Summary and Conclusion

Summary:

Polycystic ovary syndrome (PCOS) is the most common cause of anovulatory infertility affecting between 5% and 10% of women of reproductive age ***(Haas et al., 2003; Kucuk and Kilic-Okman, 2005 and Urman and Yakin, 2006)***.

Several diagnostic criteria are used to diagnose polycystic ovary syndrome, but the most widely accepted definition of the syndrome is chronic anovulation or oligomenorrhea and clinical or laboratory hyperandrogenemia in the absence of other sources of androgen excess. **(*Rotterdam Consensus Group, 2003)***.

In 75% of patients with PCOS, ovulation induction occurs with clomiphene citrate treatment; however 25% of patients are clomiphene citrate resistant and require alternative treatment including the addition of Insulin-sensitizing agents (mainly metformin), human menopausal gonadotropin therapy or surgically by laparoscopic ovarian drilling (LOD) ***(Palamba et al., 2006)***.

Laparoscopic ovarian drilling was first described in 1984 by Gjonnaess as an alternative method to ovarian wedge resection for treating patients with anovulatory PCOS. Since then, a number of studies reported the success and utility of this procedure that resulted in good ovulatory and pregnancy rates ***(Farquhar et al., 2000)***. Laparoscopic ovarian drilling is characterized by effectiveness in inducing ovulation as gonadotrophin use, and also by fewer side effects.

Despite the favorable aspects, LOD is an invasive procedure that can be associated with pelvic adhesion formation. In fact, many authors believe that periovarian adhesions after ovarian drilling are much less when compared with ovarian wedge resection. But still some significant adnexal adhesion that adversely affects fertility and seems to be the main cause of disparity between ovulation and pregnancy rate ***(Naether et al., 1993)***.

Although many studies concerning the endocrine effects of LOD have been performed ***(Alborzi et al., 2001 and Vicino et al., 2000)***, few has emphasized on the cause of disparity between these hormonal changes and ovulation rate ***(Parsanezhad et al. 2005)***. Several studies have reported higher incidence of hyperprolactinemia among PCOS patients after LOD ***(Mah and Webster, 2002)***. It may be one of the causes of disparity between the correction of hormonal status and ovulation rate after LOD ***(Kovacs et al., 2002)***.

The aim of this study was to evaluate the changes in the serum prolactin level in relation to ovulation rate after laparoscopic ovarian drilling in patients with polycystic ovary syndrome. The present study done on fifty women with PCOS among those attending Tanta military hospital outpatient clinic and were candidate for LOD. All of them were resistant to clomiphene citrate treatment. Prolactin and progesterone levels were measured in all patients before and after operation.

The age of patients ranged from 19 to 36 years (mean 28.36$\pm$3.98). Their body mass index (BMI) ranged from 22.18 - 35.15kg/m^2 (mean 29.68 $\pm$ 3.05). All of them complained of primary infertility with a mean duration of 3.658 $\pm$ 2.15 years.

It is found that 52% of patients ovulate after LOD; they did not show any elevation in prolactin level after the operation. In the remaining 48% who did not ovulate, there is a significant elevation of serum prolactin levels after LOD. The mean prolactin levels before LOD was 19.38 $\pm$ 7.76 ng/dl (range 6.5-29.5) when compared with post operative mean prolactin levels 27.34 $\pm$ 4.02 ng/dl (range 7.9-39.5).

Hyperprolactinemia was found in 29.16% of those patients one month after the operation. Although the cause of this hyperprolactinemia is unknown, there should be a reason for this elevation. This may be evaluated in other studies. There was no correlation of post LOD hyperprolactinemia with either age, BMI, duration of infertility or pre-LOD serum prolactin levels. Also, there was no correlation of pre and post LOD prolactin level with age, BMI or duration of infertility in those patients.

Conclusion:

I conclude that women with PCO who remained anovulatory after LOD may have elevated prolactin levels. There was post-operative hyperprolactinemia in 29.16% of non ovulating patients. The cause of this hyperprolactinaemia is unclear. Therefore, the anovulation which may still persist after LOD can be attributed to post-LOD hyperprolactinemia and prolactin assay in anovulatory patients after LOD is recommended.