.3
10	33.4	31.4	30.9	35.9	36.5	26.5	26.8	26.8	26.1	26.8	45.8	45.9	45.5	48.6	46.0
11	33.2	35.4	31.2	34.2	32.5	26.9	26.9	26.7	26.8	26.8	34.8	45.8	41.5	45.7	45.8
12	31.4	31.8	38.1	31.2	34.0	26.8	26.9	26.6	26.7	26.8	47.6	43.6	47.8	44.4	41.7
13	34.7	32.9	35.8	32.7	31.9	26.9	26.6	26.8	26.9	26.8	42.7	46.4	43.6	43.9	47.5
14	31.4	33.7	34.8	35.5	35.6	26.9	26.9	26.6	26.8	26.8	44.7	42.5	46.7	42.7	49.3
15	32.2	32.0	34.7	35.1	34.2	26.5	26.9	26.8	26.6	26.8	46.1	44.5	46.6	47.7	44.6
16	33.4	31.3	38.0	36.1	32.8	26.9	26.8	26.3	26.9	26.9	47.0	45.9	43.6	47.6	46.0
17	34.2	31.4	38.1	36.1	36.0	26.8	26.9	26.4	26.5	26.9	48.0	46.8	41.8	45.1	46.9
18	35.0	35.5	35.2	35.1	36.6	26.8	26.9	26.4	26.8	26.8	44.0	47.8	47.1	54.3	44.9
19	32.4	33.2	33.7	33.0	32.5	26.9	26.7	26.9	26.9	26.9	44.7	44.7	45.6	45.5	44.8
20	32.2	34.0	32.6	36.2	35.7	26.7	26.8	26.7	26.8	26.7	44.9	44.2	44.5	43.6	47.9
21	35.5	31.3	35.0	34.5	35.6	26.9	26.8	26.7	26.8	26.9	48.6	48.4	46.2	37.2	45.5
22	33.1	36.6	35.1	35.9	35.0	26.7	26.9	26.7	26.8	26.9	45.7	45.5	44.9	45.5	45.6
23	31.9	31.2	36.8	35.4	32.8	26.6	26.6	26.7	26.8	26.8	44.4	44.0	43.6	47.7	44.3
24	31.5	33.4	38.0	33.5	34.2	26.9	26.8	26.7	26.8	26.9	43.9	44.2	46.4	46.9	44.1
25	38.1	33.1	37.7	34.9	33.0	26.6	26.8	26.6	26.8	26.9	42.7	43.7	46.2	42.1	47.6
26	34.4	31.6	34.9	33.0	33.8	26.8	26.9	26.7	26.9	26.4	47.7	43.5	46.8	42.5	47.5
27	34.7	31.4	33.9	36.8	31.5	26.7	26.9	26.7	26.9	26.9	47.6	47.5	45.0	42.1	46.9
28	34.2	34.0	36.8	34.7	38.1	26.9	26.8	26.7	26.8	26.7	45.1	47.7	45.9	45.5	50.1
29	32.2	31.8	34.4	35.6	32.0	26.8	26.8	26.9	26.8	26.7	48.2	46.8	44.2	46.7	45.6
30	37.4	33.1	35.7	35.6	38.0	26.9	26.8	26.7	26.9	26.7	45.1	44.5	46.2	44.4	45.5
31	34.5	31.3	38.2	36.0	38.2	26.9	26.8	26.6	26.6	26.9	45.1	50.5	46.7	47.7	45.3
32	33.1	31.0	38.1	34.6	38.0	26.8	26.9	26.9	26.8	26.9	45.6	48.0	45.1	46.0	53.8
33	30.9	32.9	34.0	34.5	32.9	26.9	26.8	26.6	26.8	26.8	45.7	45.5	47.1	46.6	51.9
34	37.7	32.2	35.9	34.9	30.9	26.8	26.8	26.8	26.9	26.9	43.7	45.4	45.9	45.9	48.0
35	30.9	31.3	36.8	36.2	38.0	26.9	26.9	26.7	26.9	26.9	43.8	45.5	47.6	45.8	46.0
36	31.3	34.0	38.2	36.2	33.5	26.8	26.9	26.7	26.5	26.4	43.0	43.7	47.6	46.2	45.4
37	31.5	31.4	38.1	33.5	35.4	26.8	26.9	26.9	26.9	26.9	48.1	43.6	47.5	45.9	44.3
38	31.3	31.0	35.8	36.0	38.2	26.8	26.6	26.9	26.5	26.7	45.2	42.8	57.9	45.8	45.3
39	36.9	31.3	36.0	36.2	31.2	26.8	26.9	26.8	26.8	26.9	41.8	47.9	46.5	43.6	47.2
40	31.2	31.1	37.6	33.7	34.6	26.8	26.7	26.9	26.7	26.9	45.5	49.8	46.9	46.4	50.2
41	32.9	31.0	35.9	36.0	33.5	26.9	26.9	26.8	26.7	26.8	48.3	41.6	47.9	42.5	42.1
42	33.0	31.4	38.0	36.1	35.4	26.9	26.8	26.8	26.9	26.8	55.1	45.3	46.7	45.0	44.4
43	35.3	31.0	38.0	34.1	31.9	26.8	26.9	26.8	26.7	26.9	42.5	48.1	45.3	46.8	43.7
44	38.0	31.3	37.8	34.2	34.6	26.9	26.9	26.8	26.6	26.6	47.7	45.8	48.0	44.3	48.5
45	38.0	32.5	37.7	33.2	31.1	26.8	26.8	26.9	26.9	26.8	47.3	42.1	46.0	54.3	48.3
46	31.8	31.4	35.8	35.9	32.6	26.9	26.9	26.8	26.6	26.8	45.7	47.5	45.9	43.5	47.5
47	32.3	31.7	34.6	31.0	36.6	26.9	26.9	26.8	26.6	26.8	46.8	47.1	48.0	45.7	47.6
48	33.1	31.0	37.8	35.9	38.0	26.9	26.9	26.8	26.6	26.8	48.0	47.3	47.0	44.6	44.3
49	31.8	31.2	35.6	34.8	35.4	26.9	26.9	26.8	26.6	26.8	44.6	41.7	46.9	45.7	46.9
50	31.4	31.0	38.0	36.2	31.2	26.9	26.9	26.8	26.6	26.8	46.8	46.6	47.9	52.1	44.6
	Mean =		35.3			Mean =		26.5			Mean =		45.7		
	S . D . =		1.56			S . D . =		0.28			S . D . =		1.59		

(Table 44) showing the diameters of striated ducts, acini and GCTs in thyroxine animals (A) of group 6

