RESULTS:

The presented study was carried out on 100 diabetic patients and 20 healthy subjects as control group.

Age, age of onset and duration of diabetes mellitus:(Table1,2,3)

Groupe 1:

- Included 50 patient suffering from type 1 DM their age ranged from 12 - 40 years with a maen of 25.4±8.6.

-The age of onset of diabetes mellitus ranged from 9.5-30 years with a mean of 13.6±3.9.

-The duration of their illness ranged from 2-28 years with a mean of 11.7±7.5.

Groupe 2:

-This groupe included 50 patients with type 2 DM

Their age ranged from 43-62 years with a mean of 51.7±5.1.

-The age of onset of diabetes mellitus ranged from 38-55 years with a mean of 44.1±4.7.

-Their duration of illness ranged from 2 -20 years with a mean of 7.8±3.5.

Groupe 3:

-This groupe included 20 healthy control subjects . their age ranged from 19-42 years with a mean of 29.5+7.3.

As expected , type 1 diabic patients and control subjects were significantly younger than type 2 diabetic patients and the mean age of onset of DM in type 1 patients was significantly less than that in type 2 patients ($p<0.001$).

-While there was no significant difference between the two type of diabetic patients as regards duration of illness.($p>0.05$).

Table (1) means&SD of the age among the studied groups and their statistical significance:

Age(year) / GROUPS	X+SD	P G1&G2 v G3	P G1 v G2
Group 1	**25.4 ± 8.6**	**>0.05(NS)**	**<0.001(S)**
Group2	**51.7 ± 5.1**	**>0.001(S)**	
Group3	**29.5 ± 7.3**		

Type 1 diabic patients and control subjects were significantly younger than type 2 diabetic patients.

Table (2) means &SD of the age of onset of disease between different studied groups and their statistical significance:

Age of onset / GROUPS	X+SD	P G1 v G2
Group 1	**13.9 ± 3.9**	**<0.001(S)**
Group2	**44.1 ± 4.7**	

The age of onset of DM in type 1 patients was **significantly less** than that in type 2 patients ($p<0.001$).

Table (3) means(x)±SDof Duration Of Disease between different studied groups:

Duration / GROUPS	X+SD	P G1 v G2
Group 1	**11.7±7.5**	**>0.05(NS)**
Group2	**7.8 ± 3.5**	

There was no significant difference between the two type of diabetic patients as regards duration of illness.($p>0.05$).

Anthropometic Measures Of The Three studied Groups:(Table 4,5)

Groupe 1:

The weight of participant patients of group 1 ranged from 24 to 72 KG with a mean of 59.9± 16.5 Kg . their body mass index (BMI) ranged from 15.2 to 27 kg/m^2 with a mean of 22.5 ± 4.3 kg/m^2.

Groupe 2:

The weight of participant patients of group 2 range from 60 to 140 kg with a mean of 86.7 ±22.3 Kg. ,Their body mass index (BMI) ranged from 23.5 to 43.8 kg/m^2 with a mean of 37.8±6.4 kg/m^2.

Groupe 3:

The weight of the control subjects group 3 ranged from 60 to 85.5 kg with a mean of 65.6±11.9 kg . Their body mass index (BMI) ranged from 17.6 to 29.8 kg/m^2 with a mean of 24.2±3.98. $kg/m^{2.}$.

A statistically significant difference was found between studied groups as regards mean WT of type 2 diabetic patients had a significantly higher as compared to type 1 diabetic patients and control subjects ($p<0.001$).

Also , type 2 diabetic patients had a significantly higher mean BMI than type 1 diabetic patients and control subjects ($p < 0.001$).

Table(4) means(&)SDof WT among the studied groups and their statistical significance:

WT(kg) / GROUPS	X+SD	P G1&G2 v G3	P G1 v G2
Group 1	**59.9 ± 16.5**	**>0.05(NS)**	**<0.001(S)**
Group2	**86.7 ± 22.3**	**<0.001(S)**	
Group3	**65.6 ±11.9**		

Type 2 diabetic patients had a significantly higher as compared to type 1 diabetic patients and control subjects (p<0.001).

Table (5) means &SD of BMI among the studied groups and their statistical significance:

BMI (kg/m^2) / GROUPS	X+SD	P G1&G2 v G3	P G1 v G2
Group 1	**22.5 ± 4.3**	**>0.05(NS)**	**<0.001(S)**
Group2	**37.8 ± 6.4**	**<0.001(S)**	
Group3	**24.2 ±3.9**		

Group 2 had a significantly higher as compared to type 1 diabetic patients and control subjects (p<0.001).

