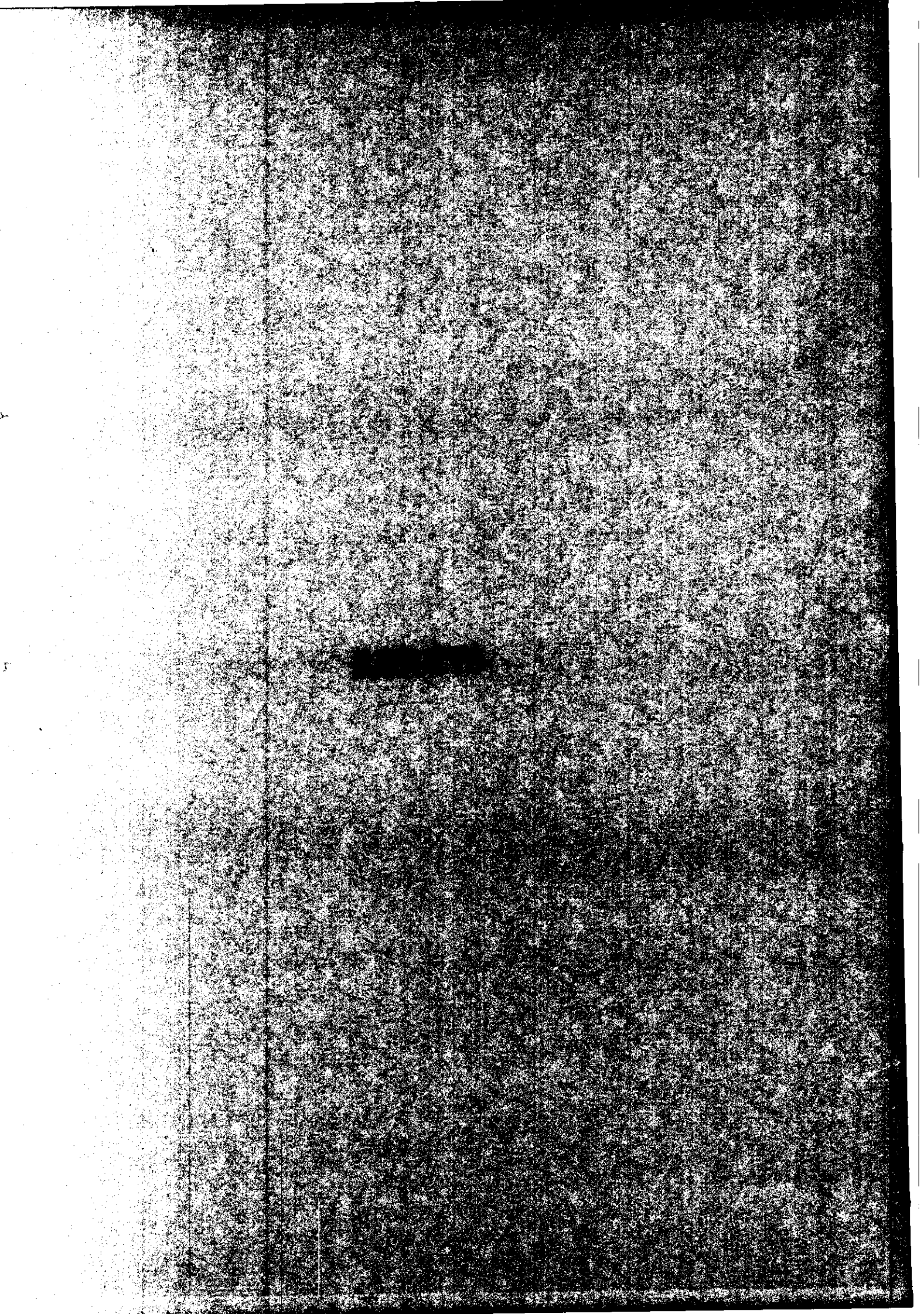




RESULTS

I. Effect of i.p. administration of 10 μ g prolactin on plasma levels of metabolic Hormones in Immature male, female and virgin mices.

A. Immature male mice:

Table (1) revealed the following:

- * The growth hormone (GH) increased significantly after 30 minutes and continued to increase until 72 hr ($P < 0.001$).
- * The thyrotropic hormone (TSH) level in blood dropped significantly after 30 minutes, then increased significantly after 24 and 72 hrs.
- * Cortisol level in plasma decreased significantly after 30 minutes ($P < 0.05$) followed by a significant increase after 24 hrs. ($P < 0.001$) and also increased, but to a lesser extent after 72 hrs. ($P < 0.001$).
- * Glucagon level decreased markedly 30 minutes after the application of 10 μ g prolactin ($P < 0.001$), then increased significantly after 24 hrs. ($P < 0.001$) to return to the normal level 72 hr after the administration of prolactin.

✱ Insulin level in plasma showed a significant increase after 30 minutes ($P < 0.01$) and increased more ($P < 0.001$) with the time (24 and 72 hr).

C. Virgin:

Table (3) revealed the following:

✱ GH decreased significantly 30 minutes following the application of 10 μ g prolactin, but showed no significant changes after 24 and 72 hr.

✱ TSH level revealed a biphasic reaction, i.e. dropped after 30 minutes ($P < 0.001$) and highly elevated after 24 hr ($P < 0.001$), then decreased back after 72 hrs. ($P < 0.001$).

✱ Cortisol level in plasma of virgin mice elevated markedly after 30 minutes ($P < 0.001$) from the i.p. application of 10 μ g prolactin. In contrast, it fell markedly after 24 hr ($P < 0.01$) and 72 hr ($P < 0.001$) in comparison with the control.

✱ Glucagon level dropped significantly all over the time point, of the experiment ($P < 0.001$) following the i.p. administration of 10 μ g of prolactin.

* Insulin level in plasma of the virgin revealed no significant changes following the application of the 10 μ g prolactin.

Table (1)

Plasma hormonal levels in immature male mice following intraperitoneal administration of 10 µg prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours		
	Control	30 minutes	24 hrs 72 hrs
GH (ng/ml)	10.35 ± 0.32	*** 21.2 ± 2.22	*** 22.1 ± 2.12 25.3 ± 3.34
TSH (µ U/ml)	14.8 ± 1.03	*** 1.7 ± 0.11	*** 24.2 ± 2.10 31.7 ± 3.16
Cortisol (ng/ml)	0.029 ± 0.0048	* 0.0157 ± 0.00087	*** 0.127 ± 0.0036 0.077 ± 0.00634
Glucagon (pg/ml)	149 ± 3.25	*** 92.75 ± 3.30	*** 198.75 ± 4.48 150.5 ± 7.32
Insulin (µ U/ml)	50.5 ± 2.95	52.3 ± 3.2	55.4 ± 1.9 49.4 ± 3.2

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (2)

Plasma hormonal levels in immature female mice following intraperitoneal administration of 10 µg prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours			
	Control	30 minutes	24 hrs	72 hrs
GH (ng/ml)	13.7 ± 0.36	*** 4.1 ± 0.18	*** 7.5 ± 0.10	*** 19.5 ± 0.64
TSH (µ U/ml)	11.1 ± 0.14	*** 4.7 ± 0.33	*** 5.2 ± 0.23	*** 6.5 ± 0.19
Cortisol (ng/ml)	0.042±0.0081	* 0.07± 0.0085	*** 0.124±0.0026	*** 0.64± 0.03
Glucagon (pg/ml)	175 ± 6.45	169.75± 4.76	183.5 ±4.05	* 151.75 ± 3.83
Insulin (µ U/ml)	35.0 ± 3.6	** 55.4 ± 3.8	*** 61.5 ± 2.4	*** 63.5 ± 2.3

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

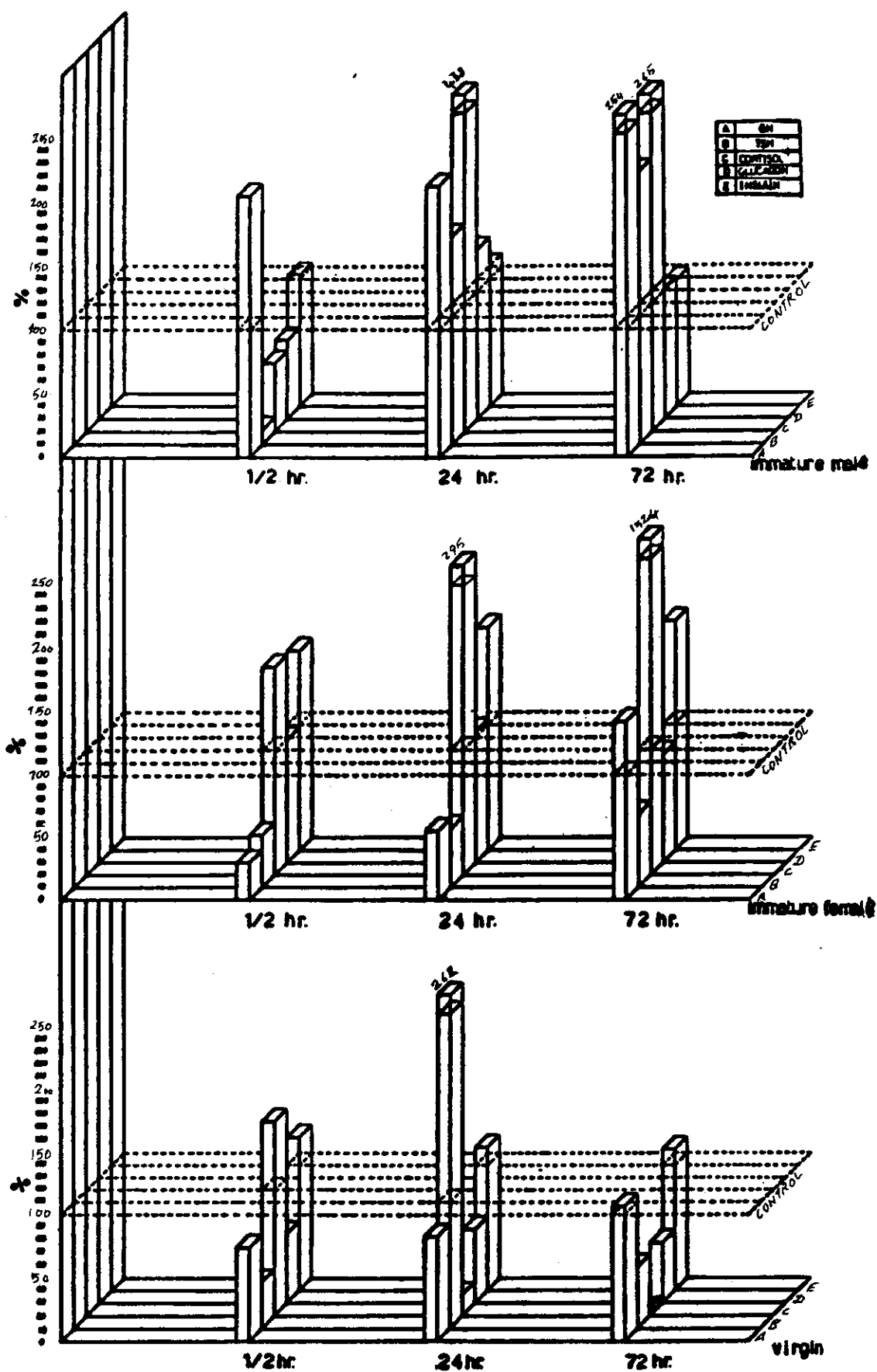
Table (3)

