RESULTS

The collected data used for comparison between PCOS group and control group includes patients characteristics and ultrasound measurements were tabulated and shown in figures.
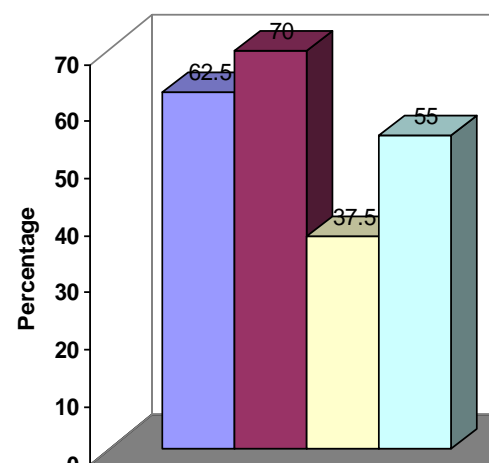
- **Patient characteristics:**

Regarding the study group (PCOS) as diagnosed according to the Rotterdam criteria, of these 40 patients, 10 (25%)were ovulatory hyperandrogenic women with PCOs on the 2 D ultrasound picture, 8 (20%) were anovulatory normoandrogenic women with PCOs by US and the remaining 22 (55%) were anovulatory hyperandrogenic women with or without PCOs by US. Among the 32 women with clinical and/or biochemical hyperandrogenism, 28(70%) were hirsute while 15(37.5%) suffered from acne. Also about 25 women(62.5%) have oligohypomenorrhea and 22women(55%) have a revesed LH: FSH ratio .
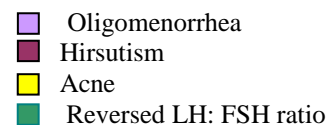
- **Table (1):**

Clinical and laboratory characteristics of PCOS group:

Variable	PCO group No.	%
Oligomenorrhea	25	62.5
Hirsutism	28	70.0
Acne	15	37.5
Reversed LH:FSH ratio	22	55.0

- **Figure(1):**

■ Oligomenorrhea
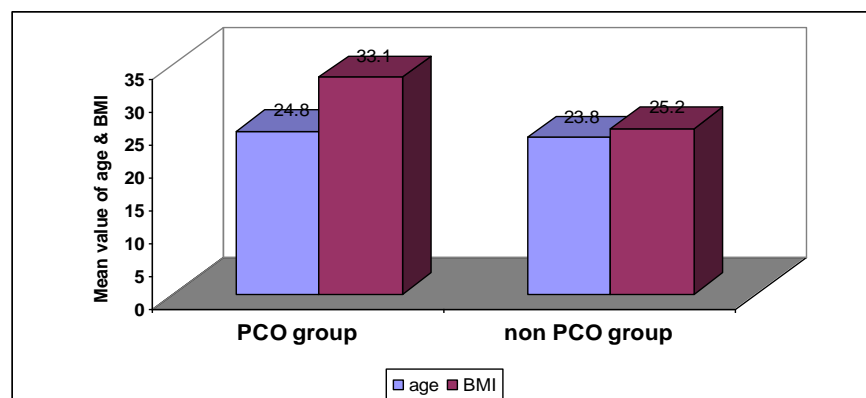■ Hirsutism
□ Acne
■ Reversed LH: FSH ratio

- *Table (2):*

    Comparison between PCO and control groups regarding the age and BMI(Body Mass Index):

Group Variable	PCO group	control group	"t"	P
Age (years)				
Range	(21-30)	(18-32)		
Mean ± SD	24.8 ± 2.6	23.8±4.2	1.22	>0.05
BMI (Kg\m²)				
Range	(27-40)	(22-30)		
Mean ± SD	33.1±4.4	25.2±2.9	9.5	<0.001*

