

RESULTS

Clinical and laboratory data of the studied groups:

In the present study 65 patients with diffuse telogen hair loss were included (Table 2), (Table 3) and (Table 4) while the number of the controls group was 17 patients (Table 5).

Table (2) : Clinical and laboratory data of the patients.

Case	Age	Degree of hair loss	Anagen	Telogen	Hair pull test	Hb	Serum ferritin
1.	42	severe	80%	20%	+ve	10.6	6.277
2.	28	moderate	80.9	19.1%	+ve	8.7	12.81
3.	38	severe	79%	21%	+ve	11	5.415
4.	18	severe	82%	18%	+ve	10.2I	6.277
5.	43	severe	81.3%	18%	+ve	11.2	4.989
6.	17	severe	82.4%	17.5%	+ve	10	11.329
7.	23	moderate	78%	22%	+ve	9	16.359
8.	30	severe	84%	16%	+ve	12	0.411
9.	29	severe	85%	15%	+ve	11.2	9.530
10.	35	severe	83.5%	16.5%	+ve	8	5.095
11.	33	moderate	82.5	17%	+ve	10	12.265
12.	20	severe	84.5%	15.5%	+ve	10.2	6.494
13.	19	severe	80%	20%	+ve	11.5	10.840
14.	25	moderate	83.5%	16.5%	+ve	12	19.283
15.	21	severe	79%	21%	+ve	10	2.889
16.	16	moderate	79.5%	20%	+ve	11.4	16.161
17.	24	severe	82.6%	17%	+ve	9	2.577
18.	22	severe	81.7%	18%	+ve	11.9	10.477
19.	19	severe	79%	21%	+ve	11.6	5.630
20.	36	severe	78%	22%	+ve	10.6	3.828
21.	25	moderate	79.9%	19%	+ve	11.2	14.844
22.	27	severe	77.5%	22%	+ve	9	3.619
23.	32	severe	83%	17%	+ve	10.3	3.933
24.	22	severe	84%	16%	+ve	12	7.261
25.	36	moderate	84.5%	15.5%	+ve	12.6	19.586

Normal reference range of: Hb of an adult female 12-16 g/dl and of serum ferritin 10 -124 (µg/l).

Table (3) : Clinical and laboratory data of the patients.

Case	Age	Degree of hair loss	Anagen	Telogen	Hair Pull test	HB	Serum ferritin
26.	26	severe	85.4%	14%	+ve	12.8	4.143
27.	33	severe	77%	23%	+ve	10	4.671
28.	16	moderate	83.9%	16%	+ve	12.6	13.762
29.	24	moderate	77.8%	22%	+ve	8.8	19.073
30.	19	moderate	78%	22%	+ve	9.8	11.061
31.	28	severe	79.4%	20%	+ve	10.5	2.370
32.	27	severe	86.5%	13%	+ve	11.5	7.041
33.	30	severe	77.3%	22%	+ve	9.8	5.415
34.	18	moderate	80.1%	19%	+ve	11.8	12.507
35.	28	severe	79.8%	20%	+ve	10.7	5.095
36.	25	severe	78.2%	21%	+ve	10.2	9.530
37.	19	severe	77.3%	22%	+ve	11	10.840
38.	37	moderate	81.9%	18%	+ve	10.3	16.154
39.	27	severe	80.5%	19%	+ve	11.2	9.647
40.	18	moderate	84.7%	15%	+ve	11.5	11.740
41.	42	moderate	82%	18%	+ve	10.5	21.20
42.	33	moderate	83.8%	16%	+ve	9.5	14.163
43.	32	moderate	82.9%	17%	+ve	11	14.707
44.	27	severe	82.3%	17%	+ve	9.6	7.705
45.	30	severe	85.6%	14%	+ve	11	9.764
46.	24	severe	79.2%	20%	+ve	11.2	3.097
47.	21	severe	81.5%	18.5%	+ve	10.7	7.483
48.	25	moderate	85%	15%	+ve	11.6	19.552
49.	20	severe	77.9%	22%	+ve	9.1	8.154
50.	18	moderate	83.8%	16%	+ve	11	13.234

Normal reference range of: Hb of an adult female 12-16 g/dl and of serum ferritin 10 -124 (µg/l).

Table (4) : Clinical and laboratory data of the patients.