Plasma hormonal levels in virgin mice following intraperitoneal administration of 10 µg prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours			
	Control	30 minutes	24 hrs	72 hrs
GH (ng/ml)	16.8 ± 0.63	12.5 ± 0.75 *	14.0 ± 1.9	19.6 ± 1.22
TSH (µ U/ml)	15.8 ± 1.3	5.8 ± 0.6 ***	41.5 ± 0.64 ***	7.7 ± 0.29 ***
Cortisol (ng/ml)	00.53± 0.026	0.82± 0.024 ***	0.093±0.019 **	0.06± 0.0068 ***
Glucagon (pg/ml)	255.75± 4.049	141.75± 4.62 ***	150 ±10.80 ***	121.75± 3.119 ***
Insulin (µ U/ml)	43.0 ± 4.1	52.9 ± 5.2	49.5 ± 2.8	48.8 ± 2.9

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001



FIG(1)

Plasma hormonal levels in immature male and females mice as well virgin following I.p administration of 10 μ g prolactin after 1/2, 24 and 72 hrs.

II. Effect of i.p. administration of 59 µg prolactin on plasma levels of different metabolic hormones in male and female immature mice as well virgin:

A. Immature male mice:

Table (4): showed that:

- * GH level dropped significantly after 30 minut, 24 hr and 72 hr from the application of 59 µg prolactin ($P < 0.001$), but with weak tendency to increase with the time factor.
- * TSH decreased significantly after 30 minut ($P < 0.001$), but increased significantly after 24 and 72 hr ($P < 0.001$) in comparison with the control.
- * Cortisol level in plasma increased significantly after 59 µg dose of prolactin ($P < 0.001$).
- * Plasma glucagon level dropped markedly after 30 minut. 24 and 72 hr ($P < 0.001$).
- * Insulin level in plasma revealed an increase after 30 minut ($P < 0.01$), 24 and 72 hr ($P < 0.05$) following the i.p. application of 59 µg prolactin.

B. Immature female mice:

Table (5): revealed the following:

- * GH dropped significantly after 30 minut. and 24 hr following the i.p. administration of 59 μ g prolactin ($P < 0.001$) and returned to the control level after 72 hr.
- * TSH level was markedly dropped after 30 minut. 24 72 hr from the application of the prolactin ($P < 0.001$) with some tendency to increase with the times.
- * Cortisol level in plasma elevated dramatically after 59 μ g prolactin dose ($P < 0.001$) with tendency to increase with the time after the application.
- * Plasma Glucagon level dropped significantly after 30 minut, 24 and 72 hr from the application of the prolactin ($P < 0.001$).
- * The level of Insulin in plasma showed a marked increase but only after 24 and 72 hr following the administration of the 59 μ g dose of prolactin ($P < 0.001$).

C. Virgin mice:

As given in Table (6), there were:

* GH dropped markedly after 30 minut. following the i.p. administration of 59 μ g prolactin ($P < 0.001$) and still lower than the control level ($P < 0.01$), then returned to the control level after 72 hr.

* TSH in plasma of virgin mice following the 59 μ g prolactin dose showed a biphasic reaction manifested by a significant decrease after 30 minut. and 72 hr, while increased significantly after 24 hr in comparison to the control levels.

* Plasma cortisol level revealed a significant decrease after 30 minut from the application of the prolactin ($P < 0.01$), but increased significantly after 24 hr ($P < 0.01$) as well after 72 hr ($P < 0.05$).

* Glucagon level in plasma decreased significantly after 30 minut, 24 and 72 hr ($P < 0.001$) but with tendency to some increase in its level with the time.

* Insulin level showed a significant increase but only after 30 minut, and 24 hr.

Table (4)

Plasma hormonal levels in immature male mice following intraperitoneal administration of 59 μ g prolactin for 30 minutes, 24 hr and 72 hrs.

Hormones	Time in hours		
	Control	30 minutes	24 hrs 72 hrs
GH (ng/ml)	10.37 $\pm$ 0.44	*** 1.26 $\pm$ 0.02	*** 1.97 $\pm$ 0.04 3.48 $\pm$ 0.13
TSH (μ U/ml)	14.6 $\pm$ 1.03	*** 0.97 $\pm$ 0.05	*** 23.06 $\pm$ 1.18 34.8 $\pm$ 4.24
Cortisol (ng/ml)	0.023 $\pm$ 0.0023	*** 0.125 $\pm$ 0.0017	*** 0.33 $\pm$ 0.035 0.39 $\pm$ 0.278
Glucagon (pg/ml)	152.5 $\pm$ 3.20	*** 60.75 $\pm$ 4.88	*** 56.75 $\pm$ 3.49 64.25 $\pm$ 4.04
Insulin (μ U/ml)	50.8 $\pm$ 2.4	** 62.4 $\pm$ 1.4	* 61.4 $\pm$ 2.2 59.5 $\pm$ 2.6

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (5)

Plasma hormonal levels in immature female mice following intraperitoneal administration of 59 μ g prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours			
	Control	30 minutes	24 hrs	72 hrs
GH (ng/ml)	16.6 ± 0.92	*** 3.5 ± 0.06	*** 4.4 ± 0.10	10.9 ± 0.50
TSH (μ U/ml)	11.2 ± 0.18	*** 1.0 ± 0.15	*** 1.4 ± 0.04	*** 3.0 ± 0.3
Cortisol (ng/ml)	*** 0.041± 0.0075	*** 0.44± 0.027	*** 0.54± 0.027	*** 0.81± 0.31
Glucagon (pg/ml)	183.75 ± 5.13	*** 93.25± 6.75	*** 113.75± 5.54	*** 107.25± 5.28
Insulin (μ U/ml)	37.8 ± 2.9	38.8 ± 2.2	*** 62.0 ± 2.9	*** 68.5 ± 2.5

. The values represent the mean of 12 animals $\pm$ S.E.

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

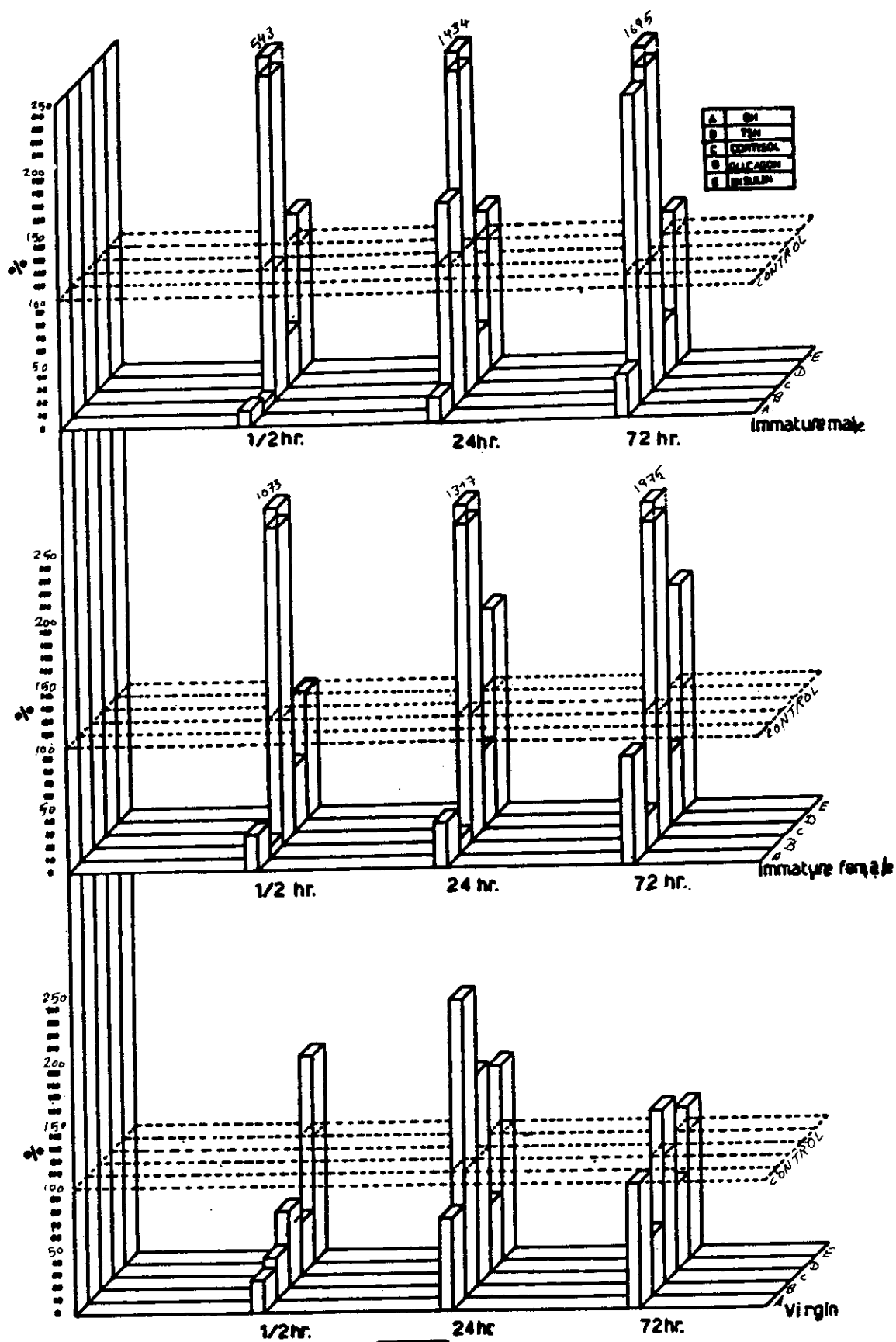
Table (6)