The mean BMI of PCOS group was significantly higher than the control group(p value <0.001) but there were no significant differences in the mean ages between both groups ($p >$ 0.05).
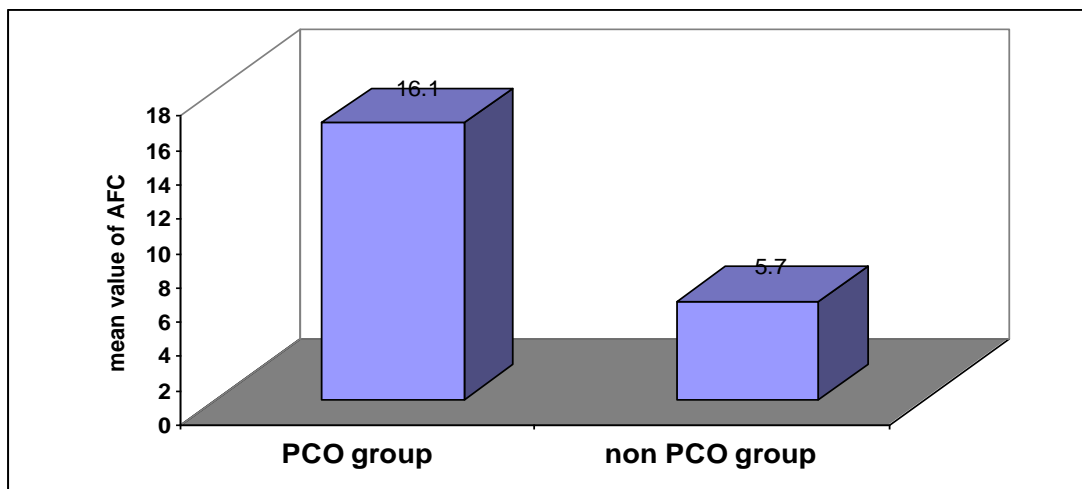
   *SD : standard deviation

- **Figure (2):**

- **Ultrasound measurements:**

- *Table (3):*

Comparison between PCO and control groups regarding Antral Follicle Count(AFC) as measured by 2 D ultrasound:

Group Variable	PCO group	control group	"t"	P
Range(follicle)	(9-30)	(2-10)		
Mean ± SD	16.1±5.3	5.7±2.2	11.5	<0.001*

The mean AFC of PCOS group was significantly higher than the control group(*p* value <0.001) .
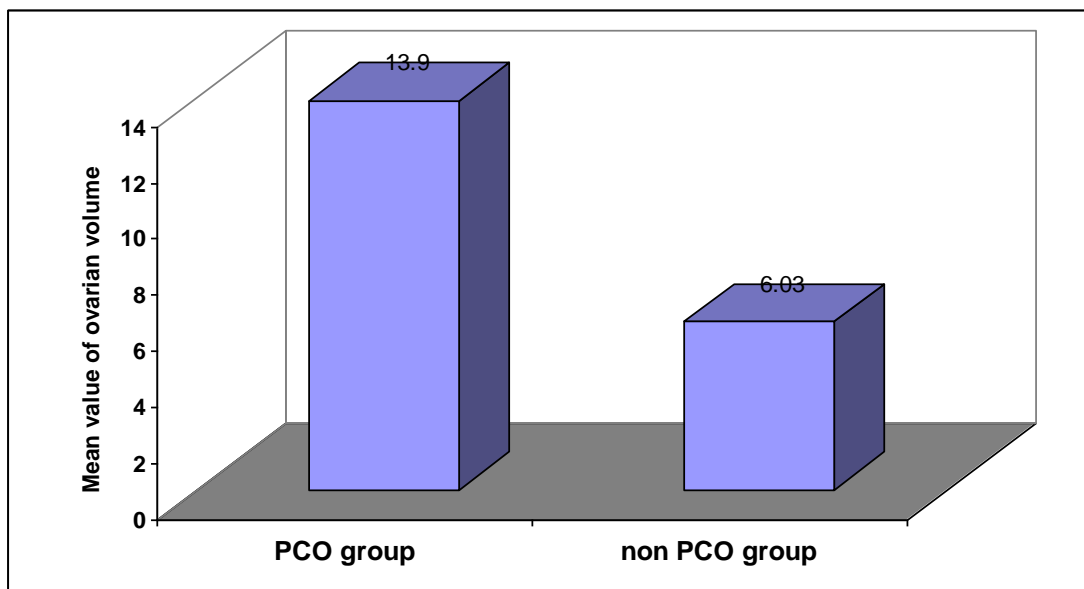
- **Figure (3):**