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	36.5	33.7	36.0	36.2	36.1	26.9	26.8	26.8	26.8	26.9	47.3	48.5	43.9	46.6	47.3
2	36.3	35.3	36.9	35.9	35.8	26.7	26.9	26.9	26.7	26.8	47.1	46.3	44.3	46.1	46.3
3	36.5	35.2	33.7	35.9	36.1	26.9	26.9	26.8	26.9	26.9	47.3	46.5	47.3	47.1	47.3
4	36.3	33.4	33.4	34.9	34.8	26.7	26.7	26.9	26.8	26.8	47.1	46.3	49.5	47.9	46.1
5	36.6	34.2	35.1	36.2	34.9	26.6	26.8	26.9	26.9	26.9	47.4	46.6	48.7	48.2	47.4
6	36.5	36.2	33.6	35.6	36.1	26.9	26.8	26.9	26.7	26.8	48.2	47.4	47.3	46.3	48.2
7	36.7	35.4	34.0	36.1	36.7	26.6	26.8	26.9	26.8	26.9	47.4	46.7	43.3	52.1	47.3
8	36.6	36.0	34.0	36.0	36.4	26.8	26.9	26.8	26.9	26.8	47.4	46.6	49.6	47.7	47.8
9	36.2	36.6	33.7	35.9	36.2	26.8	26.8	26.8	26.8	26.9	47.8	47.0	45.4	47.8	47.5
10	36.7	33.7	33.6	35.4	36.0	26.5	26.8	26.9	27.0	26.8	47.6	46.7	48.5	53.6	45.2
11	36.5	36.7	33.5	36.0	34.1	26.9	26.9	26.9	26.9	26.9	47.3	46.5	48.4	47.2	50.1
12	34.2	34.0	36.4	33.6	36.1	26.9	26.9	26.8	26.7	26.9	45.2	44.4	45.4	47.2	46.3
13	35.9	34.8	34.0	35.4	33.4	26.8	26.8	26.9	26.9	26.8	49.0	48.2	43.6	46.8	46.1
14	34.2	35.4	33.4	35.7	36.0	26.7	26.9	26.8	26.5	26.9	44.1	43.3	48.6	47.8	47.9
15	35.2	34.2	36.0	35.7	36.4	26.9	26.7	26.9	26.9	26.7	46.1	45.3	47.4	46.9	48.4
16	36.7	33.7	36.0	36.2	34.5	26.8	26.9	26.9	26.9	26.9	47.5	46.7	46.3	46.6	47.2
17	35.8	33.7	36.5	36.4	36.1	26.9	26.8	26.8	26.8	26.9	48.4	47.6	48.0	47.9	49.4
18	36.7	36.8	33.4	35.8	36.3	26.7	26.9	26.9	26.7	26.8	49.4	48.6	46.7	46.1	46.9
19	35.4	35.1	34.0	35.7	34.1	26.9	26.9	26.8	26.9	26.9	46.3	49.1	45.4	47.6	48.5
20	35.2	35.7	33.5	36.3	36.0	26.7	26.7	26.9	26.8	26.8	46.1	45.3	48.2	47.1	46.3
21	36.4	33.7	36.8	34.0	36.2	26.6	26.8	26.9	26.9	26.9	50.0	49.2	48.0	45.1	46.1
22	35.9	36.0	36.5	36.0	36.4	26.9	26.8	26.9	26.7	26.8	47.1	46.3	48.6	56.6	50.0
23	34.8	33.6	34.9	35.9	36.5	26.6	26.8	26.9	26.8	26.9	45.8	45.0	47.6	47.5	47.0
24	34.3	35.2	36.6	36.4	36.0	26.8	26.8	26.8	26.8	26.8	45.3	44.5	47.7	48.6	45.8
25	36.8	35.0	35.8	36.2	36.8	26.7	26.7	26.9	26.8	26.8	45.1	44.3	46.0	53.1	45.3
26	36.4	33.8	33.4	34.0	36.4	26.7	26.9	26.7	26.9	26.8	49.1	48.3	49.4	47.3	53.6
27	35.7	33.7	34.0	35.9	34.8	26.9	26.9	26.9	26.8	26.8	49.0	48.2	46.9	47.3	49.1
28	35.6	35.7	34.9	35.8	36.0	26.9	26.8	26.9	26.9	26.8	48.4	47.6	48.9	46.3	49.0
29	35.2	34.0	33.4	36.2	35.5	26.8	26.8	26.8	26.9	26.8	46.1	45.3	47.7	47.7	48.4
30	36.7	35.0	33.9	36.7	36.0	26.9	26.9	26.9	26.8	26.9	55.1	51.3	49.4	49.1	46.1
31	36.2	33.7	36.8	36.2	36.2	26.9	26.4	26.9	26.9	26.8	49.6	48.8	50.0	50.3	47.6
32	36.3	33.4	36.1	35.9	36.4	26.4	26.9	26.4	26.8	26.8	47.1	46.3	49.3	44.3	46.5
33	33.5	34.8	35.0	35.0	33.6	26.9	26.7	26.9	26.9	26.9	47.0	46.2	49.1	47.9	47.1
34	36.3	34.3	34.1	34.0	33.4	26.8	26.8	26.7	26.8	26.9	47.1	46.3	48.7	47.8	47.0
35	33.5	33.7	34.9	35.0	36.0	26.1	26.8	26.7	26.8	26.9	45.3	44.5	49.7	46.3	45.3
36	34.1	35.7	36.7	36.0	34.4	26.8	26.9	26.7	26.8	26.6	45.2	44.4	48.5	49.8	49.2
37	34.3	33.7	36.7	36.4	36.4	26.7	26.6	26.7	26.8	26.9	44.4	43.6	49.6	47.9	45.3
38	34.1	33.4	34.0	36.3	36.0	26.9	26.8	26.7	26.8	26.8	49.5	48.7	47.9	46.8	54.9
39	35.4	33.7	34.2	36.2	34.4	26.8	26.8	26.6	26.8	26.8	51.4	50.6	49.8	47.7	45.4
40	33.9	33.5	35.7	36.6	36.0	26.6	26.9	26.7	26.9	26.8	48.7	42.4	48.7	46.2	46.9
41	36.0	33.4	34.1	35.0	36.0	26.9	26.9	26.7	26.9	26.8	46.9	49.5	48.7	47.7	45.8
42	36.2	33.7	36.7	36.4	36.4	26.5	26.5	26.6	26.8	26.8	49.7	48.9	49.5	49.1	47.5
43	36.4	33.4	36.8	36.5	35.3	26.9	26.9	26.5	26.8	26.8	47.3	46.5	49.3	47.3	46.8
44	36.3	33.7	35.9	36.1	36.4	26.5	26.5	26.9	26.9	26.7	44.6	47.6	48.1	48.7	47.8
45	36.0	34.5	35.8	36.1	34.3	26.8	26.8	26.8	26.9	26.6	49.1	48.3	50.3	51.9	48.7
46	34.6	33.7	34.0	34.2	36.2	26.7	26.7	26.9	26.6	26.8	48.7	47.9	51.2	46.5	48.0
47	35.3	33.9	33.5	33.4	36.0	26.7	26.7	26.9	26.6	26.8	47.1	47.8	48.0	47.9	48.7
48	36.3	33.4	35.9	34.2	36.2	26.7	26.7	26.9	26.6	26.8	48.2	47.8	49.7	48.6	50.1
49	34.6	33.6	33.8	33.4	36.0	26.7	26.7	26.9	26.6	26.8	49.4	48.6	47.9	45.9	45.9
50	34.2	33.4	36.8	34.5	34.4	26.7	26.7	26.9	26.6	26.8	46.8	47.2	46.9	52.9	45.2
	Mean = 34.9					Mean = 26.5					Mean = 47.3				
	S . D . = 1.32					S . D . = 0.74					S . D . = 1.51				

(Table 45) showing the diameters of striated ducts, acini and GCTs in combined animals (A) of group 6

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	36.2	34.1	36.0	36.1	36.0	26.9	26.9	26.9	26.9	26.9	49.9	47.7	51.9	51.7	51.9
2	36.4	35.8	36.4	35.5	35.6	26.9	26.9	26.8	26.7	26.9	49.9	52.3	48.8	41.5	51.9
3	36.0	35.7	33.8	36.4	35.9	26.8	26.8	26.9	26.9	26.8	50.1	50.2	50.2	51.1	50.3
4	36.5	33.8	33.8	35.8	36.4	26.7	26.9	26.8	26.5	26.9	49.9	48.3	46.5	49.9	52.1
5	36.2	34.7	35.0	34.7	36.0	26.9	26.7	26.9	26.9	26.7	50.2	51.8	51.9	42.4	51.9
6	36.4	36.2	35.0	34.0	36.4	26.8	26.9	26.9	26.9	26.9	51.0	52.8	51.5	48.8	50.3
7	36.3	35.9	33.8	36.4	36.4	26.8	26.8	26.9	26.9	26.8	50.3	50.8	49.9	48.8	51.3
8	36.2	36.0	33.8	36.2	35.9	26.7	26.9	26.8	26.5	26.9	50.2	53.9	48.9	47.0	52.2
9	36.5	36.2	34.0	36.3	35.9	26.9	26.7	26.9	26.9	26.7	50.6	52.2	51.2	52.3	54.2
10	36.3	34.2	36.0	36.1	36.4	26.8	26.9	26.9	26.9	26.9	50.3	47.8	50.3	50.8	51.7
11	36.1	36.4	35.9	34.1	35.4	26.9	26.8	26.8	26.8	26.9	50.1	52.3	47.0	49.7	47.7
12	34.5	34.4	36.4	34.0	36.2	26.7	26.9	26.9	26.7	26.8	48.0	49.1	52.3	50.4	49.6
13	36.2	35.3	33.8	35.0	34.8	26.9	26.9	26.8	26.9	26.9	51.8	49.3	49.7	50.7	51.0
14	34.5	35.9	33.8	35.7	35.8	26.7	26.7	26.9	26.8	26.8	46.9	50.8	51.4	51.1	52.8
15	35.6	34.6	33.9	35.2	36.2	26.6	26.8	26.9	26.9	26.9	48.9	47.7	48.6	48.7	51.5
16	36.3	34.1	36.0	36.3	35.7	26.9	26.8	26.9	26.7	26.8	50.3	48.8	47.8	47.7	48.8
17	36.5	34.2	36.5	36.3	36.2	26.6	26.8	26.9	26.8	26.9	51.2	52.4	48.0	48.8	49.7
18	36.4	36.4	33.8	35.2	36.5	26.8	26.8	26.8	26.8	26.8	52.2	50.4	51.7	52.4	51.1
19	35.8	35.6	33.7	35.0	35.4	26.7	26.7	26.9	26.8	26.8	49.1	51.8	41.5	48.3	52.5
20	35.6	36.2	34.0	36.4	35.9	26.7	26.9	26.7	26.9	26.8	48.9	48.7	51.1	45.2	49.1
21	36.5	34.1	36.5	34.5	35.8	26.9	26.9	26.9	26.8	26.8	52.8	53.4	49.9	51.7	50.4
22	36.4	36.3	36.5	36.1	36.2	26.7	26.9	26.9	26.8	26.9	49.9	47.6	49.9	47.7	47.7
23	35.2	34.0	34.8	35.5	35.7	26.9	26.4	26.9	26.9	26.8	48.6	52.8	50.1	47.7	48.9
24	34.6	35.7	36.5	33.7	36.2	26.8	26.9	26.4	26.8	26.8	48.1	47.6	49.9	52.4	47.7
25	36.4	35.5	35.7	35.0	35.9	26.9	26.7	26.9	26.9	26.9	47.9	50.3	47.8	48.7	48.6
26	35.9	34.2	34.0	34.0	36.3	26.7	26.8	26.7	26.8	26.9	51.9	48.9	52.3	53.3	48.7
27	36.2	34.2	33.8	36.0	34.3	26.9	26.8	26.7	26.8	26.9	51.8	48.8	49.1	51.7	51.8
28	36.4	36.2	34.8	34.7	36.3	26.7	26.9	26.7	26.8	26.6	51.2	51.1	49.3	47.7	48.8
29	35.6	34.4	33.7	35.8	34.9	26.6	26.6	26.7	26.8	26.9	48.9	48.4	50.8	48.9	49.1
30	36.1	35.5	33.7	35.8	36.5	26.9	26.8	26.7	26.8	26.8	54.9	50.3	50.3	44.5	51.7
31	36.0	34.1	36.0	36.2	36.4	26.6	26.8	26.6	26.8	26.8	52.4	47.7	50.1	49.9	50.2
32	36.4	33.8	36.1	34.6	33.9	26.8	26.9	26.7	26.9	26.8	49.9	48.3	48.0	52.4	49.3
33	33.7	35.3	33.7	34.5	35.8	26.7	26.9	26.7	26.9	26.8	49.8	50.1	51.8	50.1	53.1
34	36.5	34.8	33.9	35.0	33.7	26.7	26.5	26.6	26.8	26.8	49.9	51.2	46.9	50.1	52.4
35	33.7	34.1	34.8	36.4	35.0	26.9	26.9	26.5	26.8	26.8	48.0	48.7	48.9	50.2	49.3
36	34.3	36.2	36.0	36.4	36.5	26.9	26.5	26.9	26.9	26.7	48.1	51.1	49.1	53.9	49.2
37	34.6	34.2	36.4	33.8	35.6	26.8	26.8	26.8	26.9	26.6	47.2	47.8	49.3	54.0	51.3
38	34.3	33.8	33.8	36.2	36.4	26.9	26.7	26.9	26.6	26.8	52.3	48.0	50.8	52.4	52.7
39	36.5	34.1	34.0	36.5	34.0	26.9	26.8	26.9	26.9	26.6	54.2	51.7	47.7	49.6	49.2
40	34.2	33.9	35.6	34.0	35.6	26.4	26.9	26.5	26.9	26.8	46.0	47.7	48.8	49.8	51.7
41	36.5	33.8	33.9	36.2	36.5	26.9	26.7	26.9	26.8	26.3	49.7	47.7	52.4	51.7	49.4
42	36.4	34.2	36.5	36.3	36.2	26.8	26.8	26.8	26.9	26.4	52.5	49.1	50.4	47.7	47.2
43	36.1	33.8	36.5	34.0	34.8	26.1	26.8	26.8	26.8	26.8	50.2	48.9	49.4	48.9	47.8
44	36.4	34.1	35.8	34.1	35.8	26.8	26.8	26.9	26.7	26.9	46.5	51.2	53.1	51.1	49.3
45	36.3	35.0	35.7	35.0	33.9	26.7	26.8	26.9	26.8	26.9	51.9	50.3	52.1	51.9	54.0
46	35.0	34.2	33.8	36.1	35.5	26.9	26.8	26.4	26.9	26.5	51.5	49.7	52.7	51.5	51.3
47	35.7	34.3	33.9	33.7	36.5	26.9	26.8	26.4	26.9	26.5	49.9	48.1	52.1	49.9	52.5
48	36.1	33.8	35.8	36.1	36.0	26.9	26.8	26.4	26.9	26.5	51.0	49.8	53.1	48.9	49.1
49	35.0	34.0	33.7	34.9	36.4	26.9	26.8	26.4	26.9	26.5	52.2	47.6	50.3	51.2	50.4
50	34.5	33.8	36.4	36.4	34.0	26.9	26.8	26.4	26.9	26.5	46.1	51.8	49.1	50.3	47.7
Mean =	35.3					Mean =	26.7				Mean =	50.4			
S . D . =	1.58					S . D . =	0.52				S . D . =	1.58			