Case	Age	Degree of hair loss	Anagen	Telogen	Hair Pull test	HB	Serum ferritin
51.	34	moderate	86%	14%	+ve	11.7	27.579
52.	40	severe	77.8%	22.2%	+ve	10.3	13.365
53.	25	severe	83.7%	16%	+ve	12.3	10.598
54.	21	severe	82%	18%	+ve	10.2	4.038
55.	35	severe	76.6%	23%	+ve	10.8	1.956
56.	20	severe	79.1%	20%	+ve	8.9	1.440
57.	27	severe	78.2%	21%	+ve	12.9	11.826
58.	43	severe	79.6%	20%	+ve	9.5	10.119
59.	38	moderate	80.8%	19%	+ve	11.8	13.104
60.	20	severe	77.7%	22%	+ve	9.5	3.723
61.	19	moderate	83.4%	22%	+ve	11.50	16.397
62.	36	moderate	84.2%	15.5%	+ve	9.5	15.259
63.	26	moderate	82.9%	17%	+ve	10.39	17.423
64.	29	moderate	81.9%	18.5%	+ve	12	15.95
65.	34	severe	77.4%	22.5%	+ve	8.9	6.494

Normal reference range of: Hb of an adult female 12-16 g/dl and of serum ferritin 10 -124 (µg/l).

Table (5) : Clinical and laboratory data of the controls group.

Case	Age	Anagen	Telogen	Hair Pull test	HB	Serum ferritin
1.	25	86%	14%	Normal	12.9	35.882
2.	18	88%	12%	+ve	11.7	25.065
3.	23	89.5%	10.5%	Normal	10.4	28.041
4.	42	90%	10%	Normal	11.2	29.908
5.	30	87.8%	12%	+ve	10.9	32.826
6.	20	87%	13%	Normal	10.5	27.723
7.	29	86.9%	13%	Normal	11.8	26.683
8.	37	92%	8%	Normal	12.3	27.874
9.	27	91%	9%	+ve	13.1	28.633
10.	23	87.8%	12%	Normal	12.5	19.413
11.	34	84.4%	15%	Normal	10.5	18.950
12.	25	88.8%	11%	Normal	10.4	19.427
13.	24	86.5%	13%	+ve	9.90	25.747
14.	35	90.7%	9%	Normal	11.12	22.974
15.	22	87.9	12%	Normal	9.5	20.372
16.	40	88.7%	11%	+ve	10	26.883
17.	19	89.8%	10%	Normal	11.5	26.03

Normal reference range of: Hb of an adult female 12-16 g/dl and of serum ferritin 10 -124 (µg/l).

This study included 65 cases of chronic telogen hair loss all are females in the child bearing period & 17 healthy females as a control group (**Table 6**).

Table (6) : Numbers of patients and controls groups.

	Sex	Number
Chronic telogen hair loss	Females	65
Control		17
Tatal		82

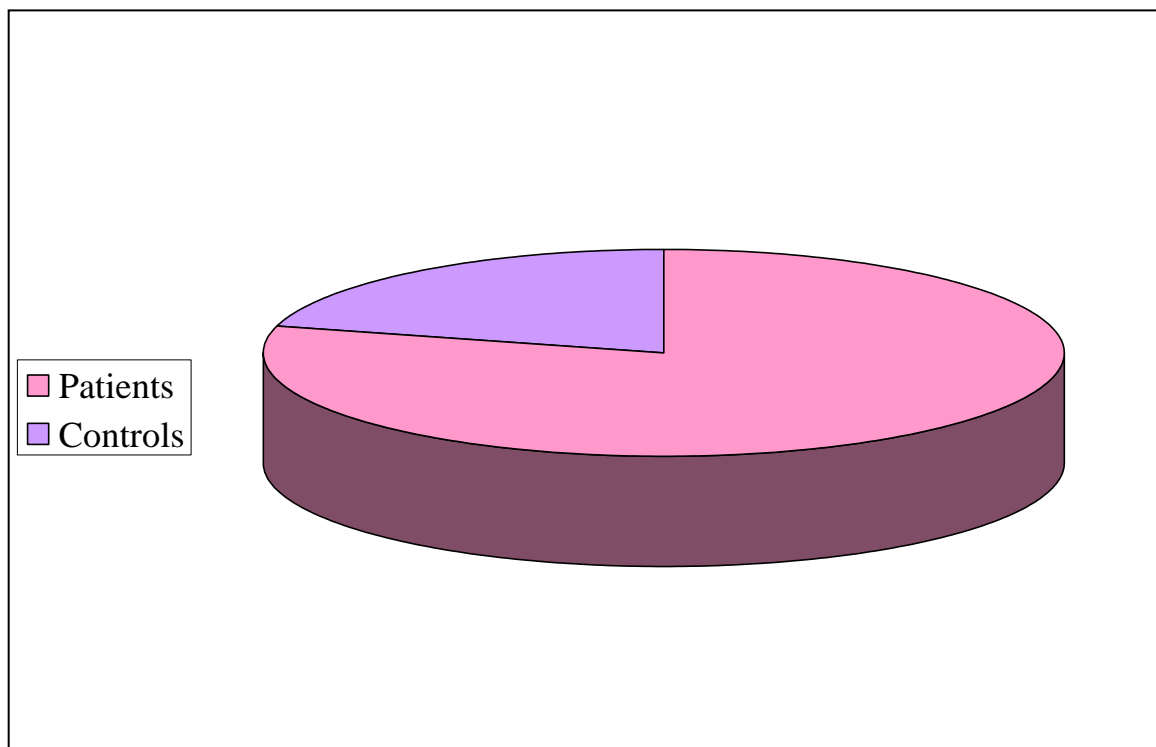


Figure (20): Numbers of patients and controls groups.