Comparison of FBG, 2h PPG and HbA1c between the studied groups :(Table6,7,8)

- Group 1 :

FBS level ranged from 90-185 mg /dl with a mean of 131.9 ±24.7 mg/dl ,2h P.P.G level ranged from 118-240 mg/dl with a mean of 166.3±32.5mg/dl , and the HbA1c level ranged from 6.1-17.1% with a mean of 8.6±1.8%.

- **Group 2 :**

FBS level ranged from 90-240 mg/dl with a mean of 134.6±34.4 mg/dl , 2h P.P.G level ranged from 120-260 mg/dl with a mean of 167.7±33.5 mg/dl , and HbA1c level ranged from 6.1%-14.1% with a mean of 8.9±1.9%

- **Group 3 :**

FBS level ranged from 65-105 mg/dl with a mean of 82.7±12.1 mg/dl , 2h P.P.G level ranged from 100-128 mg/dl with a mean of 113.3±9.1. and HbA1c level ranged from 4.2%-6.2% with a mean of 5.1±0.7% .

The mean FBS level of type 1 diabetic patients was significantly higher than that of control subjects (group 3) ($p< 0.001$) . again the mean FBS level of type 2 diabetic patients was also significantly higher than that of control subjects.

Type 1 diabetic patientas has a significantly higher mean P.P.G level and mean HbA1c level as compared to control subjects ($p < 0.001$) .

Again, the mean 2h P.P.G level and the mean HbA1c level of type 2 diabetic patients were significantly higher than that of control subjects .

Table (6) means&SDof FBS among the studied groups and their statistical significance:

FBS (mg /dl) / GROUPS	X+SD	P G1&G2vG3	P G1vG2
Group 1	**131.9±24.7**	**<0.001(S)**	**>0.05(NS)**
Group2	**134.6 ± 34.4**	**<0.001(S)**	
Group3	**82.7 ± 12.1**		

Type 1 and type 2 diabetic patients was significantly higher than that of control subjects (p< 0.001).

Table (7) means&SDof 2h PPG among the studied groups and their statistical significance:

PPG mg/dl / GROUPS	X+SD	P G1&G2vG3	P G1vG2
Group 1	**166.3±32.5**	**<0.001(S)**	**>0.05(NS)**
Group2	**167.7 ± 33.5**	**<0.001(S)**	
Group3	**113.7 ± 9.1**		

Type 1 and type 2 diabetic patients was significantly higher than that of control subjects (p< 0.001).

Table(8)means&SDof HBA1C among the studied groups groups and their statistical significance:

HBA1C% / GROUPS	X+SD	P G1&G2vG3	P G1vG2
Group 1	**8.6 ± 1.8**	**<0.001(S)**	**>0.05(NS)**
Group2	**8. 9 ± 1.9**	**<0.001(S)**	
Group3	**5.1 ± 0.7**		

Type 1 and type 2 diabetic patients was significantly higher than that of control subjects (p< 0.001).

Comparison of serum FT3, FT4 and TSH between the studied groups :(Table9,10,11,12,13,14,15,16)

- **In group 1**, FT3 level ranged from 65-688pg/dl with a mean of 266.3±125.5 pg/dl, The FT4 level ranged from 0.4-3.7 ng/dl with a mean of 1.9±0.7 ng/dl , The TSH level ranged from 0.01-36.9 uIU/ml with a mean of 5.5±6.6uIU/ml **.**

- 4% of cases (2 out of 50)had low FT3 and FT4 level with high TSH level (**clinical hypothyroidism**) .

- **4%** of cases (2 out of 50) had a high level of FT3 and FT4 with low TSH (**clinical hyperthyroidism**).

-12% of cases (6out of 50) had a high TSH level without abnormality of FT3 or FT4 level **(subclinical hypothyroidism**).

- **6%** of cases (3out of 50) had low TSH level without abnormality of FT3 or FT4 level **(subclinical hyperthyroidism**).

-4% of cases (2 out of 50)had low FT3 level with normal FT4&TSH level (**euthyroid sick syndrome**) .