Plasma hormonal levels in virgin mice following intraperitoneal administration of 59 µ g prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours		
	Control	30 minutes	24 hrs 72 hrs
GH (ng/ml)	16.4 ± 0.83	*** 4.25 ± 1.1	** 12.0 ± 0.83 16.21 ± 0.91
TSH (µ U/ml)	14.0 ± 1.3	*** 4.8 ± 0.34	*** 33.0 ± 2.5 6.8 ± 0.43
Cortisol (ng/ml)	0.49 ± 0.044	** 0.295 ± 0.041	** 0.82 ± 0.042 * 0.67 ± 0.040
Glucagon (pg/ml)	249.25 ± 3.25	*** 103.5 ± 3.27	*** 133.25 ± 4.49 168.25 ± 5.13
Insulin (µ U/ml)	44.5 ± 3.2	** 72.5 ± 5.2	** 68.4 ± 4.3 53.2 ± 3.2

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001



FIG(2)

Plasma hormonal levels in immature male and females mice as well virgin following I.p administration of 50 µg prolactin after 1/2, 24 and 72 hrs.

III. Effect of the i.p. administration of 144 μ g prolactin dose on plasma levels of different metabolic hormones in immature male and female mice as well virgin:

A. Immature male:

Table (7) revealed the following:

* GH dropped markedly following the i.p. administration of 144 μ g prolactin dose after 30 minut, 24 and 72 hr ($P < 0.001$).

* TSH level in plasma, while dropped significantly after 30 minut ($P < 0.01$), elevated after 72 hr ($P < 0.001$) and there was no change after 24 hr in comparison to the control.

* Cortisol level in plasma elevated markedly after the 144 μ g dose of prolactin ($P < 0.001$). The maximum elevation after 30 minut.

* Plasma level of glucagon increased significantly after 30 minut ($P < 0.05$) then returned to the control level after 24 hr and decreased significantly after 72 hr ($P < 0.05$).

* Insulin level in plasma elevated significantly after 30 minut ($P < 0.01$) and 24 hr ($P < 0.05$), then returned to the control level after 72 hr.

B. Immature females:

As given in Table (8):

* GH dropped significantly following the 144 μ g dose of prolactin after 30 minut and 24 hr ($P < 0.001$) as well after 72 hr ($P < 0.05$).

* TSH decreased drastically 30 minut, 24 and 72 hr following i.p. administration of prolactin ($P < 0.001$) Meanwhile, there was some enhancement in the level of the hormones with the time.

* Cortisol level in plasma showed a highly significant increase after 30 minut, 24 and 72 hr from the application ($P < 0.001$) and was proportional with the time.

* Plasma level of glucagon decreased significantly after 30 minut ($P < 0.05$) as well after 24 and 72 hr ($P < 0.001$).

* Insulin, in contrast to glucagon increased in the plasma after 30 minut ($P < 0.05$) as well after 24 hr and 72 hr ($P < 0.001$).

C. In virgin:

Table (9) revealed the following:

* GH dropped significantly 30 minut, 24 and 72 hr following the i.p. administration of 144 μ g prolactin ($P < 0.001$). Meanwhile, there was some enhancement in the plasma level of GH with the time after injection of prolactin.

* TSH showed with the time a biphasic reaction, i.e., dropped significantly after 30 minut and 72 hr ($P < 0.001$) while increased after 24 hr ($P < 0.01$).

* Plasma level of cortisol elevated drastically after the injection of prolactin ($P < 0.001$). The increase was parallel to the time factor.

* Glucagon level in the plasma decreased significantly after 30 minut, 24 hr and 72 hr following the application of prolactin ($P < 0.01$).

* Insulin in plasma showed no significant change after 30 minut, while increased significantly after 24 and 72 hr ($P < 0.01$).

Table (7)
Plasma hormonal levels in immature male mice following intraperitoneal administration of 144 μ g prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours		
	Control	30 minutes	24 hrs 72 hrs
GH (ng/ml)	10.82 $\pm$ 0.56	*** 1.02 $\pm$ 0.06	*** 1.62 $\pm$ 0.09 2.20 $\pm$ 0.31
TSH (μ U/ml)	13.95 $\pm$ 1.62	** 0.35 $\pm$ 0.06	*** 14.20 $\pm$ 2.63 43.5 $\pm$ 3.81
Cortisol (ng/ml)	0.025 $\pm$ 0.005	*** 0.29 $\pm$ 0.006	*** 0.24 $\pm$ 0.006 0.11 $\pm$ 0.004
Glucagon (pg/ml)	150.5 $\pm$ 5.90	* 178.8 $\pm$ 5.1	* 156.4 $\pm$ 6.2 131 $\pm$ 4.3
Insulin (μ U/ml)	51.20 $\pm$ 2.6	** 69.45 $\pm$ 2.9	* 64.3 $\pm$ 4.2 53.2 $\pm$ 5.1

. The values represent the mean of 12 animals $\pm$ S.E.

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

Table (8)

Plasma hormonal levels in immature female mice following intraperitoneal administration of 144 μ g prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours		
	Control	30 minutes	24 hrs 72 hrs
GH (ng/ml)	12.4 $\pm$ 0.61	*** 4.3 $\pm$ 0.18	*** 6.8 $\pm$ 0.15 10.1 $\pm$ 0.42
TSH (μ U/ml)	11.8 $\pm$ 0.21	*** 0.92 $\pm$ 0.06	*** 1.0 $\pm$ 0.09 2.3 $\pm$ 1.1
Cortisol (ng/ml)	0.037 $\pm$ 0.007	*** 0.45 $\pm$ 0.05	*** 0.68 $\pm$ 0.06 0.083 $\pm$ 0.005
Glucagon (pg/ml)	177.8 $\pm$ 6.2	* 150.4 $\pm$ 3.9	*** 134.2 $\pm$ 2.7 111.8 $\pm$ 3.6
Insulin (μ U/ml)	36.0 $\pm$ 2.9	* 50.2 $\pm$ 3.1	*** 67.8 $\pm$ 2.9 72.4 $\pm$ 2.9

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

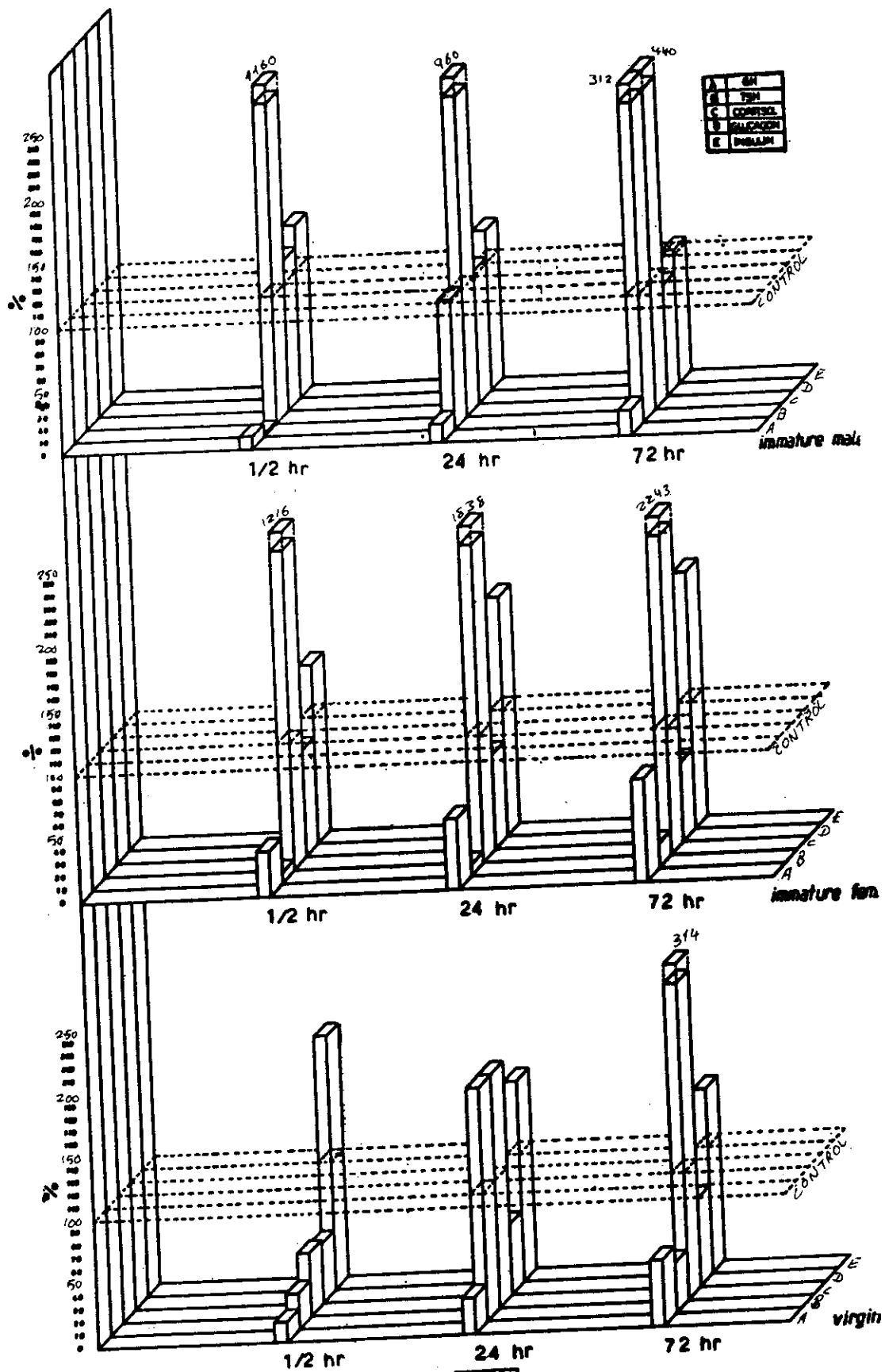
Table (9)