The 65 chronic telogen hair loss was further subdivided into two groups according to the degree of hair loss, (**Table 7**).

Table (7): The subgroups according to the degree of hair loss.

	Number
Moderate	24
Severe	41

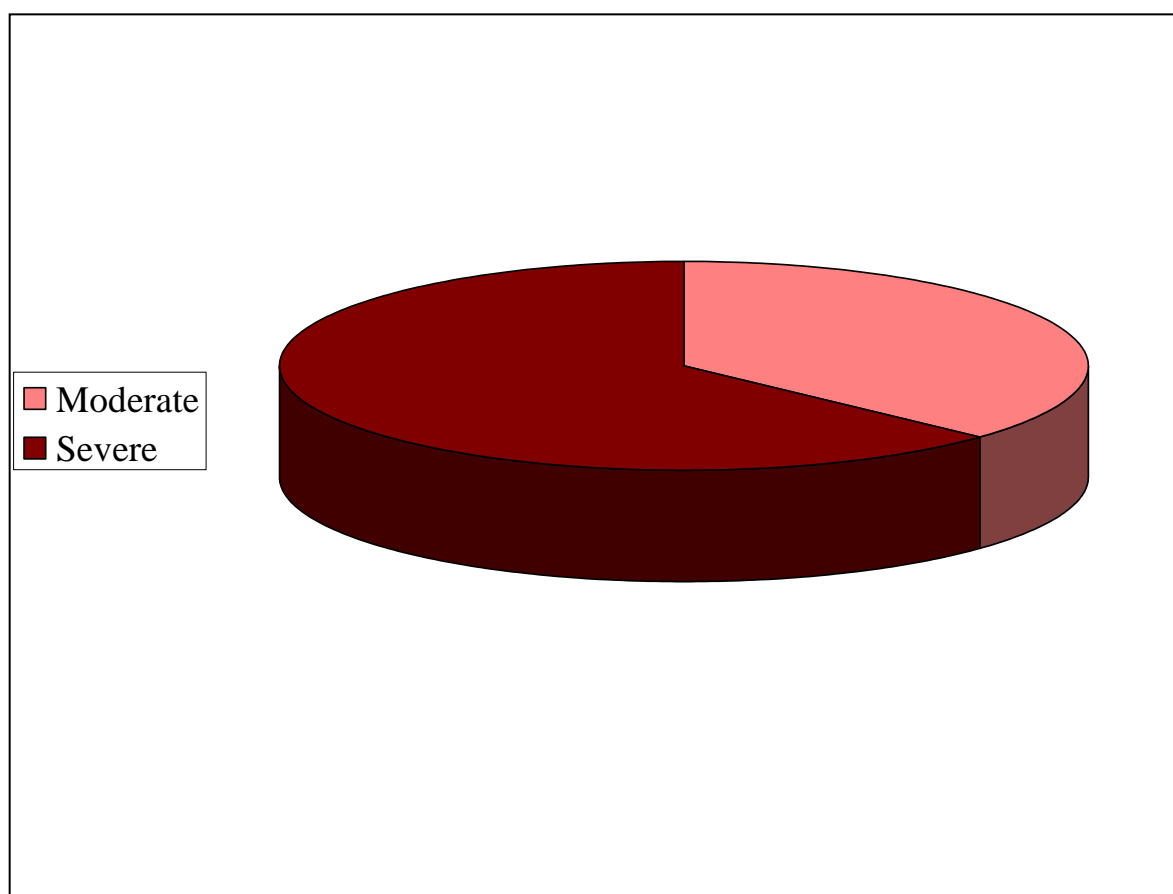


Figure (21): Number of moderate and severe groups according to the degree of hair loss.

Table (8): Hair pull test in both groups.