- *Table (4):*

Comparison between PCO and control groups regarding the total ovarian volume measured by VOCAL program (3 D ultrasound) :

Group Variable	PCO group	control group	"t"	P
Range(cm^3)	(9.08-22.31)	(2.51-10.03)		
Mean ± SD	13.9±3.54	6.03±2.18	11.9	<0.001*

The mean total ovarian volume of PCOS group was significantly higher than the control group(*p* value <0.001) .
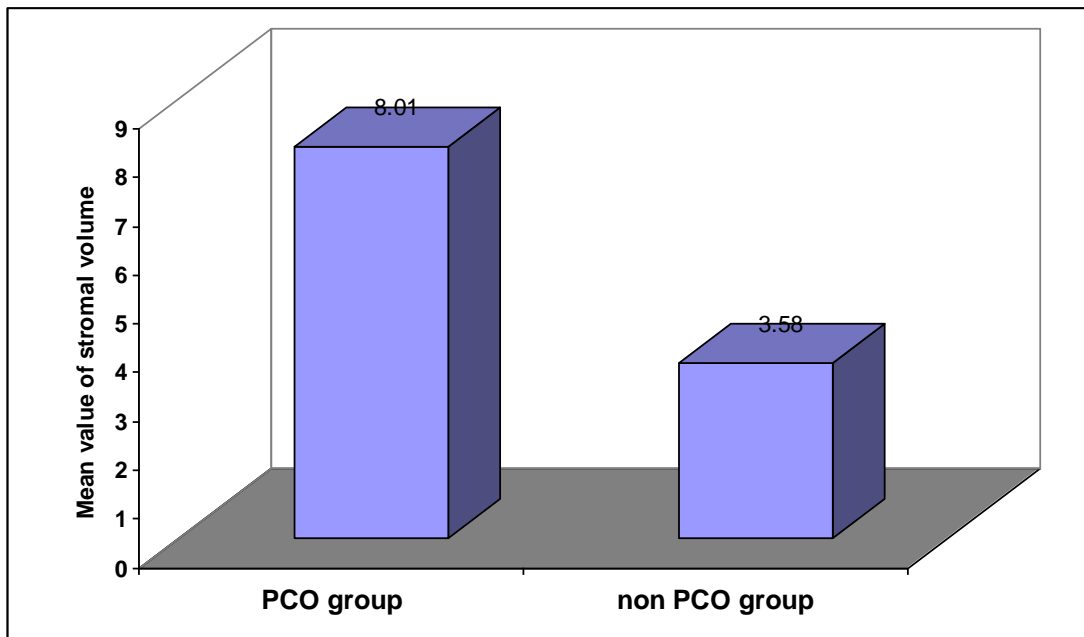
- **Figure (4):**

- *Table (5):*

Comparison between PCO and control groups regarding the stromal volume measured by subtraction of the follicular volumes(obtained by sono AVC program) from the total ovarian volume:

Group / Variable	PCO group	control group	"t"	P
Range(cm^3)	(3.72-15.62)	(1.14-7.76)		
Mean ± SD	8.01±2.94	3.58±1.84	8.08	<0.001*

