

4. Discussion

Polycystic ovary syndrome (PCOS) is one of the most female endocrine disorders affecting approximately 5%-10% of women of reproductive age (12-45 years old) and is one of the leading causes of infertility, metabolic abnormalities, obesity and cardiac disease [13, 14, 15].

In this study a test group of 200 patients with polycystic ovary syndrome were compared to 100 apparently healthy volunteers, both groups were matched for age and height. Weight and body mass index were significantly raised in patients with polycystic ovary syndrome compared to controls, according to interpretation of BMI, 51% were found to be over weight. (BMI between 25 and 29.9 Kg/m²), 36.6% were obese (BMI > 30 Kg/m²), whereas 11.5% were found to have normal refranceweigth (BMI between 19 and 25 Kg/m²), and only 1% were fonud to be under weight (BMI < 19 Kg/m²).

In the 1999 National Health and Nutrition Examination Survey in U.S on women with PCOS [16], it was reported that the prevalence of obesity, was found to be (42%) which was higher than in the present study subjects (36.6%) whereas in Spanish patients with PCOS it was (30%) [17], while the prevalance of obesity in Greek women with PCOS was found be (38%) [18].The overweight women with PCOS in the present study constitute about (51%). These data suggesst that the majority (more than 83%) of patients with polycysitic ovary syndrome in the present study have BMI above the normal reference

In this study, women with polycystic ovary syndrome had significant increase in the serum levels of Luteinizing hormone compared with control subjects (p=0,001), this agrees with a study done by Wild et al [19] who reported that patients with polycystic ovary syndrome had higher serum (LH) to (FSH) ratios, also this agrees with a study done by Fauser et al., who reported that, Both the absolute level of circulating LH and its relationship to FSH levels are significantly elevated in PCOS women as compared with controls, this is due to increased amplitude and frequency of LH pulses. Elevated LH concentrations (above the 95th percentile of normal) can be observed in 60% of PCOS women [20], whereas the LH/FSH ratio may be elevated in up to 95% of subjects [21], if women who have ovulated recently are excluded. LH levels may be influenced by the temporal relationship to ovulation, which transiently normalizes LH, by the BMI (being higher in lean PCOS women) and by the assay system used. In the current study, there was a very weak negative correlation between the body mass index (BMI) and the serum levels of LH, and there was a very weak negative correlation between the serum levels of luteinizing hormone and the serum levels of insulin, this result agrees with a study done by Yen et al [21], who reported that serum LH concentrations are commonly elevated in women with PCOS.

5. Conclusion

The current study demonstrated that the PCOS causes significant increases of serum insulin and LH levels in women and high body mass index. Weight reduction in obese

women with the polycystic ovary syndrome should be encouraged [22] in an effort to limit the risk of hyperinsulinemia, type II diabetes and long-term cardiovascular disease. More investigations should be done to demonstrate the relationship between hyperinsulinemia, elevated LH level and insulin resistance obesity in PCOS patients. On the other hand the elevated BMI increases the risk for insulin resistance and Diabetes Mellitus

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