	Patients		Controls	
Hair pull test	No	%	No	%
Normal	0	0	12	70.6
Positive	65	100	5	29.4

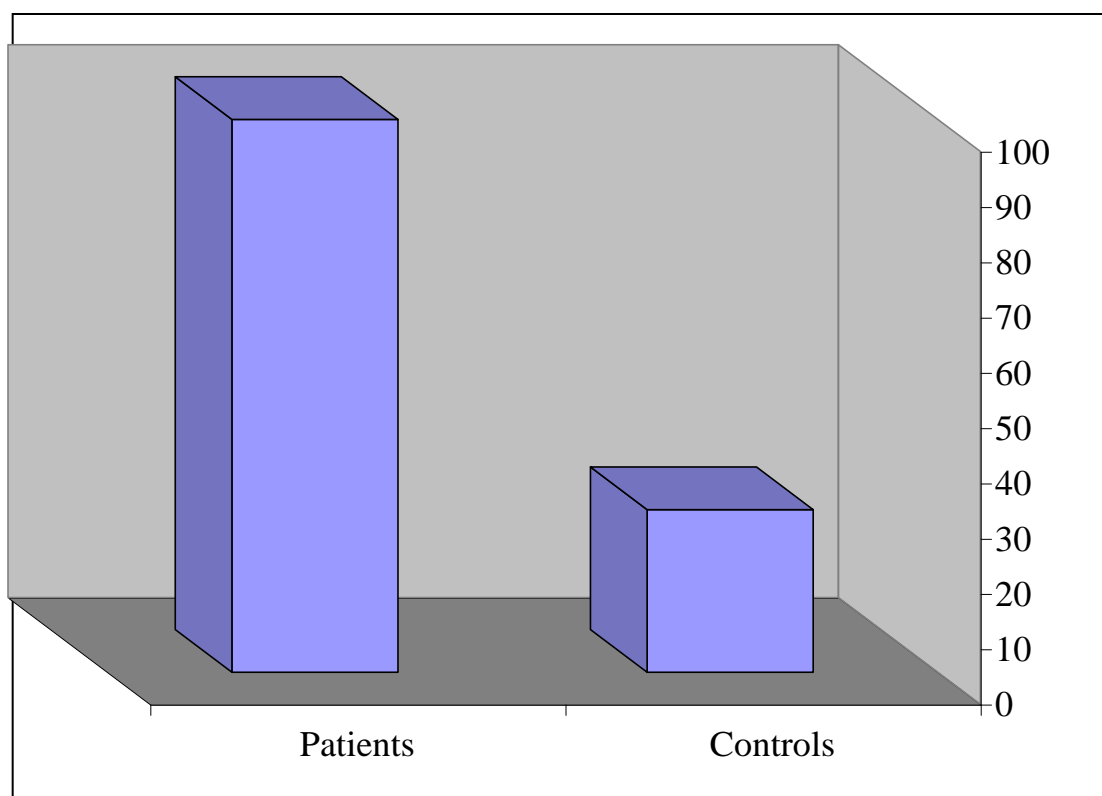


Figure (22) : The percentage of the positive hair pull test in patients and controls groups.

The mean of the anagen phase of trichogram in the patients group was $81.2\% \pm 2.7\%$, while the mean of the anagen phase in the controls group was 88.4% . There was a statistically highly significant difference between patients group and controls group, (Table 9).

Table (9) : Comparison between the patients & controls regarding anagen phase of trichogram.

	Group	No	Mean	SD	P-value
Anagen	Cases	65	81.2062	2.70760	<0.001
	Controls	17	88.4000	1.96373	