Plasma hormonal levels in virgin mice following intraperitoneal administration of 144 μ g prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours		
	Control	30 minutes	24 hrs 72 hrs
GH (ng/ml)	15.95 $\pm$ 1.15	*** 2.63 $\pm$ 0.56	*** 4.61 $\pm$ 0.42 8.42 $\pm$ 0.30
TSH (μ U/ml)	14.8 $\pm$ 1.18	*** 4.1 $\pm$ 0.5	** 27.3 $\pm$ 2.4 *** 5.8 $\pm$ 0.52
Cortisol (ng/ml)	0.51 $\pm$ 0.062	* 0.25 $\pm$ 0.05	*** 0.94 $\pm$ 0.02 *** 1.6 $\pm$ 0.2
Glucagon (pg/ml)	233.8 $\pm$ 5.4	*** 108.4 $\pm$ 3.8	*** 128.0 $\pm$ 3.2 *** 162.4 $\pm$ 4.1
Insulin (μ U/ml)	45.8 $\pm$ 2.8	*** 91.8 $\pm$ 5.558	** 72.3 $\pm$ 5.00 ** 66.8 $\pm$ 3.8

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001



[FIG. 3]

Plasma hormonal levels in immature male and females mice as well virgin following i.p. administration of 144 µg prolactin after 1/2, 24 and 72 hrs.

IV. Effect of i.p. administration of 350 μ g prolactin on plasma levels of metabolic hormones in immature male and female mice as well virgin:

A. Immature male mice:

As given in Table (10):

* GH in plasma dropped drastically 30 minut, 24 hr and 72 hr following the application of prolactin ($P < 0.001$).

* TSH level in plasma while decreased significantly after 30 minut and 24 hr following the administration of the 350 μ g dose of prolactin ($P < 0.001$), but increased, in contrast, after 72 hr ($P < 0.001$).

* Plasma level of cortisol elevated dramatically 30 minut following the administration and stayed significantly elevated also after 24 and 72 hr ($P < 0.001$).

* Glucagon level in plasma increased significantly after 30 minut. ($P < 0.001$) and after 24 hr ($P < 0.01$), but decreased significantly after 72 hr ($P < 0.05$).

* Plasma level of insulin increased significantly 30 minut, 24 and 72 hrs. following the administration of 350 µg prolactin ($P < 0.01$).

B. In immature females:

Table (11) revealed the following:

* GH level dropped significantly in the plasma after 30 minut ($P < 0.001$) and stayed under the control level after 24 hr ($P < 0.01$) as well after 72 hr ($P < 0.05$) following the administration of 350 µg prolactin dose.

* TSH in plasma showed a drastic dropping a large the experiment ($P < 0.001$).

* Plasma level of cortisol revealed a sever elevation manifested after 30 minut and increased more with the time ($P < 0.001$).

* Glucagon level in plasma increased significantly after 30 minut from the application of the 350 µg dose of prolactin ($P < 0.05$) and returned to the control level after 24 hr, then dropped significantly after 72 hr ($P < 0.001$).

* Insulin in plasma while increased significantly after 30 minut and 24 hr ($P < 0.001$), dropped, in contrast, after 72 hr ($P < 0.01$).

C. In virgin:

Table (12) showed the following:

* GH level in plasma of virgin mices dropped significantly after 30 minut, 24 as well 72 hr following the i.p. administration of the 350 μ g dose ($P < 0.001$).

* TSH plasma level following the application of prolactin revealed abiphasic reaction with the time after injection, i.e., dropped after 30 minut ($P < 0.001$) which elevated after 24 hr ($P < 0.01$) then decreased back after 72 hr ($P < 0.001$).

* The plasma cortisol level dropped significantly after 30 minut ($P < 0.001$), 24 hr ($P < 0.05$) as well after 72 hr ($P < 0.001$).

* Glucagon decreased in plasma following the 350 μ g prolactin dose ($P < 0.001$).

* The level of insulin in plasma of virgin showed no significant changes after the i.p. application of the 350 ug prolactin.

Table (10)

Plasma hormonal levels in immature male mice following intraperitoneal administration of 350 μ g prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours			
	Control	30 minutes	24 hrs	72 hrs
GH (ng/ml)	10.34 $\pm$ 0.55	*** 0.6 $\pm$ 0.04	*** 0.6 $\pm$ 0.04	*** 1.1 $\pm$ 0.04
TSH (μ U/ml)	14.18 $\pm$ 1.07	*** 1.2 $\pm$ 0.12	*** 2.9 $\pm$ 0.52	*** 45.8 $\pm$ 4.65
Cortisol (ng/ml)	0.026 $\pm$ 0.0046	*** 0.37 $\pm$ 0.011	*** 0.297 $\pm$ 0.039	*** 0.13 $\pm$ 0.0041
Glucagon (pg/ml)	153.0 $\pm$ 5.06	*** 191.75 $\pm$ 3.83	** 179.5 $\pm$ 3.30	* 128.0 $\pm$ 5.16
Insulin (μ U/ml)	49.5 $\pm$ 3.4	** 72.5 $\pm$ 3.9	** 69.4 $\pm$ 4.2	** 66.2 $\pm$ 2.9

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (11)
Plasma hormonal levels in immature female mice following intraperitoneal administration of 350 µg prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours			
	Control	30 minutes	24 hrs	72 hrs
GH (ng/ml)	12.8 ± 0.71	*** 1.5 ± 0.07	** 8.3 ± 0.24	* 9.8 ± 0.15
TSH (µ U/ml)	10.9 ± 0.23	*** 0.5 ± 0.10	*** 0.8 ± 0.02	*** 1.5 ± 0.2
Cortisol (ng/ml)	0.039± 0.0061	*** 0.465± 0.069	*** 0.97 ± 0.08	*** 0.98 ± 0.058
Glucagon (pg/ml)	178.3 ± 6.94	* 196.25 ± 3.11	189.75 ± 2.056	*** 102.0 ± 3.39
Insulin (µ U/ml)	36.3 ± 2.4	*** 62.8 ± 3.2	*** 56.5 ± 1.9	*** 19.5 ± 2.9

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (12)

Plasma hormonal levels in virgin mice following intraperitoneal administration of 350 μ g prolactin for 30 minutes, 24 hrs and 72 hrs.

Hormones	Time in hours			
	Control	30 minutes	24 hrs	72 hrs
GH (ng/ml)	16.6 $\pm$ 0.90	** 1.25 $\pm$ 0.47	*** 0.5 $\pm$ 0.04	*** 0.2 $\pm$ 0.06
TSH (μ U/ml)	13.6 $\pm$ 0.62	*** 2.7 $\pm$ 0.18	** 26.5 $\pm$ 1.7	*** 4.9 $\pm$ 0.4
Cortisol (ng/ml)	0.52 $\pm$ 0.05	*** 0.23 $\pm$ 0.031	* 0.30 $\pm$ 0.037	*** 0.109 $\pm$ 0.0041
Glucagon (pg/ml)	244.25 $\pm$ 4.05	*** 59.0 $\pm$ 3.63	*** 123.25 $\pm$ 2.68	*** 159 $\pm$ 4.47
Insulin (μ U/ml)	43.5 $\pm$ 2.9	39.8 $\pm$ 3.2	34.8 $\pm$ 2.9	49.8 $\pm$ 3.2

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

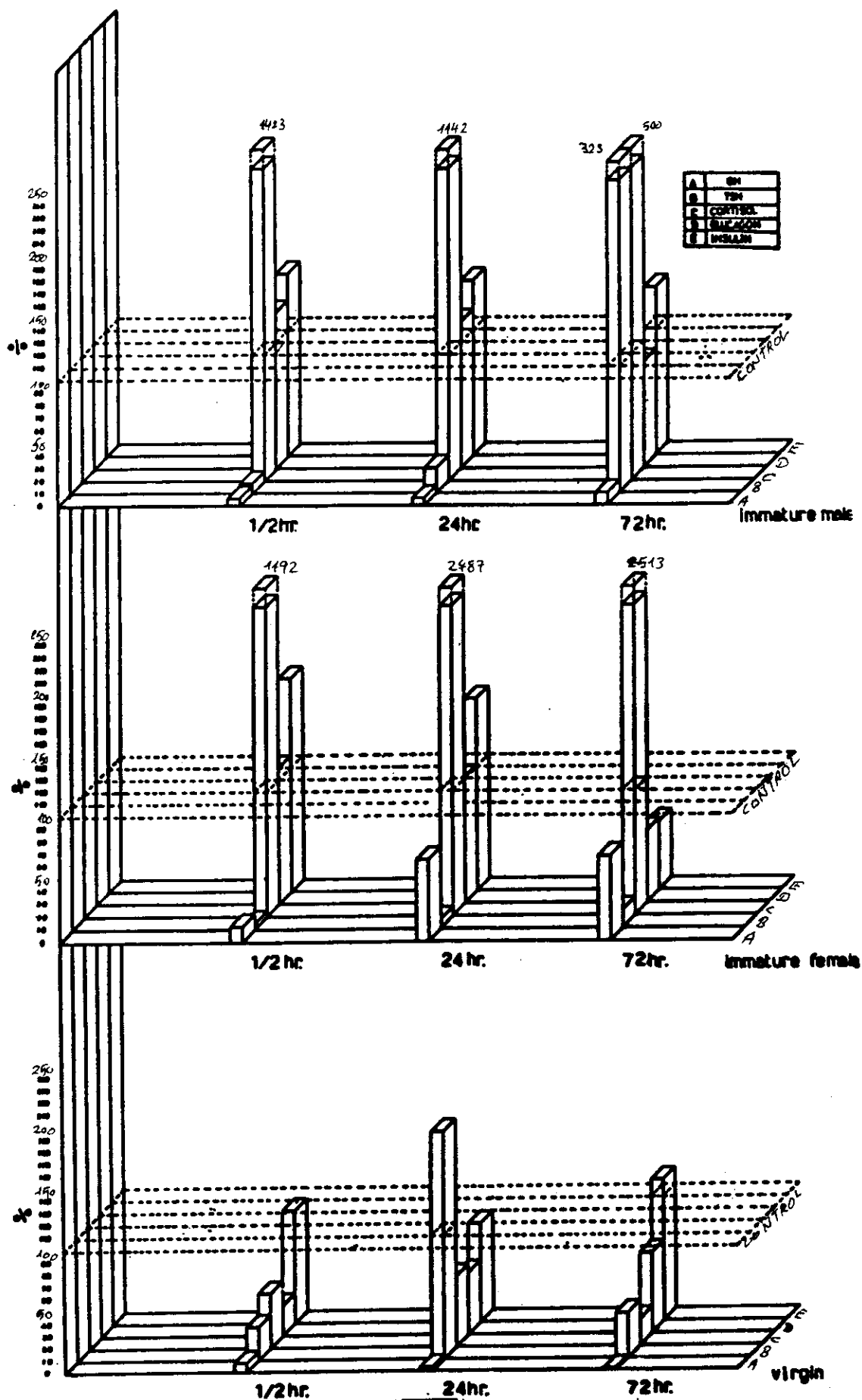


FIG (4)

Plasma hormonal levels in immature male and females mice as well virgin following i.p. administration of 350 µg prolactin after 1/2, 24 and 72 hrs.