- **In group 2**, the FT3 level ranged from 119-422 pg /dl with a mean of 269.8±106.1 pg/dl., The FT4 level ranged from 0.8-1.9 ng /dl with a mean of 1.7±05 ng/dl , The TSH level ranged from 0.4-28.9 uIU/ml with a mean of 3.8±5.9 uIU/ml ,

- 4% of cases (2 out of 50) had elevated TSH level without abnormality of FT3 or FT4 level **(subclinical hypothyroidism).**

- **8%** of cases (4 out of 50) had a low FT3 level with normal FT4 & TSH level (**euthyroid sick syndrome**) .

- Non of the patients of group 2 show clinical hypothyroidism or hyperthyroidism.

- **In group 3**, the FT3 level ranged from 260-480pg/dl with a mean of 330.4±68.8 pg/dl . The FT4 level ranged from 0.8-1.9 ng /dl with a mean of 1.7±0.6 ng/dl , The TSH level ranged from. 4-4.1 uIU/ml with a mean of 1.6±1.1 uIU/ml , Non of the control subjects had high or low FT3 , FT4 or TSH .

- The mean FT3 was significantly lower in diabetic patients(type1&type2) than control subjects ($p<0.001$).

- There was no statistically significant difference between the three studied groups as regards the mean FT4.($P>0.05$).

- The mean TSH is significantly higher in type 1 diabetic patients than type 2 diabetic patients and the control subjects($P<0.001$).

Table (9) means & SD of FT3 among the studied groups and their statistical significance:

Ft3 (pg/dl) GROUPS	X+SD	P G1&G2vG3	P G1vG2
Group 1	**226.3 ± 125.2**	**<0.001(S)**	**>0.05(NS)**
Group2	**269.8 ± 106.1**	**<0.001(S)**	
Group3	**330.4 ± 68.8**		

The mean FT3 was significantly lower in diabetic patients(type1&type2) than control subjects (p<0.001)

Table (10) means & SD of FT4 among the studied groups and their statistical significance :

Ft4 (ng/dl) GROUPS	X+SD	P G1&G2vG3	P G1vG2
Group 1	**1.9±0.7**	**>0.05(NS)**	**>0.05(NS)**
Group2	**1.8 ± 0.5**	**>0.05(NS)**	
Group3	**1.7 ± 0.6**		

There was no statistically significant difference between the three studied groups as regards the mean FT4.(P>0.05).

Table (11) means & SD of TSH among the studied groups and their statistical significance :

TSH (uIU/ml) GROUPS	X+SD	P G1&G2vG3	P G1vG2
Group 1	**5.5 ± 6.6**	**<0.001(S)**	**<0.001(S)**
Group2	**3.8 ± 5.9**	**<0.001(S)**	
Group3	**1.6 ± 1.1**		

The mean TSH is significantly higher in type 1 diabetic patients than type 2 diabetic patients and the control subjects(P<0.001).

Table (12): Prevalence of Hyperthyroidism among the studied groups:

GROUPS	Number of study groups show (hyperthyrodisim)	prevelance%
Group1	2	4%
Group2	–	–
Group3	–	–

Table (13): Prevalence of Hypothyroidism among the studied groups:

GROUPS	Number of study groups show (hypothyroidism)	prevelance%
Group1	2	4%
Group2	–	–
Group3	–	–

Table (14): Prevalence of subclinical hypothyroidism among the studied groups:

GROUPS	Number of study groups show (subclinical hypothyroidism)	prevelance%
Group1	6	12%
Group2	2	4%
Group3	–	–

Table (15): Prevalence of subclinical hyperthyroidism among the studied groups:

GROUPS	Number of study groups show (subclinical hyperthyrodism)	prevelance%
Group1	3	6%
Group2	-	-
Group3	–	–

Table (16): Prevalence of euothyroid sick syndrome among the studied groups:

GROUPS	Number of study groups show (euothyroid sick syndrome)	prevelance%
Group1	2	4%
Group2	4	8%
Group3	–	–

Table (17): correlation co afficent (r) between HBA1C and different thyroid hormones&TSH (group 1)

HBA1C / Variable	R	p
Ft3	-0.302	<0.05
Ft4	-0.0184	>0.05
TSH	0.067	>0.05

Table (18) correlation co afficent (r) between HBA1C and different thyroid hormones&TSH (group2)

HBA1C / Variable	r	p
Ft3	-0.297	<0.05
Ft4	-0.11	>0.05
TSH	0.064	>0.05

Table (19): correlation co afficent (r) between HBA1C and different thyroid hormones&TSH (group3)

HBA1C / Variable	r	p
Ft3	-0.431	<0.05
Ft4	-0.283	<0.01
TSH	0.128	>0.05