ranged from 46.1 μm to 54.9 μm with an avarage value 50.4 μm ± 1.58.

- Group 7 :

The body weight (Table 1).

- The control animals, it was found that the body weights ranged from 352 g to 378 g with a mean value of 368 g ± 11.5.

The body weight increased by about 47.83 % than the control of the previous group which was of a significant value.

- The control injected with hormones solvents :

- Olive oil, it was found that the body weights ranged from 345 g to 378 g with a mean value of 363 g ± 13.00.

- Distilled water, it was found that the body weights ranged from 349 g to 380 gwith a mean value 369 g ± 10.5.

- Olive oil and distilled water, it was found that the body weights ranged from 350 g to 382 gwith a mean value 370 g ± 11.5.

- Testosterone injections, it was found that the body weights ranged from 373 g to 418 g with a mean value 393.3 g ± 17.8.

The body weight increased by 6.36 % than the control of the samegroup which was of a significant value.

- Thyroxine injections, it was found that the body weights ranged from 399 g to 421 g with a mean value 410 g ± 9.2.

The body weight increased by 10.24 % than the control of the same group which is of a significant value.

- Combined injections, it was found that the body weights ranged from 408 gto 431 g with a mean value 425 g ± 8.18.

The body weight increased by 13.41 % than the control of the same group which was of a significant value.

The glandular weight (Table 2)

- The control animal, the weights of the glands ranged from 784 mg to 802.1 mg with a mean value 793.9mg ± 7.85.

The glandular weight increased by about 20.41 % than the control of the previous group which was of a significant value.

- The control injected with hormones solvents :

- Olive oil, the weights of the glands ranged from 781 mg to 800.8 mg with a mean value 791.9mg ± 10.1.

- Distilled water. the weights of the glands ranged from 776.4 mg to 797.1 mg with a mean value 785.7 mg ± 10.5.

- Olive oil and distilled water, the weights of the glands ranged from 789.3 mg to 808.7 mg with a mean value 797.9 mg ± 9.98.

- Testosterone injections, the weights of the glands ranged from 823 mg to 842.2 mg with a mean value 832.5 mg ± 11.9.

The glandular weight increased by 4.64 % than the control of the samegroup which of a significant value.

- Thyroxine injections, the weights of the glands ranged from 828.7 mg to 855.4 mg with a mean value of 836.1 mg and ± 6.77.

The glandular weight increased by 5.05 % than the control of the same group.

- Combined injections, the weights of the glands ranged from 832.3 mg to 852.9 mg with a mean value 849.5 mg ▪ 11.1. The glandular weight increased by 6.55 % than the control of the same group which was of a significant values.

Histological and histochemical observations :

The picture was similar to the previous group in all the animals.

Quantitative observations :

- The control animal (Table 46), the diameters of the striated ducts were ranged from 29.0um to 40.0 μm with an avarage value 35.3 μm ± 1.875

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.5 μm ± 0.42.

The diameters of the granular convoluted tubules were ranged from 36.0 μm to 51.1 μm with an avarage value 44.6 μm ± 1.92.

The control injected with hormones solvents :

- Olive oil (Table 47), the diameters of the striated ducts were ranged from 28.6um to 41.0 μm with a mean value of 35.1 μm ± 1.32

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.5 μm ± 0.43.

The diameters of the granular convoluted tubules were

(Table 46) showing the diameters of striated ducts, acini and GCTs in control animals (A1 of group 7