V. Liver uptake of C^{14} -Galactose, C^{14} -Valine, and C^{14} -Arginine 24 hr following the i.p. administration of different doses of prolactin in Immature male and female mice as well virgin.

A. In Immature male:

As given in table (13):

* The liver uptake of galactose increased significantly following the 10 μ g dose of prolactin, and did not changed after the 59 μ g dose, while the 144 and 350 μ g doses decreased the liver uptake of Galactose ($P < 0.05$ and $P < 0.001$ respectively).

* Valine uptake by the liver increased significantly after the 10 μ g prolactin ($P < 0.001$) and the 59 μ g dose ($P < 0.05$), while remained in the control level following the 144 μ g dose of prolactin, but dropped significantly following the 350 μ g dose of prolactin ($P < 0.01$).

* The liver uptake of arginine showed two physic reactions; while the low doses of prolactin 10 and 59 μ g decreased the uptake ($P < 0.01$ and $P < 0.05$ respectively), the high doses, (144 and 350 μ g) in contrast, increased the liver uptake of arginine ($P < 0.001$).

B. In Immature females:

Table (14) revealed the following:

* The liver uptake of galactose increased significantly after the 10 μ g dose of prolactin ($P < 0.001$) and did not changed following the 59 μ g dose, then dropped significantly after the 144 and 350 μ g dose of prolactin ($P < 0.001$).

* Valine uptake by liver elevated significantly following the low doses of prolactin (10 and 59 μ g), but it dropped markedly of the 144 and 350 μ g ($P < 0.001$).

* Liver uptake of arginine increased markedly following the different doses of prolactin. Such elevations more doses-dependant.

C. In Virgin:

As given in table (15):

* Galactose uptake by the liver increased significantly after 10 μ g and 144 μ g prolactin doses ($P < 0.001$), while dropped markedly following the 59 and 350 μ g doses ($P < 0.001$).

* Valine uptake by the liver increased significantly after 10 and 59 μg doses of prolactin ($P < 0.001$), while did not changed in 144 μg dose of prolactin, but dropped markedly in high dose (350 μg prolactin) ($P < 0.001$).

* Liver uptake of arginine dropped significantly after the 10 μg dose ($P < 0.001$) as well 59 μg prolactin ($P < 0.01$), then elevated, in contrast, following the 144 μg dose ($P < 0.01$) and the 350 μg prolactin ($P < 0.001$).

Table (13)

Liver uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature male mice 24hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μ g/mice)					
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	2.63 $\pm$ 0.21	*** 4.38 $\pm$ 0.50	2.6 $\pm$ 0.03	* 2.0 $\pm$ 0.03	*** 1.9 $\pm$ 0.04
Valine-C ¹⁴	2.34 $\pm$ 0.46	*** 14.4 $\pm$ 0.23	5.1 $\pm$ 0.65	2.3 $\pm$ 0.11	** 1.5 $\pm$ 0.08
Arginine-C ¹⁴	5.7 $\pm$ 0.64	2.4 $\pm$ 0.27	3.5 $\pm$ 0.29	11.6 $\pm$ 0.61	13.7 $\pm$ 0.91

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (14)

Liver uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature female mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μ g/mice)					
Control	10 μ g	59 μ g	144 μ g	350 μ g	
Galactose-C ¹⁴	2.4 $\pm$ 0.08	5.4 $\pm$ 0.31	2.04 $\pm$ 0.11	0.7 $\pm$ 0.09	0.5 $\pm$ 0.05
Valine-C ¹⁴	3.5 $\pm$ 0.29	6.9 $\pm$ 0.67	5.4 $\pm$ 0.58	1.5 $\pm$ 0.1	0.6 $\pm$ 0.05
Arginine-C ¹⁴	4.9 $\pm$ 0.24	6.5 $\pm$ 0.33	6.8 $\pm$ 0.32	15.4 $\pm$ 1.12	17.5 $\pm$ 1.31

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (15)
Liver uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in virgin mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (µg/mice)					
	Control	10 µg	59 µg	144 µg	350 µg
Galactose-C ¹⁴	1.6 ± 0.10	*** 4.4 ± 0.12	*** 0.32 ± 0.06	*** 4.3 ± 0.16	*** 0.3 ± 0.03
Valine-C ¹⁴	2.08 ± 0.13	*** 4.3 ± 0.11	*** 6.57 ± 0.15	1.9 ± 0.12	*** 0.48 ± 0.07
Arginine-C ¹⁴	4.3 ± 0.49	*** 0.86 ± 0.04	** 1.17 ± 0.32	** 9.22 ± 0.81	*** 10.88 ± 1.28

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

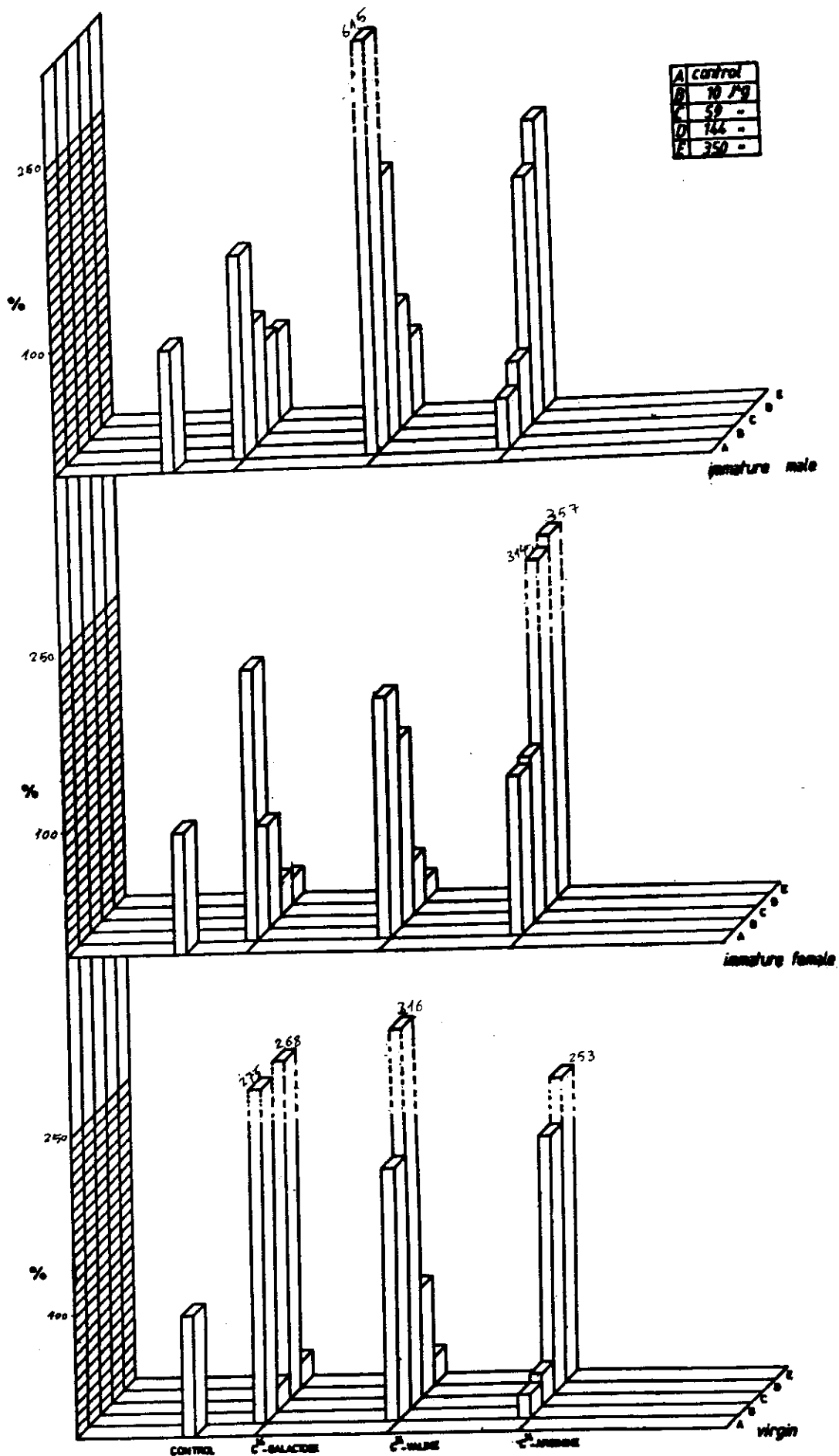


FIG (5)

Liver uptake of C^{14} -galactose, C^{14} -valine and C^{14} -arginine in immature male and female mice as well virgin 24 hrs following i.p. administration of different doses (10, 59, 144, 350 µg) of prolactin.