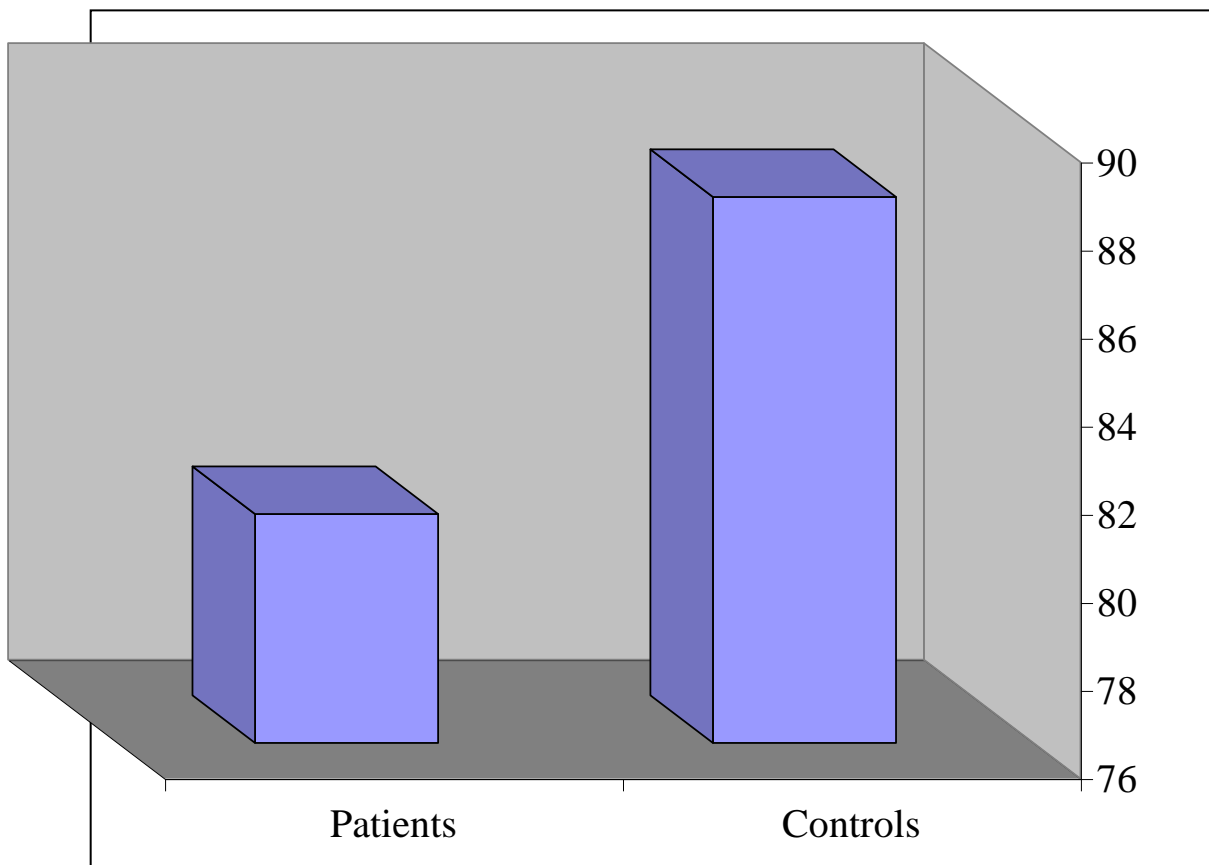


Figure (23): Comparison between patients and controls as regard anagen phase of trichogram.

The mean of the anagen phase in the moderate group was 82.16% \pm 2.33 %, severe group was 80.64% \pm 2.77% and the controls group was 88.4 % \pm 1.96%. There was a statistically highly significant difference between moderate, severe and the controls groups as regard anagen phase of trichogram. (**Table 10**).

Table (10) : Comparison between the patients subgroups & controls regarding anagen phase of trichogram.

	Group	No	Mean	SD	F	P-value
Anagen	Moderate	24	82.1628	2.3358	58.3	<0.001
	Severe	41	80.6463	2.7789		
	Control	17	88.4000	1.9637		

The mean of the telogen phase of trichogram in the patients group was $18.02\% \pm 2.93\%$, while the control group was $11\% \pm 2\%$. There was a statistically highly significant difference between patients and controls groups as regard telogen phase of trichogram (**Table 11**).

Table (11) : Comparison between the patients & controls regarding telogen phase of trichogram.

	Group	No	Mean	SD	P-value
Telogen	Cases	65	18.0277	2.93431	<0.001
	Controls	17	11	2	