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	36.1	32.8	40.0	39.3	32.4	26.7	26.9	26.7	26.9	26.8	44.1	43.9	40.1	44.1	47.2
2	36.0	35.0	39.9	38.8	32.2	26.9	26.9	26.9	26.8	26.9	43.9	44.2	44.7	44.5	49.2
3	36.1	34.9	35.6	39.6	32.4	26.9	26.8	26.9	26.9	26.8	44.1	43.2	42.9	41.1	47.1
4	36.0	32.5	33.7	39.0	31.3	26.8	26.8	26.8	26.9	26.9	43.9	44.0	40.7	45.6	44.3
5	36.2	33.6	39.0	38.1	31.4	26.9	26.9	26.9	26.8	26.8	44.2	43.1	44.2	41.3	42.1
6	36.9	37.4	35.6	37.5	32.4	26.9	26.4	26.9	26.9	26.9	45.0	44.0	45.2	47.5	41.2
7	36.3	35.2	37.8	39.6	33.5	26.4	26.9	26.4	26.8	26.8	44.3	42.3	43.2	42.5	43.8
8	36.2	38.7	37.0	39.4	32.6	26.9	26.7	26.9	26.9	26.8	44.2	42.3	46.3	43.2	43.2
9	36.6	36.8	33.0	39.5	32.5	26.8	26.7	26.8	26.8	26.9	44.6	46.1	44.6	37.5	45.2
10	36.3	32.9	32.9	39.3	35.2	26.1	26.8	26.1	26.9	26.9	44.3	42.3	40.2	43.5	44.7
11	36.1	36.9	33.2	37.6	30.7	26.8	26.8	26.8	26.8	26.6	44.1	41.1	44.7	49.8	41.5
12	34.3	33.3	40.0	34.6	32.4	26.7	26.9	26.7	26.9	26.9	42.0	44.1	41.5	45.6	42.0
13	37.6	34.4	37.8	36.1	30.1	26.9	26.6	26.9	26.8	26.8	45.8	47.1	41.7	48.7	40.7
14	34.3	35.2	36.8	38.9	34.2	26.9	26.8	26.8	26.9	26.9	40.9	41.2	43.2	42.1	44.2
15	35.1	33.5	36.7	38.5	32.6	26.5	26.9	26.8	26.9	26.9	42.9	46.2	40.1	45.6	45.2
16	36.3	32.8	40.0	39.5	31.1	26.9	26.8	26.9	26.9	26.9	44.3	42.1	41.2	43.8	43.2
17	37.1	32.9	39.9	39.5	34.7	26.5	26.9	26.7	26.9	26.9	45.2	41.2	44.8	49.1	46.3
18	37.9	37.0	37.2	38.5	35.3	26.9	26.5	26.8	26.8	26.9	46.2	47.2	42.8	44.8	44.6
19	35.3	34.7	35.7	36.4	30.7	26.5	26.9	26.8	26.7	26.7	43.1	36.8	44.2	46.5	40.2
20	35.1	35.5	34.6	39.6	34.3	26.8	26.5	26.9	26.9	26.8	42.9	42.9	41.1	42.3	44.7
21	38.4	32.8	37.0	37.9	34.2	26.7	26.8	26.9	26.9	26.6	46.8	48.5	45.8	46.9	41.5
22	36.0	38.1	37.1	39.3	33.6	26.8	26.7	26.8	26.9	26.8	43.9	42.1	40.0	43.9	41.7
23	34.8	32.7	38.8	38.8	31.1	26.9	26.8	26.9	26.9	26.6	42.6	41.5	45.2	45.0	43.2
24	34.4	34.9	40,0	36.9	32.6	26.7	26.9	26.7	26.8	26.3	42.1	40.1	36.0	42.8	40.1
25	40.0	34.6	39.7	38.3	31.3	26.5	26.7	26.9	26.9	26.4	41.9	41.2	42.7	44.6	41.2
26	37.3	33.1	36.9	36.4	32.2	26.8	26.8	26.7	26.9	26.9	45.9	43.1	41.3	44.6	44.8
27	37.6	32.9	35.9	40.0	29.7	26.9	26.8	26.8	26.9	26.9	45.8	41.7	41.2	47.9	42.8
28	37.1	35.5	38.8	38.1	36.9	26.6	26.9	26.8	26.8	26.8	45.2	42.6	43.5	46.2	44.2
29	35.1	33.3	36.4	39.0	30.2	26.5	26.6	26.9	26.9	26.8	42.9	40.2	40.5	43.2	41.1
30	40.0	34.6	37.7	39.0	36.8	26.9	26.5	26.9	26.9	26.9	48.9	43.6	42.7	46.3	45.8
31	37.4	32.8	40.0	39.4	37.0	26.8	26.9	26.9	26.9	26.7	46.4	45.1	40.1	42.6	40.0
32	36.0	32.5	39.0	38.0	36.8	26.7	26.8	26.8	26.9	26.8	43.9	40.5	40.7	44.5	45.2
33	33.8	34.4	36.0	37.9	31.2	26.9	26.7	26.8	26.9	26.8	43.8	42.1	42.5	42.8	36.0
34	40.0	33.7	37.9	38.3	29.0	26.5	26.5	26.7	26.9	26.9	43.9	42.0	43.6	45.2	42.7
35	33.8	32.8	38.8	39.6	36.8	26.9	26.9	26.9	26.8	26.8	45.5	40.2	41.1	42.6	43.9
36	34.2	35.5	40.0	39.6	31.8	26.9	26.9	26.9	26.9	26.9	44.9	42.4	43.5	47.1	41.9
37	34.4	32.9	40.0	36.9	34.0	26.8	26.8	26.8	26.9	26.9	42.8	46.2	40.2	43.6	43.6
38	34.2	32.5	37.8	39.4	37.0	26.7	26.7	26.9	26.9	26.8	46.3	43.1	40.4	46.9	45.1
39	39.8	32.8	38.0	39.6	29.3	26.9	26.9	26.8	26.9	26.9	48.9	42.2	44.1	42.9	40.5
40	34.1	32.6	39.6	37.1	33.0	26.8	26.8	26.9	26.9	26.7	42.9	40.1	40.5	46.9	42.1
41	35.8	32.5	37.9	39.4	31.8	26.9	26.9	26.9	26.9	26.9	43.7	41.7	41.5	46.8	42.0
42	35.9	32.9	40.0	39.5	34.0	26.7	26.7	26.8	26.9	26.9	36.5	44.2	42.1	42.9	44.5
43	38.2	32.5	40.0	37.5	30.1	26.9	26.9	26.9	26.9	26.8	44.8	44.9	41.3	47.9	41.3
44	40.0	32.8	39.8	37.6	33.0	26.7	26.9	26.9	26.9	26.9	43.9	42.9	43.6	49.7	42.9
45	40.0	34.0	39.7	36.6	29.2	26.9	26.7	26.9	26.9	26.8	45.9	42.5	42.7	45.6	45.2
46	34.7	32.9	37.8	39.3	30.9	26.6	26.8	26.8	26.8	26.9	48.9	42.3	42.1	38.3	47.1
47	35.2	33.2	36.6	34.4	35.3	26.8	26.8	26.9	26.8	26.8	43.9	43.3	40.7	47.9	40.7
48	36.0	32.5	39.8	39.3	36.8	26.8	26.8	26.9	26.8	26.9	46.9	47.4	42.2	43.5	42.4
49	34.7	32.7	37.6	38.2	34.0	26.7	26.8	26.9	26.8	26.8	47.5	45.7	40.0	45.8	42.1
50	34.3	32.5	40.0	39.6	29.3	26.8	26.8	26.9	26.8	26.8	42.7	41.7	44.2	48.8	42.5
	Mean = 35.3					Mean = 26.5					Mean = 44.6				
	S . D . = 1.88					S . D . = 0.42					S . D . = 1.92				

(Table 47) showing diameters of striated duct, acini, and GCTs in control animals injected with olive oil in group 7

No.	STRIATED DUCT			ACINI			GCT		
	A1	A2	A3	A1	A2	A3	A1	A2	A3
1	29.4	32.0	40.3	26.5	26.9	26.3	37.1	41.6	39.5
2	31.3	31.8	39.8	26.3	26.6	26.7	37.9	45.9	50.0
3	31.2	32.0	40.6	26.7	26.5	26.8	38.2	45.2	50.1
4	29.1	30.9	40.0	26.7	26.8	26.6	38.4	46.4	49.5
5	30.1	31.0	39.1	26.8	26.9	26.7	36.8	43.2	49.1
6	33.5	32.0	38.5	26.3	26.4	26.3	50.9	43.9	45.8
7	31.5	33.1	40.6	26.7	26.5	26.7	50.0	43.8	42.7
8	34.6	32.2	40.4	26.9	26.9	26.7	45.8	43.7	42.9
9	32.9	32.1	40.5	26.4	26.9	26.4	44.9	48.9	45.9
10	29.5	34.8	40.3	26.1	26.2	26.3	43.2	50.9	46.0
11	33.0	30.3	38.6	26.8	26.9	26.9	46.1	49.1	48.1
12	29.8	32.0	35.6	26.7	26.8	26.9	47.9	48.2	42.6
13	30.8	29.7	37.1	26.9	26.5	26.9	45.2	46.7	46.7
14	31.5	33.8	39.9	26.8	26.4	26.5	38.9	46.7	48.9
15	30.0	32.2	39.5	26.6	26.7	26.1	40.0	48.0	41.0
16	29.4	30.7	40.5	26.9	26.8	26.6	40.1	42.0	45.9
17	29.5	34.3	40.5	26.5	26.3	26.7	40.9	42.9	48.3
18	33.1	34.9	39.5	26.9	26.4	26.7	41.1	43.1	50.2
19	31.1	30.3	37.4	26.5	26.9	26.5	44.9	43.5	37.9
20	31.8	33.9	40.6	26.8	26.8	26.9	42.5	44.4	50.0
21	29.4	33.8	38.9	26.7	26.1	26.9	43.1	44.6	46.0
22	34.1	33.2	40.3	26.8	26.8	26.2	47.8	46.0	49.1
23	29.3	30.7	39.8	26.9	26.7	26.7	47.9	41.0	49.0
24	31.2	32.2	37.9	26.7	26.9	26.4	48.1	44.8	46.3
25	31.0	30.9	39.3	26.7	26.4	26.5	48.2	44.9	46.1
26	29.6	31.8	37.4	26.8	26.9	26.9	48.9	45.0	41.8
27	29.5	29.3	41.0	26.9	26.8	26.9	47.2	47.2	48.6
28	31.8	36.5	39.1	26.9	26.1	26.8	49.1	46.5	44.1
29	29.8	29.8	40.0	26.5	26.8	26.4	45.9	46.9	42.9
30	31.0	36.4	40.0	26.9	26.7	26.3	42.1	41.9	41.0
31	29.4	36.6	40.4	26.8	26.9	26.7	43.8	48.0	45.2
32	29.1	36.4	39.0	26.7	26.8	26.2	47.1	47.2	48.2
33	30.8	30.8	38.9	26.9	26.9	26.4	47.9	45.0	46.9
34	30.2	28.6	39.3	26.9	26.9	26.5	47.8	45.9	50.0
35	29.4	36.4	40.6	26.5	26.6	26.9	47.6	45.7	39.5
36	31.8	31.4	40.6	26.9	26.8	26.9	48.1	45.3	44.0
37	29.5	33.6	37.9	26.8	26.9	26.7	48.2	44.9	39.5
38	29.1	36.6	40.4	26.7	26.8	26.9	49.1	46.1	44.2
39	29.4	28.9	40.6	26.7	26.8	26.6	47.0	46.0	41.6
40	29.2	32.6	38.1	26.6	26.7	26.9	39.8	41.0	50.0
41	29.1	31.4	40.4	26.8	26.9	26.8	38.1	45.9	41.6
42	29.5	33.6	40.5	26.9	26.9	26.5	42.5	47.5	45.9
43	29.1	29.7	38.5	26.5	26.6	26.9	43.3	48.2	48.2
44	29.4	32.6	38.6	26.9	26.9	26.1	44.5	42.8	50.0
45	30.4	28.8	37.6	26.9	26.1	26.9	44.9	43.0	43.1
46	29.5	30.5	40.3	26.3	26.4	26.4	43.8	43.6	40.8
47	29.7	34.9	35.4	26.7	26.8	26.8	36.8	41.9	38.7
48	29.1	36.4	40.3	26.7	26.8	26.9	41.8	38.5	45.1
49	29.3	33.6	39.2	26.9	26.9	26.9	40.5	38.9	47.8
50	29.1	28.9	40.6	26.8	26.9	26.9	42.9	39.0	39.1
	Mean = 35.1			Mean = 26.5			Mean = 44.9		
	S.D. = 1.32			S.D. = 0.43			S.D. = 1.85		

(Table 52) showing the diameters of striated ducts, acini and GCTs in combined animals (A) of group 7