VI. Kidney uptake of C^{14} -Galactose, C^{14} -Valine, and C^{14} -Arginine 24 hr following the i.p. administration of different doses of prolactin in Immature male and female mice as well virgin:

A. In Immature male mice:

Table (16) showed the following:

* Galactose uptake kidney did not changed after 10 μ g prolactin dose, while the other higher doses (59, 144, 350 μ g) elevated the uptake significantly ($P < 0.05$) and the increase with proportional to the dose.

* The kidney uptake of valine increased significantly following the different doses of prolactin. This elevation was doses dependant.

* Kidney uptake of arginine elevated significantly and proportionally following the different doses of prolactin.

B. In Immature female

As given in table (17):

✱ Galactose uptake by kidney did not affected by 10 μ g prolactin dose, while elevated markedly after 59 and 144 μ g ($P < 0.001$), then dropped significantly following the 350 μ g dose ($P < 0.001$).

✱ Uptake of valine by the kidney tissue increased significantly and proportionally following the different doses of prolactin ($P < 0.001$).

✱ Kidney uptake of arginine elevated also proportionally with the dose of prolactin ($P < 0.001$).

C. In virgin mice:

Table (18) Showed the following:

✱ Galactose uptake in kidney revealed no significant changes after the 10 μ g prolactin dose, while 59 μ g, 144 and 350 μ g doses elevated it markedly ($P < 0.001$).

✱ Uptake of valine in kidney increased significantly following with 10 μ g, 59 and 144 μ g doses, while the largest one (350 μ g) decreased it significantly ($P < 0.001$).

✱ Uptake of arginine by the kidney increased markedly and proportionally following the different doses of prolactin ($P < 0.001$).

Table (16)
Kidney uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature male mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μ g/mice)					
Control	10 μg	59 μg	144 μg	350 μg	
Galactose-C ¹⁴	2.28 ± 0.28	2.32 ± 0.16	3.07 ± 0.12	4.3 ± 0.57	5.5 ± 0.98
Valine-C ¹⁴	2.8 ± 0.25	4.56 ± 0.06	4.1 ± 0.21	6.3 ± 0.22	7.0 ± 0.65
Arginine-C ¹⁴	4.15 ± 0.41	8.01 ± 0.91	8.3 ± 0.83	14.4 ± 1.3	15.2 ± 1.26

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (17)

Kidney uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature female mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μ g/mice)					
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	2.46 $\pm$ 0.05	2.3 $\pm$ 0.11	*** 137 $\pm$ 1.4	*** 10.5 $\pm$ 0.9	*** 3.08 $\pm$ 0.08
Valine-C ¹⁴	2.3 $\pm$ 0.16	*** 5.8 $\pm$ 0.31	*** 6.27 $\pm$ 0.49	*** 8.42 $\pm$ 0.42	*** 9.75 $\pm$ 0.24
Arginine-C ¹⁴	2.3 $\pm$ 0.22	*** 8.4 $\pm$ 1.57	*** 8.9 $\pm$ 0.54	*** 12.3 $\pm$ 1.14	*** 15.2 $\pm$ 1.18

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

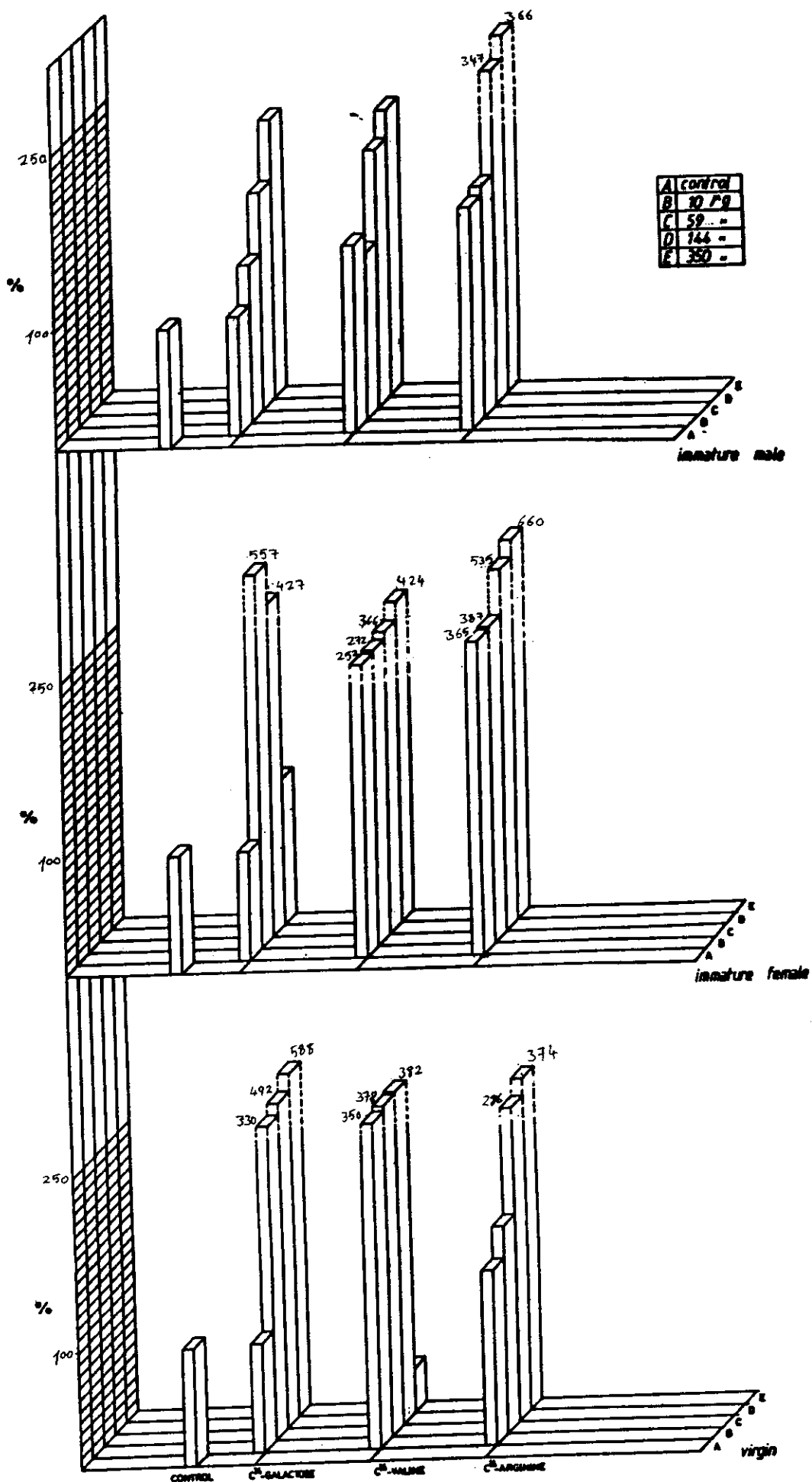
Table (18)

Kidney uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in virgin mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

	Doses of prolactin (µg/mice)				
	Control	10 µg	59 µg	144 µg	350 µg
Galactose-C ¹⁴	2.6 ± 0.11	2.4 ± 0.12	8.6 ± 0.68	12.8 ± 0.5	15.3 ± 0.51
Valine-C ¹⁴	2.8 ± 0.19	*** 9.8 ± 0.05	*** 10.6 ± 0.33	*** 10.7 ± 0.44	*** 1.0 ± 0.26
Arginine-C ¹⁴	4.12 ± 0.38	* 6.15 ± 0.42	*** 7.36 ± 0.23	** 11.79 ± 1.42	*** 15.4 ± 0.62

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001



Kidney uptake of C^{14} -Galactose, C^{14} -Valine and C^{14} -Arginine in immature male and female mice as well virgin 24 hrs. following i.p. administration of different doses (10, 59, 144, 350 µg) of prolactin.

VII. Muscle uptake of C^{14} -Galactose, C^{14} -Valine, and C^{14} -Arginine 24 hr following the i.p. administration of different doses of prolactin in Immature male and female mice as well virgin:

A. In Immature male mice

Table (19): Revealed the following

* Galactose uptake by the muscle elevated only following the smallest dose of prolactin ($P < 0.001$), while the other higher doses (59, 144 and 350 μ g prolactin) induced no significant changes.

* Uptake of valine by muscle decreased significantly following the different doses of prolactin ($P < 0.001$). The higher dose of prolactin, the more dropping of valine uptake.

* The only significant change in Arginine followed the 10 μ g of prolactin while the other doses did not affect the uptake.

B. In Immature female mice:

As given in table (20):

* Galactose uptake in muscle increased significantly following the 10 and 59 μ g doses of prolactin ($P < 0.001$),

while dropped, in contrast, after 144 and 350 μg doses ($P < 0.05$).

* The uptake of valine by muscles showed no significant change following the smallest dose of prolactin (10 μg), but the other doses (59, 144 and 350 μg) induced a significant decrease in the muscle uptake of valine ($P < 0.001$).

* Muscle uptake of Arginine dropped only after the 144 and 350 μg doses of prolactin ($P < 0.001$), while the smaller doses (10 and 59 μg) induced no significant changes.

C. In virgin:

Table (21) revealed the following:

* Galactose uptake by muscle is changed only after the smallest (10 μg) and the largest dose (350 μg); the first decreased the uptake significantly ($P < 0.001$), while the 350 μg dose elevated the uptake significantly ($P < 0.001$).

* The valine uptake increased significantly following the 10 and 59 μg doses of prolactin ($P < 0.001$), the

Table (19)
Muscle uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature male mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (µg/mice)					
	Control	10 µg	59 µg	144 µg	350 µg
Galactose-C ¹⁴	0.69 ± 0.06	*** 1.35 ± 0.06	0.9 ± 0.23	0.85 ± 0.11	0.8 ± 0.14
Valine-C ¹⁴	3.18 ± 0.14	*** 1.99 ± 0.18	*** 1.12 ± 0.03	*** 0.95 ± 0.06	*** 0.8 ± 0.09
Arginine-C ¹⁴	2.9 ± 0.47	* 1.53 ± 0.03	2.34 ± 0.23	2.8 ± 0.45	2.8 ± 0.30

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (20)

Muscle uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm tissue) in immature female mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μ g/mice)					
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	2.4 $\pm$ 0.09	*** 6.4 $\pm$ 0.14	*** 6.3 $\pm$ 0.09	* 1.9 $\pm$ 0.09	* 1.8 $\pm$ 0.14
Valine-C ¹⁴	1.97 $\pm$ 0.06	2.8 $\pm$ 0.40	*** 0.9 $\pm$ 0.06	*** 0.6 $\pm$ 0.05	*** 0.3 $\pm$ 0.03
Arginine-C ¹⁴	2.3 $\pm$ 0.18	2.3 $\pm$ 0.39	2.6 $\pm$ 0.02	*** 1.1 $\pm$ 0.12	*** 0.9 $\pm$ 0.09

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (21)

Muscle uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine, (mg/gm. tissue) in virgin mice
24 hrs following the intraperitoneal administration of different doses of prolactin.

