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Prospective Study To Study The Effect Of Routine Salpingectomy With Hysterectomy On Ovarian Reserve

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ABSTRACT
Fallopian tube removal (salpingectomy) is being incorporated in routine hysterectomy procedures as there have been theories supporting less incidence of development of adnexal mass including an ovarian tumor in post hysterectomy patients. The Fallopian tube is also considered a reservoir of serious tubular intraepithelial carcinoma precursor cells, which are considered to be a precursor of epithelial ovarian carcinoma, so studying the ovarian reserve before and after routine salpingectomy helps in deciding whether or not salpingectomy affects ovarian reserve in patients undergoing a hysterectomy. As diminished ovarian reserve predisposes to the onset of postmenopausal symptoms, one of the drawbacks of hysterectomy.

Keyword: Salpingectomy, Hysterectomy, Ovarian Reserve.

1. OVARIAN RESERVE ASSESSMENT

Ovarian reserve could be assessed by measuring the level of hormones like LH, FSH, Estradiol (D2) and AMH (cycle independent marker).Radiological markers include ovarian volume, antral follicle count and pulsatility index of ovarian vessels.

2. MATERIAL AND METHODS

A prospective study was carried out in the Obstetrics and Gynaecology Department at IMS, BHU, Varanasi in which patients undergoing total abdominal hysterectomy for benign conditions were included.100 cases were taken out of which 50 patients underwent salpingectomy with hysterectomy and another 50 salpingectomy was not done. Two groups were investigated for ovarian reserve parameters preoperatively and postoperatively at 1 and 6 months. Parameters taken were Hormonal, in form of D2 LH, FSH, E2 and AMH, Radiological, in form of antral follicle count, ovarian volume, and pulsatility index. All these parameters were obtained preoperatively and in postoperative period at 1 and 6 months.

2.1 Inclusion Criteria

- CASE: patients undergoing hysterectomy with salpingectomy, for benign conditions.
- CONTROL: patients undergoing hysterectomy without salpingectomy.

1.2 Exclusion Criteria

Patients having any kind of malignancy, history of tubal or ovarian surgery, intake of hormonal contraceptives for past 2 months, substance abuse, chemo/radiotherapy.

Statistical analysis was done using SPSS statistical software (version 16.0). Descriptive statistics like mean,

frequency and percentages of various parameters were calculated. For categorical variable Chi –Square test and Fischer's Exact test was used.

3. OBSERVATIONS

In the present study, 50 case and 50 controls were taken and a comparative study of ovarian reserve parameters with clinical and demographic parameters was done. Comparison of hormonal and sonographic parameters preoperatively and postoperatively at 1 month and 6 months among case and control revealed that

- There is a significant decrease in LH values in both case and control in the postoperative period.
- There is a significant increase in FSH values in both case and control in the postoperative period.
- E2, AMH and ovarian volume and PI (Pulsatility Index) values appear to decrease in both groups but the change is found to be insignificant.
- Antral follicle counts appear to decrease significantly in both groups.

FSH, AMH, Ovarian volume, Antral follicle count and Pulsatility index was found to be decreased in case of the group from preoperative levels to postoperative levels at 1 and 6 months respectively.

Change in LH and E2 levels from preoperative to the postoperative period at 1 and 6 months was found to be in decreasing trend but are of no significance.

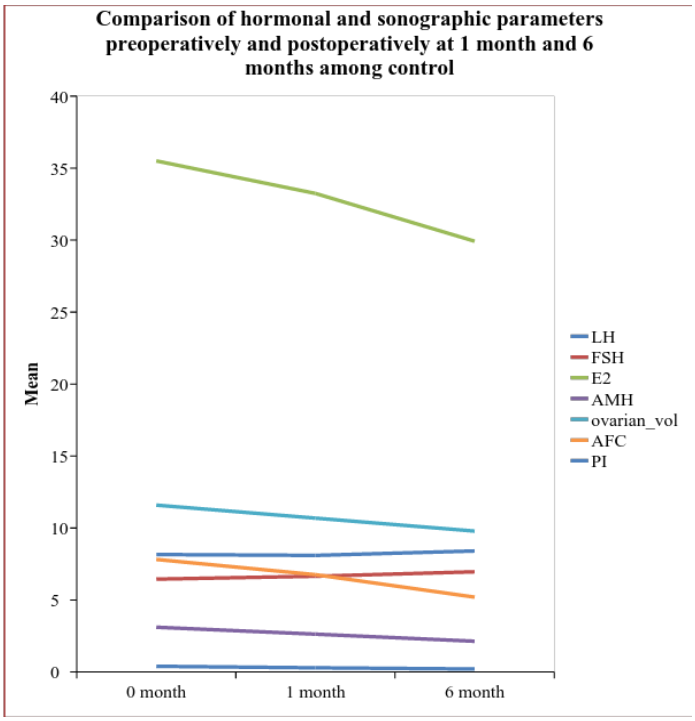

Chart -2: Comparison of hormonal and sonographic parameters preoperatively and postoperatively at 1 month and 6 months among control.

4. DISCUSSION

In our study, we compared ovarian reserve with and without salpingectomy and observed a decrease in ovarian reserve in both groups postoperatively in comparison to preoperative value. There was no extra detrimental effect of salpingectomy on ovarian reserve in the case group. A previous retrospective study demonstrated that women with the severe tubal damage already have impaired ovarian function and a lower response to ovarian stimulation and Freeman suggested that hydrosalpinges may have a permanent negative influence on ovarian function, follicular development and oocyte quality [28]. Retrospective case-control study supported the statement that salpingectomy does not impair ovarian function [17].

In a study effect of salpingectomy over hormonal function and ovarian blood flow was assessed. After 3 months of surgery, there was a statistically significant increase in FSH, LH hormones, and ovarian volume. There was no significant change in estradiol and progesterone concentration.

In a retrospective analysis of the effect of salpingectomy on serum AMH and ovarian reserve by Ye XP, salpingectomy was found to be associated with decreased AMH level and increased FSH in women, suggesting decreased ovarian reserve [29].

In a randomized control study by Austin effect of salpingectomy along with laparoscopic hysterectomy on ovarian reserve was studied after 4 week period using AMH [7]. Mean AMH levels were not significantly different at baseline and 4 weeks after.

5. RESULT

Ovarian reserve was found to be in a decreasing pattern in postoperative period at successive months in both groups in same proportion thereby we can say that salpingectomy has no detrimental effect on ovarian reserve per se.

4. CONCLUSION

Salpingectomy should be done routinely with hysterectomy.

6. REFERENCES

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