No.	STRIATED DUCTS					ACINI					GCT				
	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	36.3	34.0	36.6	36.9	37.4	26.9	26.8	26.9	26.7	26.9	58.8	57.7	53.3	58.2	57.2
2	36.1	35.4	37.1	36.5	37.2	26.9	26.9	26.8	26.7	26.8	58.5	57.6	54.0	57.7	57.0
3	36.3	35.3	37.0	37.1	37.4	26.8	26.8	26.1	26.8	26.1	58.8	57.3	57.0	58.5	57.2
4	36.1	33.8	35.2	36.6	36.3	26.9	26.9	26.8	26.8	26.8	58.2	57.6	55.1	58.0	57.0
5	36.4	34.5	33.9	35.8	36.4	26.8	26.8	26.7	26.9	26.7	58.8	57.2	58.7	56.9	57.3
6	37.1	37.0	34.0	35.3	37.4	26.9	26.8	26.9	26.6	26.9	59.6	58.4	57.0	59.3	58.1
7	36.5	35.6	34.5	37.1	37.6	26.8	26.9	26.9	26.8	26.8	58.9	57.7	59.2	58.5	57.4
8	36.4	37.4	34.0	36.9	37.7	26.9	26.9	26.5	26.9	26.8	58.8	57.6	58.4	58.3	57.3
9	36.8	36.6	37.1	37.0	37.5	26.8	26.6	26.9	26.8	26.9	58.2	58.0	57.0	58.4	57.7
10	36.5	34.1	36.0	36.9	37.5	26.9	26.9	26.5	26.9	26.7	58.9	57.7	53.0	58.2	57.4
11	36.3	36.7	34.0	35.4	35.7	26.8	26.8	26.9	26.5	26.8	58.7	57.5	59.3	56.4	57.2
12	34.4	34.3	36.2	34.0	37.4	26.9	26.9	26.5	26.9	26.8	56.6	55.4	55.2	57.8	55.1
13	37.4	35.1	35.0	34.1	35.0	26.9	26.9	26.8	26.5	26.9	60.4	59.2	58.2	57.8	58.9
14	34.4	35.6	36.3	36.5	36.8	26.9	26.9	26.7	26.8	26.9	55.5	54.3	58.1	57.4	56.2
15	35.2	34.5	33.9	36.2	37.7	26.9	26.9	26.8	26.7	26.8	59.8	56.3	55.1	58.4	56.0
16	36.5	34.0	35.6	37.0	36.0	26.8	26.9	26.9	26.8	26.9	57.5	57.7	53.3	58.4	58.3
17	37.3	34.1	36.4	37.0	37.1	26.7	26.7	26.7	26.9	26.7	58.9	58.6	59.0	58.4	58.4
18	37.7	36.7	36.0	36.2	36.7	26.9	26.8	26.5	26.7	26.9	59.8	59.6	57.1	57.4	59.3
19	35.4	35.3	35.0	34.4	35.7	26.9	26.6	26.8	26.8	26.7	60.8	56.5	56.0	57.4	56.2
20	35.2	35.8	34.7	37.1	36.8	26.9	26.8	26.9	26.8	26.8	57.7	56.3	57.7	58.5	56.0
21	37.6	34.0	36.9	35.7	36.8	26.9	26.6	26.6	26.9	26.8	57.6	60.2	56.4	56.7	56.9
22	36.1	37.5	36.4	36.9	34.9	26.8	26.3	26.5	26.6	26.9	61.4	57.3	55.1	58.2	59.9
23	34.9	33.9	36.7	36.5	36.0	26.9	26.4	26.9	26.5	26.9	58.5	56.0	57.9	57.7	57.0
24	34.5	35.3	36.6	34.8	37.7	26.9	26.9	26.8	26.9	26.9	57.2	55.5	57.7	55.7	55.7
25	37.0	35.2	35.7	36.1	36.3	26.9	26.9	26.7	26.8	26.8	56.7	55.3	58.3	57.2	55.2
26	37.6	34.2	36.7	34.4	37.2	26.8	26.8	26.9	26.7	26.8	56.5	59.3	57.6	58.1	59.0
27	37.7	34.1	35.0	37.7	34.5	26.9	26.8	26.5	26.5	26.7	60.5	59.2	57.4	59.2	58.9
28	37.3	35.8	35.7	35.8	37.6	26.9	26.9	26.9	26.9	26.9	60.4	58.6	55.7	56.9	58.3
29	35.2	34.3	34.0	36.6	35.1	26.9	7.0	26.9	26.9	26.9	59.8	56.3	59.1	58.0	56.0
30	37.6	35.2	33.9	36.6	36.7	26.9	26.8	26.8	26.8	26.8	57.5	59.8	56.6	57.9	57.7
31	37.7	34.0	36.9	36.9	36.9	26.9	26.8	26.7	26.7	26.9	63.5	62.3	58.6	58.3	56.4
32	36.1	33.8	35.7	35.7	37.4	26.9	26.9	26.9	26.9	26.8	63.8	57.3	57.4	56.8	57.0
33	33.8	35.1	34.2	35.7	36.1	26.8	26.8	26.8	26.8	26.9	61.8	57.2	59.1	58.5	56.7
34	37.0	34.6	34.6	36.1	33.8	26.9	26.9	26.9	26.9	26.9	61.0	57.3	58.7	58.5	57.0
35	33.8	34.0	35.0	37.1	37.0	26.9	26.9	26.7	26.7	26.8	58.5	55.5	59.0	58.5	55.2
36	34.3	35.8	36.7	37.1	36.8	26.9	26.8	26.9	26.9	26.9	58.4	55.4	58.8	58.4	55.1
37	34.5	34.1	36.7	34.8	37.0	26.9	26.9	26.7	26.9	26.9	58.4	54.6	58.4	58.3	56.2
38	34.3	33.8	35.6	36.9	36.8	26.9	26.7	26.9	26.7	26.9	56.7	59.7	59.4	58.5	59.4
39	36.8	34.0	34.0	37.2	34.2	26.9	26.9	26.6	26.8	26.8	56.6	61.4	58.2	56.9	57.8
40	34.2	33.9	34.9	35.0	37.0	26.9	26.9	26.8	26.8	26.9	55.8	53.4	56.0	58.3	55.3
41	35.9	33.8	34.0	36.9	36.8	26.9	26.8	26.8	26.8	26.9	60.9	57.1	56.8	58.5	56.8
42	36.0	34.1	36.7	37.0	37.0	26.9	26.9	26.7	26.8	26.9	62.8	59.9	59.5	58.3	55.7
43	37.6	33.8	36.9	35.3	35.0	26.9	26.8	26.8	26.8	26.9	54.6	57.6	56.0	58.3	57.2
44	37.5	34.0	35.3	35.4	37.1	26.9	26.9	26.9	26.7	26.8	58.3	53.9	59.2	59.4	56.7
45	37.5	34.8	35.1	34.6	34.0	26.8	26.8	26.8	26.9	26.8	61.1	59.3	55.0	58.4	59.0
46	34.7	34.1	34.5	36.9	35.8	26.9	26.7	26.8	26.9	26.9	58.8	58.9	57.8	58.4	58.6
47	35.3	34.2	34.0	34.0	36.6	26.8	26.8	26.8	26.9	26.7	57.9	57.3	57.4	58.2	55.8
48	36.1	33.8	35.3	36.9	37.1	26.8	26.9	26.9	26.9	26.9	60.5	58.4	59.0	57.0	55.1
49	34.7	33.9	34.0	36.0	37.0	26.8	26.8	26.8	26.9	26.9	60.1	59.3	58.8	58.2	57.2
50	34.4	33.8	36.9	37.1	34.2	26.9	26.8	26.8	26.8	26.9	58.8	53.5	59.4	57.1	56.9
	Mean = 35.0					Mean = 26.6					Mean = 57.7				
	S . D . = 1.82					S . D . = 0.62					S . D . = 1.52				

ranged from 36.8 μm to 50.9 μm with an avarage value of 44.9 μm ± 1.85.

- Distilled water (Table 48), the diameters of the striated ducts were ranged from 28.0 μm to 41.7 μm with an avarage value of 35.5 μm ± 2.15

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with an avarage value of 26.5 μm ± 0.69.

The diameters of the granular convoluted tubules were ranged from 35.3 μm to 48.9 μm with an avarage value 45.3 μm ± 1.32.

- Olive oil and distilled water (Table 49), the diameters of the striated ducts were ranged from 30.1 μm to 40.7 μm with a mean value of 35.4 μm ± 1.95.

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value 26.6 μm ± 0.75.

The diameters of the granular convoluted tubules were ranged from 36.6 μm to 52.9 μm with a mean value of 43.8 ± .97.

- Testosterone injections (Table 50), the diameters of the striated ducts were ranged from 30.5 μm to 38.9 μm with an avarage value of 35.1 μm ± 1.23

The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.6 μm ± o.61.

The diameters of the granular convoluted tubules were ranged from 41.1 μm to 59.1 μm with an avarage value 49.8 μm ± 1.596.