	Doses of prolactin (μ g/mice)				
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	2.39 $\pm$ 0.08	^{***} 1.4 $\pm$ 0.06	2.2 $\pm$ 0.16	2.3 $\pm$ 0.21	^{***} 3.3 $\pm$ 0.07
Valine-C ¹⁴	1.6 $\pm$ 0.17	^{***} 3.6 $\pm$ 0.08	^{***} 8.2 $\pm$ 0.43	1.4 $\pm$ 0.15	^{***} 0.6 $\pm$ 0.02
Arginine-C ¹⁴	2.4 $\pm$ 0.18	^{***} 5.38 $\pm$ 0.27	2.6 $\pm$ 0.03	2.4 $\pm$ 0.38	^{***} 6.2 $\pm$ 0.47

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

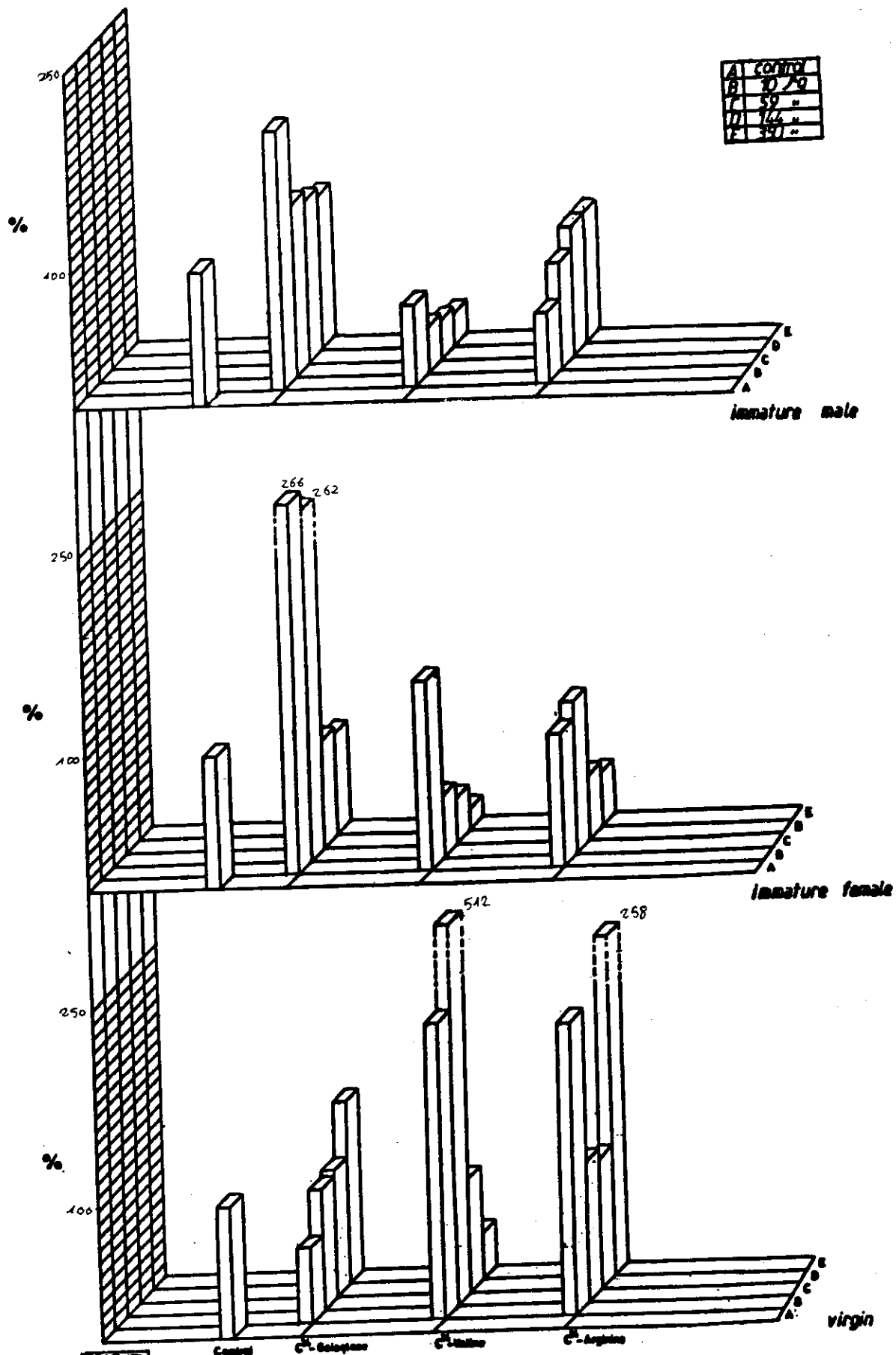


FIG (7)

Muscle uptake of ^{14}C -Galactose, ^{14}C -Valine and ^{14}C -Arginine in immature male and female mice as well virgin 24 hrs following i.p. administration of different doses (10, 59, 144, 350 μg) of prolactin.

while the other higher doses (144 and 350 μ g) dropped it significantly ($P < 0.001$).

■ The only dose which affect significantly the arginine uptake by the ovary is the 350 μ g dose. It induced a significant elevation in the arginine uptake by the kidney ($P < 0.001$).

Table (22)
Gonads uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature male mice 24 hrs following the intraperitoneal administering of different doses of prolactin.

Doses of prolactin (μ g/mice)					
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	2.51 + 0.23	*** 4.7 + 0.38	*** 0.93 + 0.16	*** 0.92 + 0.07	*** 0.9 + 0.08
Valine-C ¹⁴	3.58 + 0.22	*** 13.6 + 0.12	*** 0.95 + 0.22	*** 0.92 + 0.11	*** 0.9 + 0.05
Arginine-C ¹⁴	2.18 + 0.31	** 0.79 + 0.06	2.7 + 0.25	3.1 + 0.32	*** 0.9 + 0.09

. The values represent the mean of 12 animals + S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (23)

Gonads uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature female mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μ g/mice)					
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	3.3 $\pm$ 0.08	*** 5.9 $\pm$ 0.24	*** 1.7 $\pm$ 0.02	*** 1.0 $\pm$ 0.05	*** 0.712 $\pm$ 0.04
Valine-C ¹⁴	2.3 $\pm$ 0.06	*** 1.6 $\pm$ 0.08	*** 0.74 $\pm$ 0.06	*** 0.7 $\pm$ 0.06	*** 0.7 $\pm$ 0.04
Arginine-C ¹⁴	2.4 $\pm$ 0.15	*** 1.0 $\pm$ 0.11	*** 12.6 $\pm$ 0.75	*** 10.1 $\pm$ 1.3	*** 0.6 $\pm$ 0.02

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (24)
Gonads uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in virgin mice
24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μ g/mice)					
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	4.9 $\pm$ 0.25	*** 1.6 $\pm$ 0.04	*** 8.4 $\pm$ 0.27	*** 9.9 $\pm$ 0.26	*** 1.4 $\pm$ 0.02
Valine-C ¹⁴	4.6 $\pm$ 0.05	*** 6.8 $\pm$ 0.25	*** 6.9 $\pm$ 0.36	*** 1.9 $\pm$ 0.11	*** 1.25 $\pm$ 0.38
Arginine-C ¹⁴	3.0 $\pm$ 0.09	3.2 $\pm$ 0.22	2.8 $\pm$ 0.17	2.5 $\pm$ 0.35	*** 7.1 $\pm$ 0.26