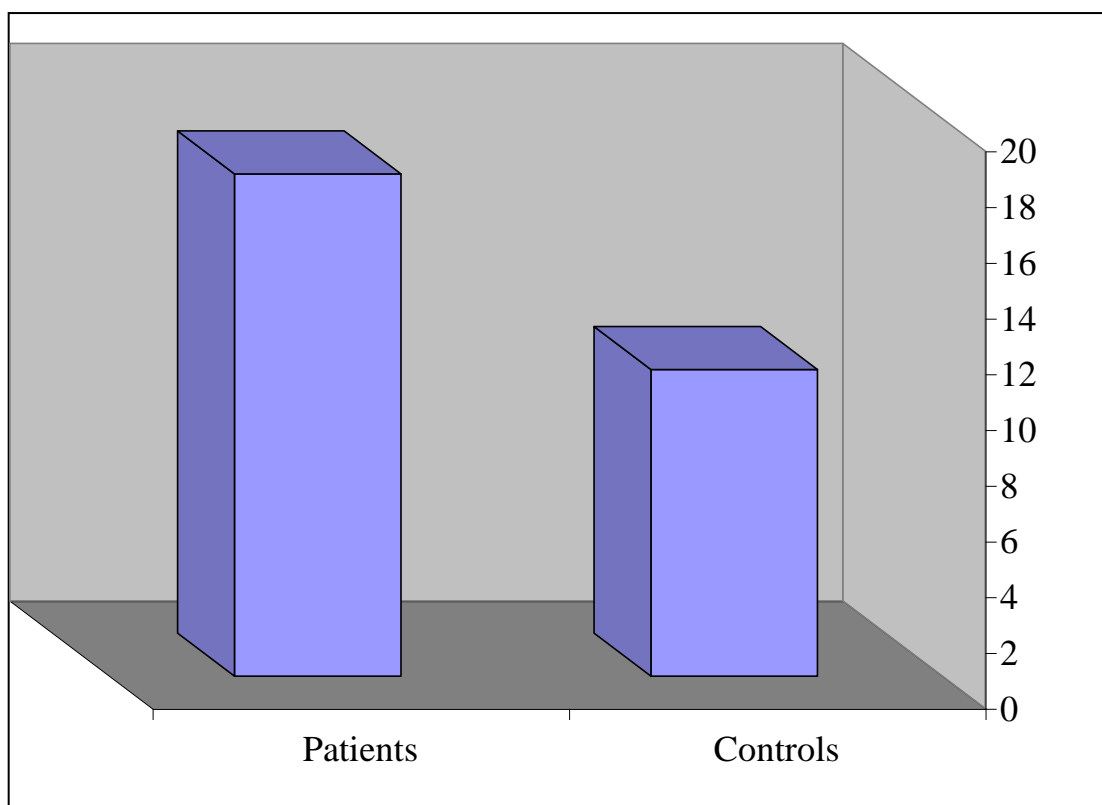


Figure (24) : Comparison between patients and controls as regard telogen phase of trichogram.

The mean of the telogen phase of the moderate group was 16.79% \pm 2.81 %, severe group was 18.74% \pm 2.77% and the controls group was 11 % \pm 2%. There was a statistically highly significant difference between moderate, severe and the controls groups as regard telogen phase of trichogram. (**Table 12**).

Table (12) : Comparison between the patients subgroups & controls regarding telogen phase of trichogram.

	Group	No	Mean	SD	F	P-value
Telogen	Moderate	24	16.7958	2.8102	9.7	<0.001
	Severe	41	18.7488	2.7773		
	Control	17	11	2		

The mean of the hemoglobin level in the patients group was 10.66 g/dl \pm 1.13 g/dl while in the controls group was 11.18 g/dl \pm 1.07 g/dl. There was no statistically significant difference between patients group and the controls group, (Table 13).

Table(13): Comparison between patients & controls regarding hemoglobin levels.

	Group	No	Mean	SD	P-value
Hemoglobin	Cases	65	10.6629	1.13038	>0.05
	Controls	17	11.1894	1.07455	