- Thyroxine injections (Table 51), the diameters of the striated ducts were ranged from 33.9 μm to 38.4 μm with a

(Table 48) showing diameters of striated duct, acini, and GCTs in control animals injected with D.W. in group 7

No.	STRIATED DUCT A1	A2	A3	ACINI A1	A2	A3	GCT A1	A2	A3
1	33.5	41.0	31.4	26.1	26.3	26.9	39.5	46.2	37.5
2	35.7	40.5	31.2	26.7	26.8	26.7	44.5	41.3	41.0
3	35.6	41.3	31.4	26.9	26.8	26.4	41.1	41.9	40.5
4	33.2	40.7	30.3	26.5	26.6	26.9	41.0	45.0	40.5
5	34.3	39.8	30.4	26.9	26.7	26.6	46.8	42.9	46.0
6	38.1	39.2	31.4	26.9	26.3	26.3	48.9	42.6	48.0
7	35.9	41.3	32.5	26.2	26.7	26.5	45.0	44.0	45.2
8	39.4	41.1	31.6	26.6	26.9	26.1	45.6	48.3	42.6
9	37.5	41.2	31.5	26.6	26.9	26.9	42.8	37.7	42.9
10	33.6	41.0	34.2	26.8	26.8	26.5	48.2	39.0	41.7
11	37.6	39.3	29.7	26.6	26.9	26.9	39.5	40.9	41.2
12	34.0	36.3	31.4	26.5	26.9	26.8	36.9	45.6	40.9
13	35.1	37.8	29.1	26.2	26.9	26.6	44.6	42.6	43.5
14	35.9	40.6	33.2	26.1	26.9	26.5	44.3	48.1	45.9
15	34.2	40.2	31.6	26.4	26.9	26.7	42.9	45.6	45.7
16	33.5	41.2	30.1	26.5	26.6	26.3	41.9	41.0	45.7
17	33.6	41.2	33.7	26.1	26.7	26.7	41.7	48.0	48.2
18	37.7	40.2	34.3	26.1	26.7	26.9	45.2	45.5	41.9
19	35.4	38.1	29.7	26.6	26.5	26.7	41.3	46.9	43.8
20	36.2	41.3	33.3	26.5	26.9	26.9	42.9	42.9	45.0
21	33.5	39.6	33.2	26.8	26.9	26.7	39.5	41.6	43.6
22	38.8	41.0	32.6	26.5	26.7	26.8	44.7	43.0	42.0
23	33.4	40.5	30.1	26.4	26.7	26.7	46.5	46.7	44.4
24	35.6	38.6	31.6	26.6	26.9	26.9	47.0	45.1	44.9
25	35.3	40.0	30.3	26.1	26.9	26.9	48.1	48.3	46.2
26	33.8	38.1	31.2	26.6	26.9	26.9	39.9	44.4	41.3
27	33.6	41.7	28.7	26.5	26.9	26.9	40.5	42.5	35.9
28	36.2	39.8	35.9	26.8	26.8	26.5	46.2	43.6	39.1
29	34.0	40.7	29.2	26.5	26.8	26.9	35.3	47.0	40.0
30	35.3	40.7	35.8	26.4	26.4	26.9	38.0	46.5	41.9
31	33.5	41.1	36.0	26.6	26.7	26.9	45.6	41.3	45.2
32	33.2	39.7	35.8	26.5	26.2	26.1	44.8	43.6	45.0
33	35.1	39.6	30.2	26.6	26.6	26.8	41.6	45.2	41.6
34	34.4	40.0	28.0	26.6	26.5	26.9	44.0	44.0	42.6
35	33.5	41.3	35.8	26.3	26.9	26.8	45.2	45.2	42.4
36	36.2	41.3	30.8	26.5	26.9	26.9	45.9	46.2	46.1
37	33.6	38.6	33.0	26.6	26.9	26.9	47.0	46.0	43.8
38	33.2	41.1	36.0	26.5	26.9	26.8	46.6	41.3	38.8
39	33.5	41.3	28.3	26.5	26.6	26.8	44.9	39.9	39.2
40	33.3	38.8	32.0	26.4	26.8	26.6	46.9	38.2	40.0
41	33.2	41.1	30.8	26.6	26.8	26.9	48.0	45.6	40.0
42	33.6	41.2	33.0	26.6	26.5	26.9	41.8	44.3	40.5
43	33.2	39.2	29.1	26.3	26.9	26.9	41.1	44.1	46.2
44	33.5	39.3	32.0	26.6	26.1	26.8	45.0	44.9	42.9
45	34.7	38.3	28.2	26.8	26.9	26.6	46.8	41.3	41.5
46	33.6	41.0	29.9	26.1	26.4	26.6	44.6	41.9	41.5
47	33.9	36.1	34.3	26.5	26.8	26.9	48.0	48.0	47.2
48	33.2	41.0	35.8	26.5	26.9	26.1	43.3	36.8	44.4
49	33.4	39.9	33.0	26.6	26.9	26.9	42.4	39.0	44.0
50	33.2	41.3	28.3	26.6	26.9	26.9	46.6	46.8	45.6
	Mean = 35.5 S.D. = 2.15			Mean = 26.5 S.D. = 0.69			Mean = 45.3 S.D. = 1.32		

(Table 49) showing diameters of striated duct, acini, and GCTs in control animals injected with oil + D.W in group 7

No.	STRIATED DUCT			ACINI			GCT		
	A1	A2	A3	A1	A2	A3	A1	A2	A3
1	33.5	31.9	40.0	26.9	26.9	26.8	45.9	44.3	44.2
2	33.3	34.1	39.5	26.2	26.9	26.9	40.5	45.1	48.2
3	33.5	34.0	40.3	26.9	26.7	26.9	42.9	41.9	41.0
4	32.4	31.6	39.7	26.9	26.5	26.8	50.5	49.1	42.8
5	32.5	32.7	38.8	26.3	26.6	26.5	39.4	48.5	39.2
6	33.5	36.5	38.2	26.6	26.2	26.9	45.3	40.6	36.9
7	34.6	34.3	40.3	26.9	26.6	26.4	46.0	40.5	41.8
8	33.7	37.8	40.1	26.9	26.9	26.2	42.8	40.0	50.6
9	33.6	35.9	40.2	26.9	26.8	26.8	47.6	42.8	51.2
10	36.3	32.0	40.0	26.2	26.9	26.9	52.1	46.5	48.6
11	31.8	36.0	38.3	26.9	26.8	26.8	50.0	48.0	44.1
12	33.5	32.4	35.3	26.8	26.8	26.7	44.6	47.9	43.8
13	31.2	33.5	36.8	26.5	26.8	26.5	46.9	42.6	44.9
14	35.3	34.3	39.6	26.4	26.9	26.4	43.6	38.8	46.3
15	33.7	32.6	39.2	26.7	26.9	26.6	45.8	39.6	43.4
16	32.2	31.9	40.2	26.8	26.5	26.2	48.7	43.3	47.2
17	35.8	32.0	40.2	26.3	26.6	26.9	50.9	43.9	43.7
18	36.4	36.1	39.2	26.4	26.6	26.8	40.5	45.0	50.4
19	31.8	33.8	37.1	26.9	26.9	26.9	38.2	48.1	40.0
20	35.4	34.6	40.3	26.8	26.8	26.8	36.6	40.2	46.5
21	35.3	31.9	38.6	26.1	26.8	26.9	40.9	45.8	48.5
22	34.7	37.2	40.0	26.8	26.9	26.7	42.0	46.1	48.1
23	32.2	31.8	39.5	26.7	26.6	26.6	41.8	41.6	45.0
24	33.7	34.0	37.6	26.9	26.8	26.9	48.5	42.9	45.0
25	32.4	33.7	39.0	26.4	26.9	26.9	49.9	50.0	47.5
26	33.3	32.2	37.1	26.9	26.8	26.8	52.9	50.5	46.8
27	30.8	32.0	40.7	26.8	26.8	26.8	44.6	42.6	48.1
28	38.0	34.6	38.8	26.1	26.7	26.4	48.5	48.2	48.1
29	31.3	32.4	39.7	26.8	26.9	26.9	45.6	45.6	46.9
30	37.9	33.7	39.7	26.7	26.9	26.8	46.3	49.2	40.6
31	38.1	31.9	40.1	26.9	26.6	26.8	43.5	48.0	39.7
32	37.9	31.6	38.7	26.8	26.1	26.1	42.0	42.9	47.7
33	32.3	33.5	38.6	26.9	26.9	26.7	47.7	43.8	46.0
34	30.1	32.8	39.0	26.9	26.4	26.8	49.0	44.4	49.1
35	37.9	31.9	40.3	26.6	26.8	26.9	47.6	48.1	45.7
36	32.9	34.6	40.3	26.8	26.8	26.9	41.3	50.5	44.4
37	35.1	32.0	37.6	26.9	26.9	26.8	42.5	49.1	44.0
38	38.1	31.6	40.1	26.8	26.9	26.7	46.2	41.8	41.0
39	30.4	31.9	40.3	26.8	26.5	26.7	41.9	41.2	46.2
40	34.1	31.7	37.8	26.7	26.9	26.5	50.4	44.6	46.1
41	32.9	31.6	40.1	26.9	26.7	26.9	49.2	43.9	44.6
42	35.1	32.0	40.2	26.9	26.4	26.9	44.9	46.9	42.8
43	31.2	31.6	38.2	26.6	26.8	26.8	43.6	47.1	41.9
44	34.1	31.9	38.3	26.9	26.1	26.7	46.9	42.8	45.0
45	30.3	33.1	37.3	26.1	26.8	26.5	45.0	44.4	48.2
46	32.0	32.0	40.0	26.4	26.3	26.5	42.8	46.8	50.2
47	36.4	32.3	35.1	26.8	26.7	26.9	47.6	42.8	41.6
48	37.9	31.6	40.0	26.8	26.8	26.1	47.0	44.6	48.6
49	35.1	31.8	38.9	26.9	26.8	26.9	45.8	48.1	44.1
50	30.4	31.6	40.3	26.9	26.9	26.9	45.1	44.4	46.3
	Mean = 35.4			Mean = 26.6			Mean = 43.0		
	S.D. = 1.95			S.D. = 0.75			S.D. = 0.97		

(Table 50) showing the diameters of striated ducts, acini and GCTs in testosterone animals of group 7