The mean stromal volume of PCOS group was significantly higher than the control group(*p* value <0.001) .
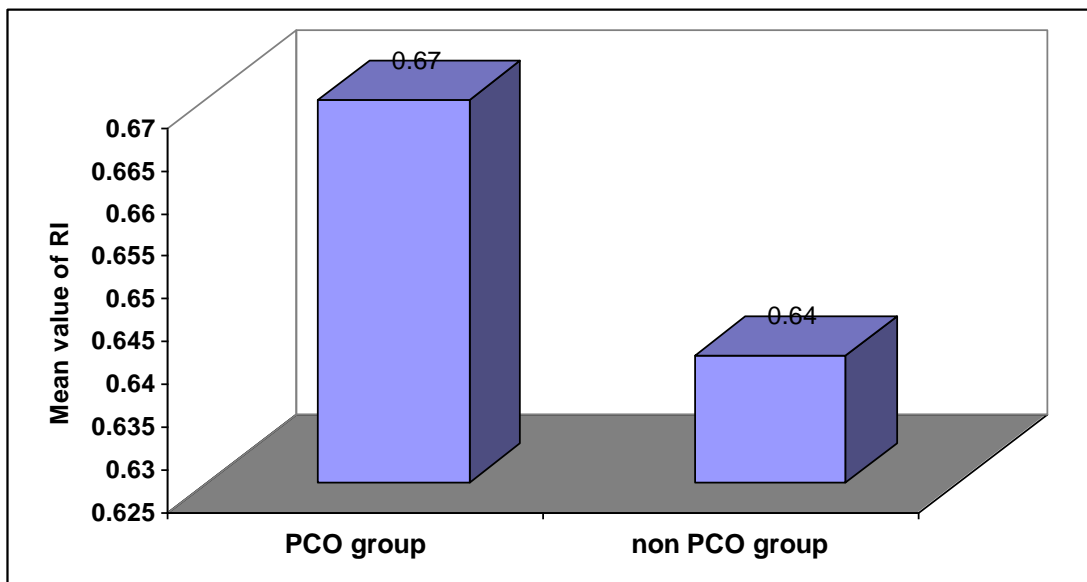
- **Figure (5):**

- *Table (6):*

  Comparison between PCO and control groups regarding the Resistance Index of the main ovarian stromal vessels (RI) as measured by pulsed wave Doppler(2 D Doppler ultrasound):

Group / Variable	PCO group	Control group	"t"	P
Range	(0.49-0.97)	(0.22-2.6)		
Mean ± SD	0.67±0.11	0.64±0.48	0.39	>0.05(NS)

The Resistance Index of the main ovarian stromal vessels (RI) of PCOS group was statistically non significant compared to the control group(p >0.05 value).
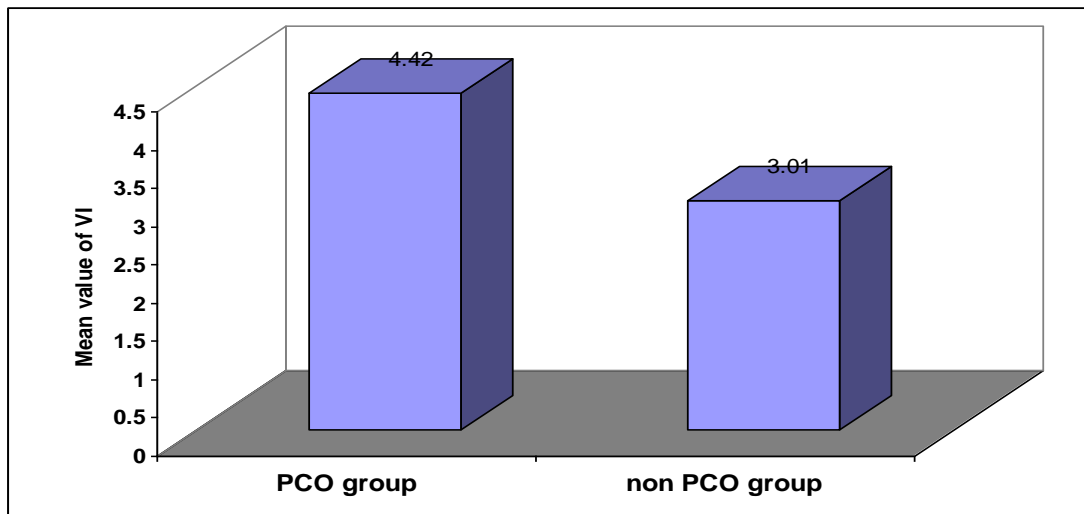
- **Figure (6):**