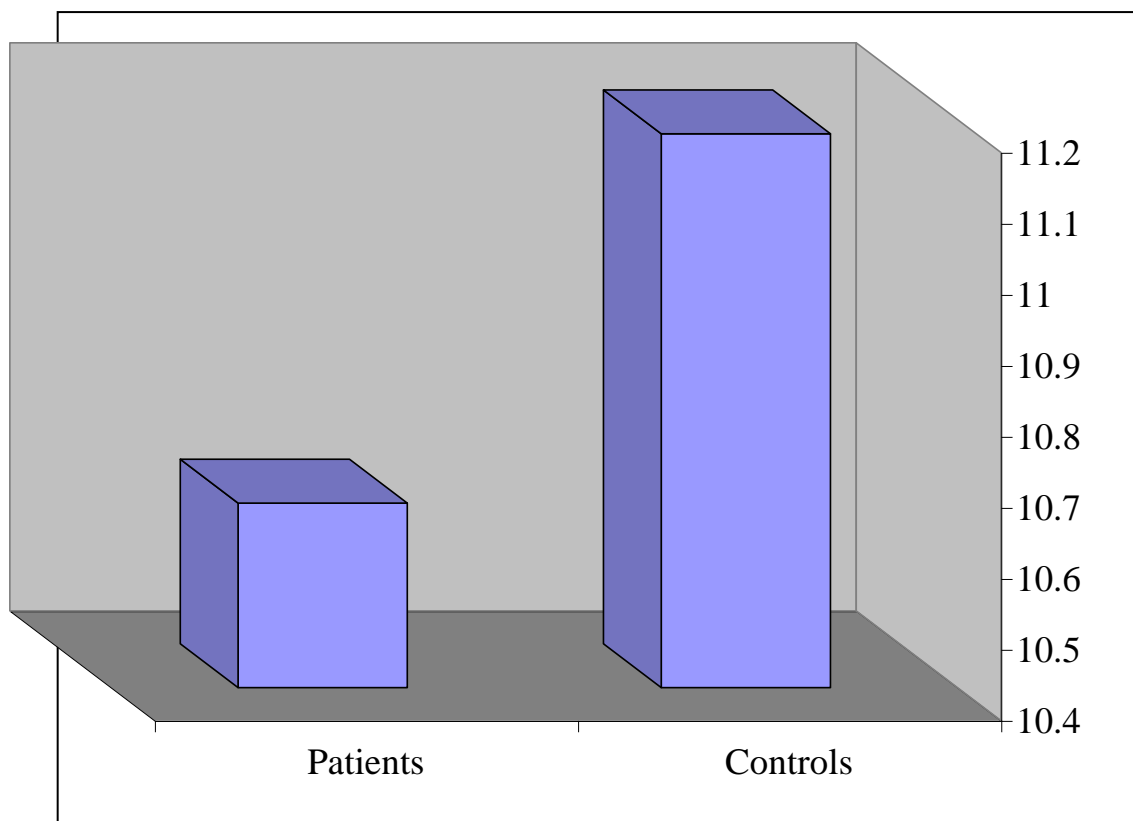


Figure (25) : Comparison between patients and controls as regard hemoglobin levels.

The mean of the hemoglobin level in the moderate group was 10.55 g/dl \pm 1.17 g/dl severe group was 10.84 g/dl \pm 1.10 g/dl and the controls group was 11.18 g/dl \pm 1.07 g/dl. There was no statistically significant difference between moderate, severe and the controls groups as regard hemoglobin level. (**Table 14**).

Table (14) : Comparison between the patients subgroups & controls regarding hemoglobin level.

	Group	No	Mean	SD	F	P-value
Hemoglobin	Moderate	24	10.5585	1.1707	1.9	>0.05
	Severe	41	10.8412	1.1072		
	Control	17	11.1894	1.0745		

The mean ferritin level in the moderate group was $15.59\mu\text{g/l} \pm 2.8 \mu\text{g/l}$, severe group was $6.47 \mu\text{g/l} \pm 3.24 \mu\text{g/l}$ and the controls group was $26.02 \mu\text{g/l} \pm 4.71 \mu\text{g/l}$. There was a statistically significant difference between moderate, severe and the controls groups as regard ferritin levels, (Table 15).

Table (15) : Comparison between the patients subgroups & controls regarding ferritin levels.

	Group	No	Mean	SD	F	P-value
Ferritin	Moderate	24	15.5901	2.80075	22.6	<0.05
	Severe	41	6.4728	3.24671		
	Control	17	26.0280	4.71966		

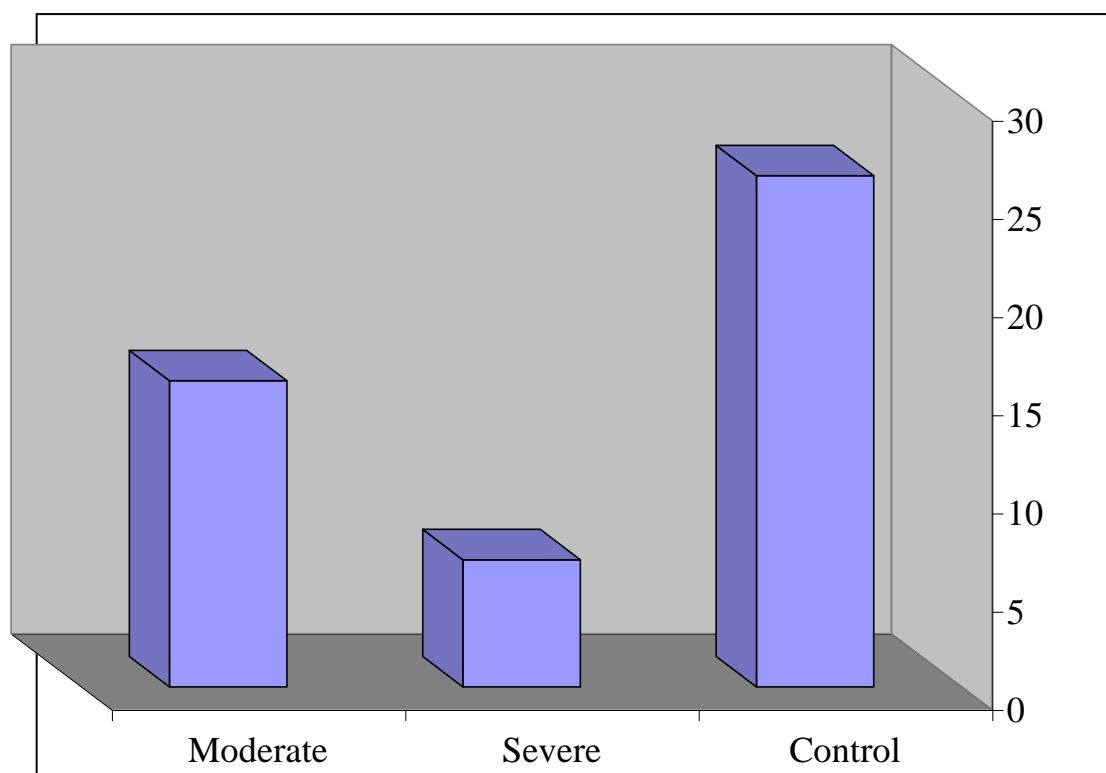


Figure (26) : Comparison between patients subgroups and controls as regard ferritin levels.