	STRIATED DUCTS					ACINI					GCT				
No.	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	32.8	30.8	38.7	37.9	32.6	26.9	26.4	26.9	26.9	26.9	49.6	50.2	45.9	50.2	50.0
2	32.6	32.4	38.7	37.5	32.4	26.4	26.9	26.4	26.8	26.8	49.3	49.9	46.3	49.7	49.8
3	32.8	32.3	35.0	38.2	32.6	26.9	26.7	26.9	26.9	26.8	49.4	50.0	49.3	50.5	50.0
4	32.6	30.5	32.9	37.7	31.7	26.8	26.7	26.8	26.8	26.9	49.3	49.9	47.4	49.9	49.8
5	32.8	31.4	38.8	36.9	31.7	26.1	26.8	26.1	26.9	26.9	49.6	50.2	41.0	48.9	50.1
6	33.5	34.3	35.0	36.4	32.6	26.8	26.8	26.8	26.8	26.6	50.4	51.0	49.3	48.3	50.9
7	32.9	32.6	37.5	38.2	33.6	26.7	26.9	26.7	26.9	26.9	49.7	50.3	51.5	50.5	50.2
8	32.8	35.3	36.6	38.0	32.8	26.9	26.6	26.9	26.8	26.8	49.6	50.2	50.7	50.3	50.1
9	33.2	33.8	35.0	38.1	32.7	26.9	26.8	26.8	26.9	26.9	50.0	50.6	49.3	50.4	50.5
10	32.9	30.8	30.5	37.9	35.1	26.5	26.9	26.8	26.9	26.9	49.7	50.3	45.3	50.2	50.2
11	32.8	33.9	30.5	36.4	31.2	26.9	26.8	26.9	26.9	26.9	49.4	50.0	51.6	48.4	50.0
12	31.0	31.1	38.7	33.8	32.6	26.5	26.9	26.7	26.9	26.9	47.4	48.0	47.4	50.0	47.9
13	34.2	32.0	37.5	35.1	32.0	26.9	26.5	26.8	26.8	26.9	51.2	51.8	50.5	49.0	51.7
14	31.0	32.6	36.3	37.6	34.2	26.5	26.9	26.8	26.7	26.7	46.3	46.9	50.4	49.4	49.0
15	31.8	31.3	36.2	37.3	32.8	26.8	26.5	26.9	26.9	26.8	48.3	48.9	47.4	50.4	48.8
16	32.9	30.8	38.6	38.1	31.5	26.7	26.8	26.9	26.9	26.6	49.7	50.3	45.6	50.4	50.2
17	33.7	30.8	38.0	38.1	34.6	26.8	26.7	26.8	26.9	26.8	50.6	51.2	50.9	50.4	51.1
18	34.5	34.0	36.8	37.3	35.2	26.9	26.8	26.9	26.9	26.6	51.6	52.2	49.4	49.4	52.1
19	31.9	32.2	35.1	35.4	31.2	26.7	26.9	26.7	26.8	26.3	48.5	49.1	48.3	49.2	49.0
20	31.8	32.8	33.9	38.2	34.3	26.5	26.7	26.9	26.9	26.4	48.3	48.9	50.0	50.5	52.7
21	35.0	30.8	38.9	36.7	34.2	26.8	26.8	26.7	26.9	26.9	52.2	52.8	48.7	48.7	48.8
22	32.6	34.8	38.0	37.9	33.7	26.9	26.8	26.8	26.9	26.9	49.3	49.9	47.4	50.2	48.5
23	31.5	30.7	38.6	37.5	31.5	26.6	26.9	26.8	26.8	26.8	48.0	48.6	50.2	49.7	48.0
24	31.1	32.3	38.7	35.9	32.8	26.5	26.6	26.9	26.9	26.8	47.5	48.1	50.0	47.7	51.8
25	38.0	32.1	38.0	37.1	31.7	26.9	26.5	26.9	26.9	26.9	47.3	47.9	50.6	49.2	51.7
26	33.9	30.9	36.4	35.4	32.4	26.8	26.9	26.9	26.9	26.7	51.3	51.9	49.7	47.7	51.1
27	34.2	30.8	35.3	38.8	31.2	26.7	26.8	26.8	26.9	26.8	51.2	51.8	49.7	50.1	48.8
28	33.7	32.8	38.6	36.9	38.9	26.9	26.7	26.8	26.9	26.8	50.6	51.2	48.0	51.2	50.3
29	31.8	31.1	35.9	37.7	30.7	26.5	26.5	26.7	26.9	26.9	48.3	48.9	51.4	48.9	49.2
30	36.8	32.1	37.3	37.7	38.7	26.9	26.9	26.9	26.8	26.8	54.3	54.9	48.9	49.9	49.8
31	34.0	30.8	38.0	38.0	38.9	26.9	26.9	26.9	26.9	26.9	51.8	52.4	50.9	49.9	49.7
32	32.6	30.5	38.0	36.8	38.0	26.8	26.8	26.8	26.9	26.9	49.3	49.9	49.7	50.3	49.8
33	30.5	32.0	35.4	36.7	31.6	26.7	26.7	26.9	26.9	26.8	49.2	49.8	51.4	48.8	47.9
34	37.1	31.5	37.6	37.1	32.3	26.9	26.9	26.8	26.9	26.9	49.3	49.9	51.0	50.5	48.0
35	30.5	30.8	38.6	38.2	36.9	26.8	26.8	26.9	26.9	26.7	47.5	48.1	51.3	50.5	52.2
36	30.9	32.8	38.7	38.2	32.1	26.9	26.9	26.9	26.9	26.9	47.4	48.0	51.1	50.5	50.6
37	31.1	30.8	38.7	35.9	34.0	26.7	26.7	26.8	26.9	26.9	46.6	47.2	50.7	50.4	48.1
38	30.9	30.5	37.5	38.0	38.9	26.9	26.9	26.9	26.9	26.8	51.7	52.3	51.7	50.3	49.6
39	36.4	30.8	37.7	38.3	32.4	26.7	26.9	26.9	26.9	26.9	53.6	54.2	50.5	50.5	48.5
40	30.8	30.6	38.8	36.0	33.2	26.9	26.7	26.9	26.9	26.8	45.4	46.0	51.6	48.4	50.0
41	32.4	30.5	37.6	38.0	32.1	26.6	26.8	26.8	26.8	26.9	59.1	49.7	49.1	50.3	49.5
42	32.5	30.8	38.7	38.1	34.0	26.8	26.8	26.9	26.8	26.8	51.9	52.5	51.8	50.5	51.8
43	34.8	30.5	38.8	36.4	30.6	26.8	26.8	26.9	26.8	26.9	49.6	50.2	50.7	50.3	51.4
44	38.0	30.8	38.0	36.4	33.2	26.7	26.8	26.9	26.8	26.8	45.9	46.5	51.5	50.3	50.7
45	38.9	31.6	38.8	35.6	32.2	26.8	26.8	26.9	26.8	26.8	51.3	51.9	51.3	48.8	51.4
46	31.3	30.8	37.5	37.9	31.3	26.9	26.7	26.7	26.8	26.9	50.9	51.5	50.1	50.4	48.6
47	31.8	31.0	36.1	33.6	35.2	26.8	26.9	26.9	26.9	26.9	49.3	49.9	49.7	50.2	49.0
48	32.6	30.5	38.0	37.9	38.9	26.9	26.7	26.9	26.9	26.9	50.4	51.0	51.3	48.2	48.6
49	31.3	30.7	37.2	37.0	34.0	26.7	26.9	26.7	26.9	26.9	51.6	52.2	50.7	50.3	52.2
50	31.0	30.5	38.0	38.2	32.0	26.9	26.6	26.8	26.8	26.8	45.5	46.1	51.7	49.7	50.0
	Mean =		35.1			Mean =		26.6			Mean =		49.8		
	S . D . =		1.23			S . D . =		0.61			S . D . =		1.60		

(Table 51) showing the diameters of striated ducts, acini and GCTs in thyroxine animals (A) of group 7