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

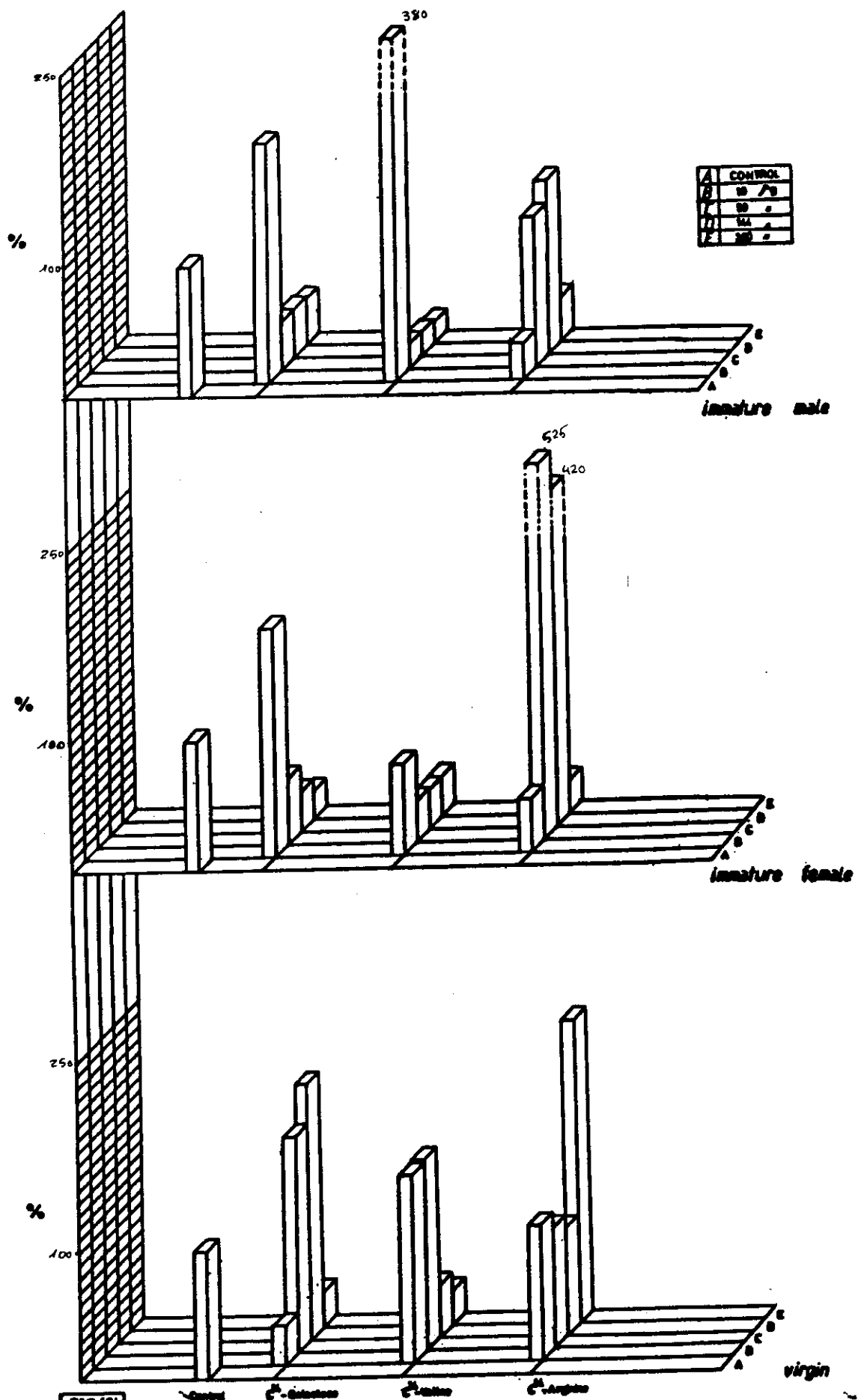


FIG (8)

Gonads uptake of ^3H -Galactose, ^3H -Maline and ^3H -Arginine in immature male and female mice as well virgin 24 hrs following i.p. administration of different doses (10, 50, 144, 350 µg) of prolactin.

IX. Brain uptake of C^{14} -Galactose, C^{14} -Valine and C^{14} -Arginine 24 hr following the i.p. administration of different doses of prolactin in Immature male and female mice as well virgin:

A. In immature male mice:

Table (25) revealed the following:

✱ A significant dropping in the brain uptake of Galactose following different doses of prolactin ($P < 0.001$).

✱ Valine uptake dropped also significantly following the different tested doses of prolactin.

✱ Arginine uptake in brain showed a significant decrease after the 10 μ g prolactin dose ($P < 0.001$), and the 59 and 144 μ g doses induced, in contrast, a significant elevation in the arginine uptake ($P < 0.001$), while the 350 μ g dose induced no significant changes.

B. In Immature female mice:

Table (26): Showed that:

✱ While the 10 μ g and 350 μ g doses of prolactin decreased significantly the galactose uptake in brain, the 59 and 144 μ g doses induced, in contrast a sever elevation in this uptake.

* Valine uptake by the brain dropped significantly and proportionally following the different doses of prolactin ($P < 0.001$).

* A significant elevation in the uptake of arginine by the brain follow the different doses of prolactin has been detected ($P < 0.001$).

C. In Virgin:

Table (27) revealed the following:

* While the smallest dose of prolactin (10 μ g) did not affect the galactose uptake by the brain, the other higher doses (59, 144, 350 μ g) in contrast, resulted in significant dropping of it.

* All tested doses of prolactin induced a significant decrease in the brain uptake of valine.

* Arginine uptake showed sever and significant dropping following the i.p. application of different doses of prolactin ($P < 0.001$).

Table (25)
Brain uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature male mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μ g/mice)					
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	7.32 $\pm$ 0.12	*** 0.97 $\pm$ 0.05	*** 2.2 $\pm$ 0.23	*** 4.8 $\pm$ 0.35	*** 5.57 $\pm$ 0.21
Valine-C ¹⁴	2.3 $\pm$ 0.14	*** 1.08 $\pm$ 0.05	** 1.23 $\pm$ 0.22	*** 1.1 $\pm$ 0.05	*** 1.06 $\pm$ 0.06
Arginine-C ¹⁴	1.48 $\pm$ 0.03	*** 0.54 $\pm$ 0.05	*** 4.6 $\pm$ 0.39	*** 5.2 $\pm$ 0.45	1.3 $\pm$ 0.15

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

Table (26)

Brain uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in immature female mice 24 hrs following the intraperitoneal administration of different doses of prolactin.

	Doses of prolactin (μ g/mice)				
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	9.2 $\pm$ 0.38	* 5.01 $\pm$ 1.03	** 22.6 $\pm$ 2.99	** 18.4 $\pm$ 1.9	** 6.54 $\pm$ 0.44
Valine-C ¹⁴	2.05 $\pm$ 0.06	*** 0.98 $\pm$ 0.06	*** 0.8 $\pm$ 0.04	*** 0.8 $\pm$ 0.02	*** 0.5 $\pm$ 0.06
Arginine-C ¹⁴	1.18 $\pm$ 0.04	*** 6.4 $\pm$ 0.19	*** 4.7 $\pm$ 0.39	*** 3.2 $\pm$ 0.24	*** 3.1 $\pm$ 0.21

. The values represent the mean of 12 animals $\pm$ S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001

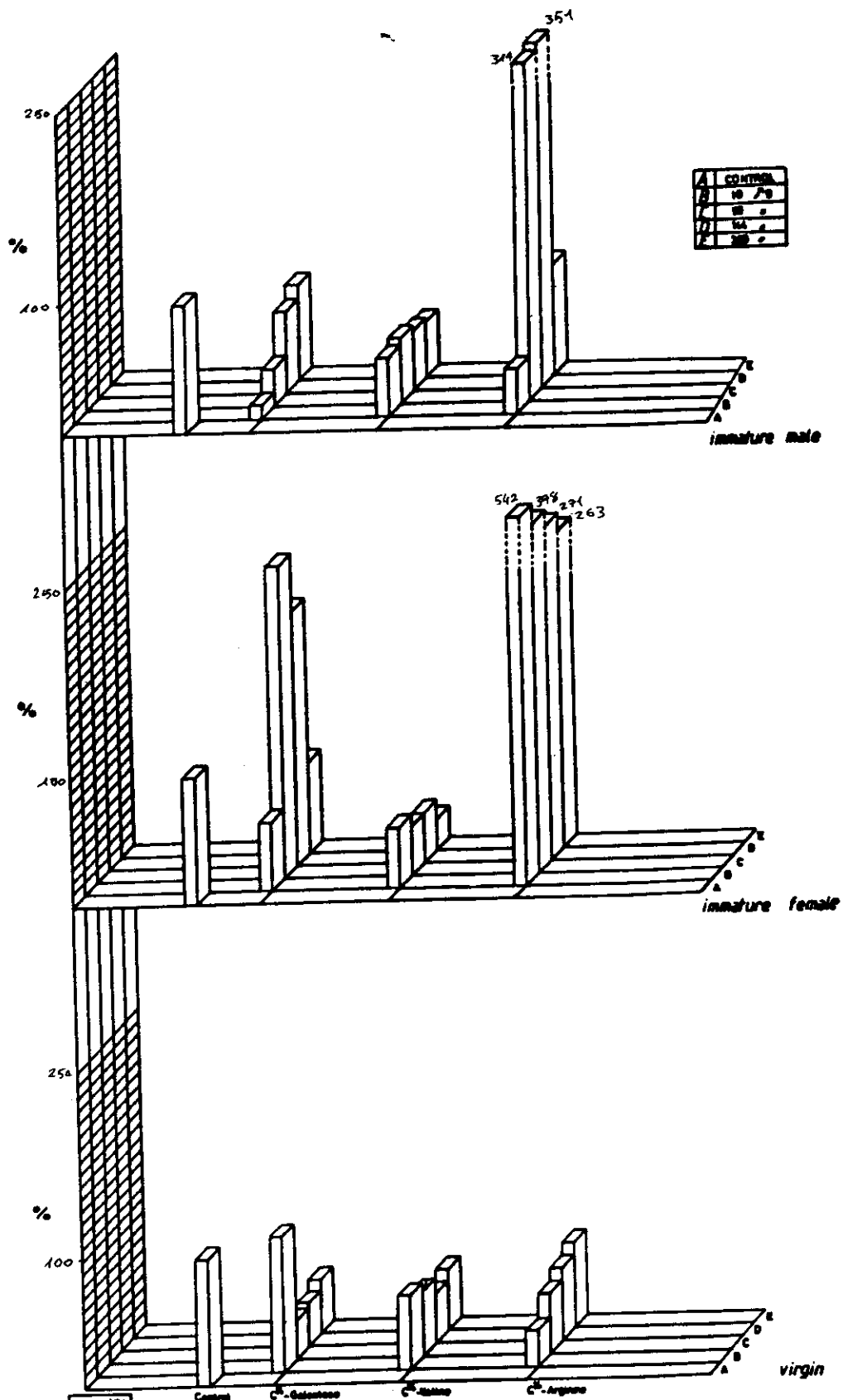
Table (27)

Brain uptake of C¹⁴-Galactose, C¹⁴-Valine and C¹⁴-Arginine (mg/gm. tissue) in virgine mice
24 hrs following the intraperitoneal administration of different doses of prolactin.

Doses of prolactin (μg/mice)					
	Control	10 μ g	59 μ g	144 μ g	350 μ g
Galactose-C ¹⁴	1.5 ± 0.12	1.6 ± 0.04	*** 0.44 ± 0.05	*** 0.5 ± 0.07	** 0.63± 0.15
Valine-C ¹⁴	1.3 ± 0.10	*** 0.74 ± 0.09	** 0.66 ± 0.13	*** 0.5 ± 0.05	*** 0.63± 0.07
Arginine-C ¹⁴	1.27 ± 0.03	*** 0.35 ± 0.04	*** 0.60 ± 0.03	*** 0.72 ± 0.03	*** 0.85± 0.04

. The values represent the mean of 12 animals ± S.E.

* P < 0.05 , ** P < 0.01 , *** P < 0.001



FIG(9)

Brain uptake of ^{14}C -Galactose, ^{14}C -Alanine and ^{14}C -Arginine in immature male and female mice as well virgin 24 hrs. following i.p. administration of different doses (10, 59, 144, 350 µg) of prolactin.