- *Table (7):*

Comparison between PCO and control groups regarding Vascularization Index (VI) measured by using Three-Dimensional power Doppler ultrasonography:

Group Variable	PCO group	control group	"t"	P
Range(%)	(1.02-7.22)	(0.66-6.68)		
Mean ± SD	4.42±1.74	3.01±1.87	3.49	0.001*

The mean Vascularization index was higher among cases of PCOS compared to control group with a statistical significant difference in between them (P<0.001).
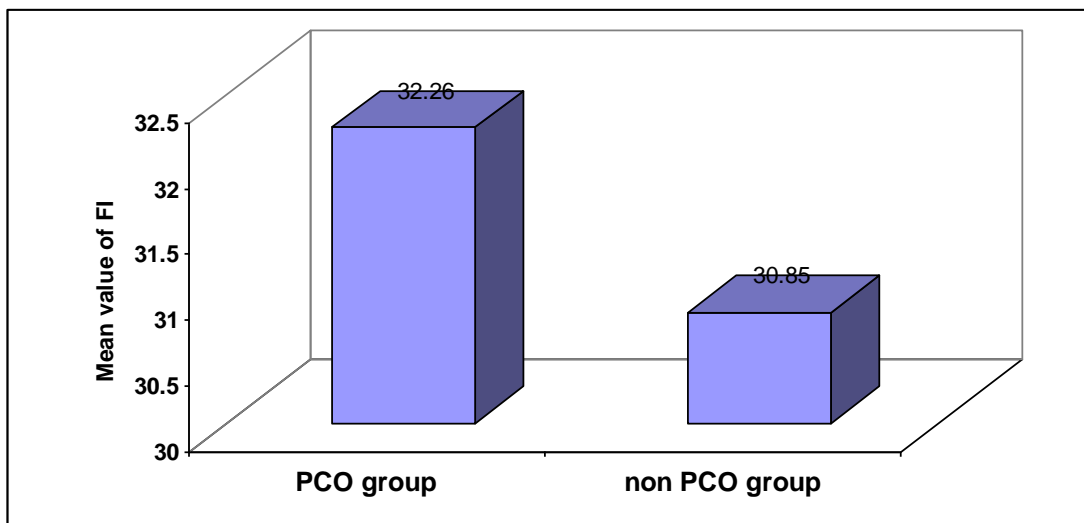
- **Figure (7):**

- *Table (8):*

Comparison between PCO and control groups regarding Flow Index (FI) measured by using Three-Dimensional power Doppler ultrasonography:

Group Variable	PCO group	control group	"t"	P
Range	(20.99-50.6)	(20.23-49.83)		
Mean ± SD	32.26±7.43	30.85±8.69	0.78	>0.05(NS)

The mean flow index was statistically non significant among cases of PCOS compared to control group (*P* >0.05).

- **Figure (8):**

- **<u>Table</u> (9):**

Comparison between   PCO and control   groups regarding Vascularization Flow Index (VFI) measured by using Three-Dimensional power Doppler ultrasonography:

Group / Variable	PCO group	control group	"t"	P
Range	(0.85-4.12)	(0.33-2.44)		
Mean ± SD	2.51±1.04	1.19±0.72	6.54	<0.001*

The mean Vascularization Flow index was higher among cases of PCOS compared to control   group with a statistical significant difference in between them (P<0.001).

- **Figure (9):**