	STRIATED DUCTS					ACINI					GCT				
No.	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5	A1	A2	A3	A4	A5
1	36.4	34.1	37.2	38.0	37.6	26.9	26.9	26.8	26.9	26.6	53.8	50.6	48.0	53.6	53.9
2	36.2	35.5	38.4	37.6	37.3	26.8	26.8	26.9	26.9	26.8	53.6	55.2	49.0	52.9	53.2
3	36.4	35.5	35.0	38.2	37.6	26.1	26.9	26.9	26.5	26.9	53.8	53.4	52.0	53.9	53.1
4	36.2	33.9	36.2	37.8	36.4	26.8	26.8	26.6	26.9	26.8	53.6	51.2	50.1	53.3	54.0
5	36.5	34.6	34.3	37.0	36.5	26.7	26.9	26.9	26.5	26.9	53.2	54.7	43.7	52.3	54.8
6	37.2	37.2	34.1	36.5	37.6	26.9	26.8	26.8	26.9	26.5	54.7	55.7	53.6	51.7	54.8
7	36.6	35.7	34.4	38.2	38.4	26.8	26.9	26.9	26.5	26.9	53.2	53.7	54.2	53.9	54.1
8	36.5	38.0	34.3	38.1	37.8	26.8	26.9	26.9	26.8	26.5	54.0	56.8	50.1	53.7	54.4
9	36.9	36.7	34.3	38.2	37.7	26.9	26.9	26.9	26.7	26.8	54.3	55.1	53.2	53.8	54.0
10	36.6	34.2	35.1	38.0	38.0	26.7	26.9	26.9	26.8	26.7	54.0	50.7	53.1	53.6	53.6
11	36.4	36.8	34.0	36.6	35.8	26.8	26.8	26.9	26.9	26.8	53.8	55.2	50.1	51.8	43.9
12	34.5	34.4	37.8	34.1	37.6	26.8	26.7	26.7	26.7	26.9	51.7	52.0	48.3	53.2	54.8
13	38.0	35.2	34.4	35.3	35.1	26.9	26.9	26.8	26.5	26.7	55.5	52.2	53.6	52.8	51.8
14	34.5	35.7	33.9	37.7	38.0	26.9	26.9	26.6	26.8	26.8	50.6	53.7	52.1	53.8	55.6
15	35.3	34.6	33.9	37.4	37.8	26.8	26.9	26.8	26.9	26.8	52.6	50.6	51.0	53.8	52.9
16	36.6	34.1	37.2	38.2	36.2	26.9	26.9	26.6	26.6	26.9	54.0	51.7	52.7	53.0	52.7
17	37.4	34.2	37.9	38.2	37.8	26.7	26.8	26.3	26.5	26.6	54.9	55.3	51.4	53.8	54.1
18	38.3	36.9	34.8	37.4	38.0	26.9	26.9	26.4	26.9	26.5	55.9	53.3	50.1	53.8	55.0
19	35.5	35.4	35.1	35.6	35.8	26.7	26.9	26.9	26.8	26.9	52.8	54.7	52.9	60.1	56.0
20	35.3	35.9	34.0	38.2	38.4	26.8	26.9	26.9	26.7	26.8	52.6	51.6	52.7	53.6	52.9
21	38.1	34.1	38.3	36.8	37.8	26.8	26.8	26.8	26.9	26.7	56.5	56.3	53.3	53.9	52.7
22	36.2	37.6	37.9	38.0	38.4	26.9	26.9	26.8	26.5	26.5	53.6	50.5	54.6	51.1	52.6
23	35.0	34.0	35.7	37.6	36.2	26.9	26.9	26.9	26.9	26.9	52.3	55.7	52.6	52.6	53.6
24	34.5	35.5	38.0	36.0	37.8	26.9	26.9	7.0	26.9	26.9	54.8	50.3	50.7	53.5	52.4
25	38.2	35.3	36.8	37.2	36.4	26.8	26.9	26.8	26.8	26.8	54.6	53.2	54.1	54.6	51.9
26	37.7	34.3	33.9	35.6	37.3	26.8	26.9	26.8	26.7	26.7	55.6	51.8	51.6	52.3	52.2
27	38.0	34.2	34.0	38.1	34.6	26.7	26.9	26.9	26.9	26.9	55.5	51.7	53.6	53.0	55.7
28	37.4	35.9	35.7	37.0	38.4	26.9	26.8	26.8	26.8	26.8	54.9	54.0	52.6	53.3	55.6
29	35.3	34.4	35.0	37.8	37.0	26.9	26.9	26.9	26.9	26.9	52.6	51.0	54.1	53.7	55.0
30	37.9	35.3	34.3	37.8	38.2	26.8	26.9	26.9	26.7	26.7	58.6	53.2	53.7	52.2	52.7
31	37.8	34.1	38.3	38.1	38.4	26.9	26.9	26.8	26.9	26.9	56.1	50.6	54.0	53.9	54.2
32	36.2	33.9	37.4	36.9	37.2	26.8	26.9	26.9	26.7	26.9	53.6	51.2	53.8	53.9	53.1
33	33.9	35.2	33.9	36.8	36.3	26.9	26.9	26.7	26.9	26.7	53.5	53.0	53.4	53.9	53.7
34	37.8	34.7	34.5	37.2	33.9	26.9	26.9	26.9	26.6	26.8	53.6	54.1	54.4	53.8	53.6
35	33.9	34.1	35.7	38.2	37.9	26.8	26.9	26.9	26.8	26.8	51.8	51.6	53.2	53.7	53.1
36	34.4	35.9	38.1	38.2	37.0	26.9	26.9	26.8	26.8	26.8	51.7	54.0	54.3	53.9	51.9
37	34.5	34.2	38.1	36.0	37.9	26.9	26.9	26.9	26.7	26.8	50.9	50.7	54.3	51.8	51.9
38	34.4	33.9	34.4	38.1	38.1	26.9	26.9	26.8	26.8	26.8	56.0	50.9	51.8	53.7	54.3
39	38.4	34.1	34.7	38.3	34.3	26.9	26.8	26.8	26.9	26.9	57.9	44.6	53.4	50.0	54.5
40	34.3	34.0	36.7	36.2	38.3	26.6	26.9	26.8	26.8	26.8	49.7	50.6	54.2	53.7	52.0
41	36.0	33.9	34.5	38.1	37.0	26.5	26.6	26.9	26.9	26.8	53.4	50.6	54.0	53.7	53.5
42	36.1	34.2	38.1	38.2	38.0	26.9	26.5	26.9	26.9	26.9	56.2	52.0	52.8	52.2	54.6
43	37.6	33.9	38.3	36.5	35.1	26.8	26.9	26.9	26.9	26.7	53.8	51.8	54.3	52.1	53.9
44	38.0	34.1	37.0	36.6	38.3	26.7	26.8	26.8	26.9	26.8	50.2	54.1	53.2	53.8	53.4
45	38.0	34.9	36.8	35.8	34.1	26.9	26.9	26.9	26.9	26.9	55.6	53.2	53.4	51.4	54.0
46	34.8	34.2	34.4	38.0	35.9	26.8	26.9	26.9	26.9	26.9	55.2	52.6	54.4	53.6	52.0
47	35.4	34.3	33.9	33.9	38.2	26.9	26.9	26.8	26.9	26.9	54.6	52.0	53.6	52.5	52.8
48	36.2	33.9	37.0	38.0	37.9	26.9	26.9	26.9	26.9	26.8	54.7	52.7	52.7	53.9	54.6
49	34.8	34.0	34.1	37.1	38.0	26.9	26.9	26.8	26.6	26.9	55.9	54.4	50.6	53.9	53.0
50	34.5	33.9	38.3	38.2	34.3	26.8	26.9	26.9	26.9	26.7	54.9	54.7	51.4	51.4	52.5
	Mean = 35.3					Mean = 26.6					Mean = 53.2				
	S . D . = 1.56					S . D . = 0.34					S . D . = 1.28				

mean value of 35.3 μm ± 1.56

The diameters of the acini were ranged from 26.1 μm to 27.0 μm with a mean value of 26.6 μm ± 0.34.

The diameters of the granular convoluted tubules were ranged from 43.6 μm to 60.1 μm with a mean value of 53.2 μm ± 1.28.

- Combined injections (Table 52), the diameters of the striated ducts were ranged from 33.8 μm to 38.7 μm with an avarage value 35 μm ± 1.82

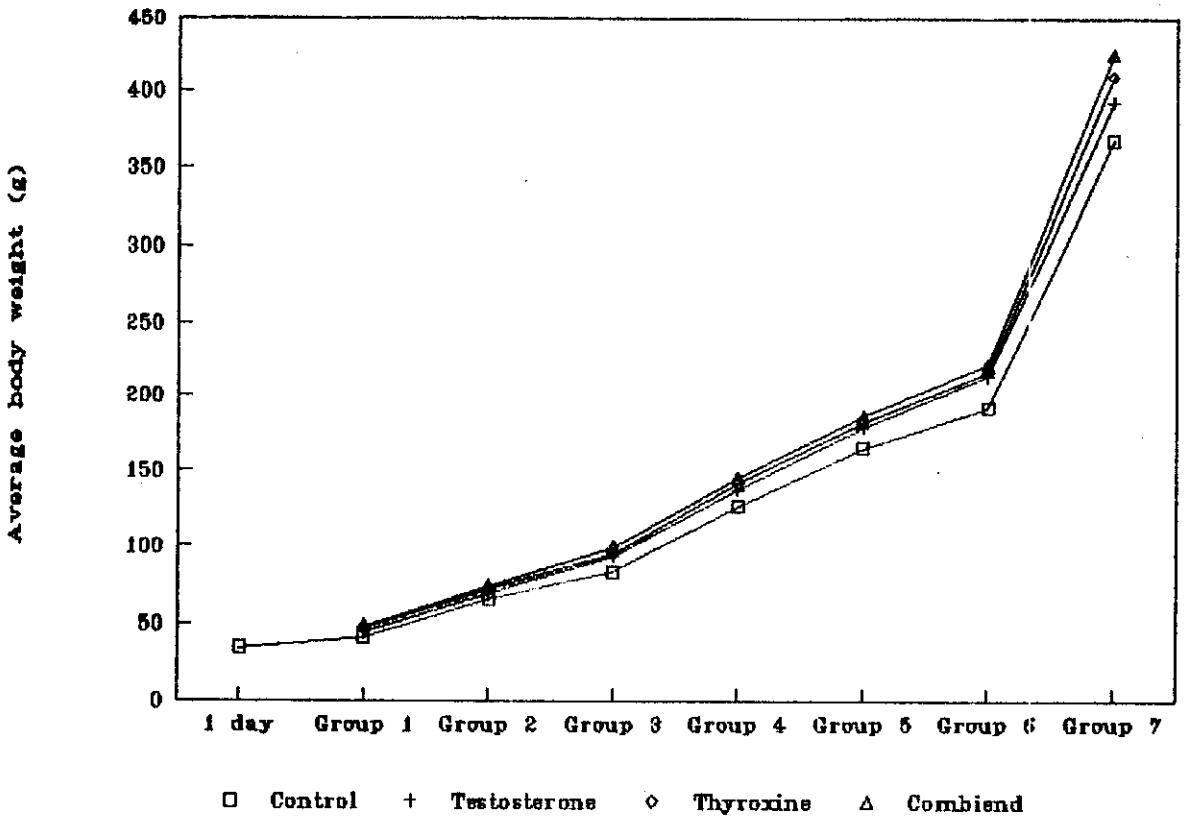
The diameters of the acini were ranged from 26.1 μm to 26.9 μm with a mean value of 26.6 μm ± 0.62.

The diameters of the granular convoluted tubules were ranged from 50.2 μm to 63.5 μm with an avarage value 57.7 μm ± 1.52 .

N.B:

-(Fig. 77) showing the gradual increase in the body weights of control and experimental rats in all groups.

-(Fig. 78) showing the gradual increase in the glandular weights of control and experimental rats in all groups.



-(Fig. 77) showing the gradual increase in the body weights of control and experimental rats in all groups.