There was a statistically highly significant difference between means of ferritin levels in the severe group and the moderate group of diffuse hair loss, (Table 16).

Table(16) : Comparison between the moderate & severe groups regarding ferritin levels.

	Group	No	Mean	SD	t	p
Ferritin	Moderate	24	15.5901	2.80075	11.9	<0.001 HS
	Severe	41	6.4728	3.24671		

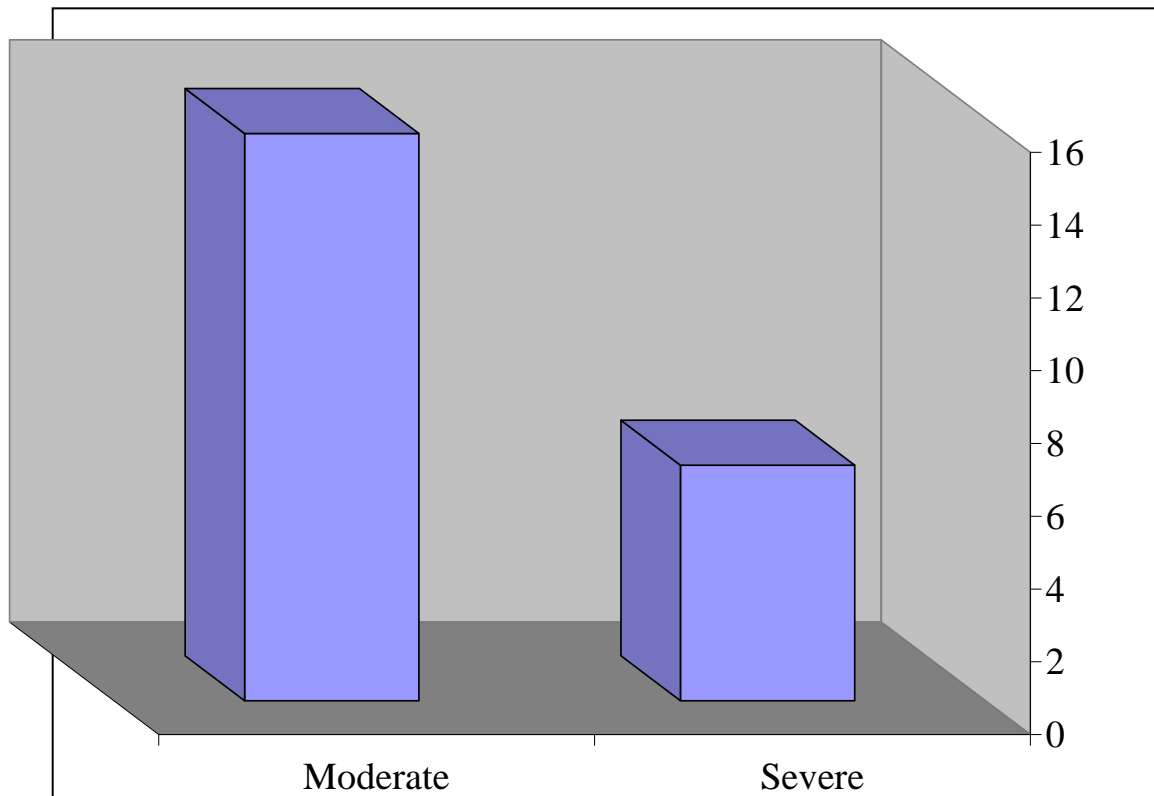


Figure (27): Comparison between moderate and severe groups as regard ferritin levels.

Figure (28) : A root of an anagen hair showing a pigmented bulb with intact inner and outer root sheath (X 200).

Figure (29) : The inner and the outer root sheath of an anagen hair (X 200).

Figure (30) : The inner and the outer root sheath of an anagen hair (X 400).

Figure (31) : A root of a telogen hair showing a club hair with depigmented bulb (X 200).

Figure (32) : A root of a telogen hair (X 400).

Figure (33) : This figure shows on the left side a broken hair and root of a telogen on the right side (X 100).

Figure (34) : A dystrophic hair (X 100).

**Figure (35) : Hair shaft with regular pattern of the hair medulla
surrounded by melanin pigmentation (X400).**

Figure (36) : A split hair (X 200).

Figure (37) : Higher magnification a split hair (X 400).