

## PROPHYLACTIC OOPHORECTOMY

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### SUMMARY

A prospective study of 400 cases of hysterectomies (300 abdominal and 100 vaginal) for non-malignant conditions amongst premenopausals was conducted covering a period of 14 years (1981 to 1994). Among the late morbidities hot flushes, vaginal vault granuloma, vault prolapse, osteoporosis, ovarian cystic and neoplastic changes (when ovaries were retained) and psychosomatic problems were significant. Of these the commonest was hot flushes. This was more prevalent where ovaries were removed (prophylactic oophorectomy, but also detected within a short period in cases where ovaries were preserved. Prophylactic bilateral oophorectomies during hysterectomies make a neater operation, prevent subsequent neoplastic diseases from retained ovaries, have less incidence of vault granuloma (due to low grade parametritis involving retained tubes and ovaries) and psychosomatic problems in the form of true frigidity and dyspareunia (due to retained ovaries, prolapse of ovaries in the vaginal vault, and vault granuloma). Routine oophorectomy while undertaking hysterectomies for benign conditions is favoured and hormone replacement therapy (H R T ) advised with rationality in the followup clinics.

### INTRODUCTION

Hysterectomy is one of the most frequently performed major operations in pelvic

surgery. While undertaking this operation for benign conditions, ovarian preservation is a rational practice among premenopausals, as the preserved ovaries may continue to function. But ovarian preservation has been found to be associated with increased

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Accepted for Publication on 13.4.96*

morbidity, both immediate and delayed. Moreover ovarian functions are lost subsequently in many cases. The present study has been undertaken to evaluate the differences in morbidity patterns with regard to ovarian preservation and rationality of undertaking prophylactic oophorectomy during hysterectomy for benign conditions.

#### MATERIALS AND METHODS

This is a prospective study of 400 cases of hysterectomies (300 abdominal and 100 vaginal) for non-malignant indications amongst pre-menopausal women. This study covered a period of 14 years (1981 to 1994).

Post-operative complications were evaluated in the follow up clinics. The

morbidity patterns were assessed in relation to the route of operation, ovarian preservation or prophylactic oophorectomies. In the follow up clinics, apart from clinical examination, special investigations were undertaken, such as blood lipid profile, serum calcium, radiological examination of long bones and spine (for detection of osteoporosis) and cyto-hormonal study (vaginal) and radio-immuno assay of serum gonadotrophin (FSH). In addition a psychiatric evaluation was undertaken in selected cases. On evaluation various treatment protocols were advised as applicable.

#### RESULTS AND ANALYSIS

In the abdominal group, majority of

**Table I**  
**AGE DISTRIBUTION**

Age group	Route of operation	
	Vaginal	Abdominal
25 - 35	—	50
36 - 45	30	165
46 - 55	70	85

**Table II**  
**PROPHYLACTIC OOPHORECTOMY**

Operation type	Hysterectomy	
	Vaginal	Abdominal
Total hysterectomy	80	84
Total hysterectomy with unilateral salpingo-oophorectomy	6	30
Total hysterectomy with bilateral salpingo-oophorectomy	14	186

the cases were in the age group of 36 to 45 years (165 cases, 55%). In the vaginal group, majority were in the age group of 46 to 55 years (70 cases, 70%).

The majority of cases in the abdominal hysterectomy group and both the ovaries removed (186 cases, 62%). Whereas in the vaginal group majority of the cases and their ovaries retained (80%).

In the immediate post-operative period, high incidence of complications were detected in the vaginal hysterectomy group, 35 cases

(35%), mostly urinary tract infections and retention of urine. In the abdominal hysterectomy group complications were fewer, 60 cases (20%) and of minor types.

Late morbidity conditions were detected in 30 cases (30%) in the vaginal hysterectomy group and in 209 cases (70%) in the abdominal hysterectomy group.

Hot flushes were mostly found in the group where both the ovaries were removed, and usually appeared 3 to 6 weeks following the hysterectomy.

**Table III**  
**HYSTERECTOMY - LATE COMPLICATIONS**

Complications	Hysterectomies	
	Vaginal (100)	Abdominal (300)
Hot flushes	27	209
Vaginal vault granuloma	4	42
Vaginal vault prolapse	10	8
Ovarian neoplasm (retained ovaries)	2	10
Osteoporosis	—	22
Psychosomatic problems	12	32

**Table IV**  
**HOT FLUSHES - POST HYSTERECTOMY**

Hysterectomy type	Hot flushes	
	Vaginal	Abdominal
Total hysterectomy	16	24
Total hysterectomy with unilateral salpingo-oophorectomy	1	15
Total hysterectomy with bilateral salpingo-oophorectomy	10	170

### POST-HYSTERECTOMY : OVAR- IAN HORMONAL FUNCTIONS

Ovarian hormonal functions were found to be low or absent in 30 cases out of the 50 cases studied (60%) in the group where one or both the ovaries were retained during hysterectomy. The study was based on vaginal cyto-hormonal profile and radio-immunoassay of blood FSH done periodically during the first year of the operation (over 3 months to 1 year).

Most of the cases of vaginal vault

granuloma developed in the abdominal hysterectomy group where the ovaries were retained, 27 out of 84 cases (32.1%).

In the abdominal hysterectomy group, in 32 cases out of 60 cases studied, patients developed decreased libido in the form of true frigidity and dyspaerunia. Out of these 32 cases, in 28 cases ovaries were retained. In the vaginal hysterectomy group, in 12 cases out of the 24 cases studied, patients developed decreased libido. Other psychiatric problems were depression, which was

**Table V**  
**VAGINAL VAULT GRANULOMA - POST HYSTERECTOMY**

Hysterectomy type	Vaginal vault granuloma	
	Vaginal	Abdominal
Total hysterectomy	4	27
Total hysterectomy with unilateral salpingo-oophorectomy	—	12
Total hysterectomy with bilateral salpingo-oophorectomy	—	3

**Table VI**  
**PSYCHOSOMATIC PROBLEMS**

Psychosomatic problems	Hysterectomy	
	Vaginal (24)	Abdominal (60)
Improved libido	3	12
Decreased libido	12	32
Depression	6	25
Dyspaerunia	10	28
True frigidity	1	30

detected in 25 cases in the abdominal hysterectomy group.

In 22 cases of the abdominal hysterectomy group, osteoporotic changes were detected in the long bones (7.3%). Of these 22 cases, 6 belonged to the group where the ovaries were retained and the problem developed one year after the operation.

### DISCUSSION

In this study prophylactic oophorectomy was undertaken in the majority during abdominal hysterectomy (62%). In the vaginal hysterectomy group, in the majority (80%) cases, ovaries were retained. This was due to technical difficulties in undertaking oophorectomies during vaginal hysterectomies. In the 10 selected cases, infundibulopelvic ligaments along with the ovarian vessels were cut and ligated through the mini-laparotomy prior to vaginal hysterectomy in the same sitting. In the rest of the cases, oophorectomies were undertaken through the vaginal route. This was easily accomplished due to the associated pelvic floor relaxation.

Amongst the late morbidity conditions, vaginal vault granuloma, hot flushes, cystic and neoplastic changes in the retained ovaries, vaginal vault prolapse, osteoporosis and psychosomatic problems were significant. Vaginal vault granuloma mostly developed in the abdominal hysterectomy group, more frequently where the ovaries were retained viz in 39 out of 114 cases (34.2%). Apart from the technique and the use of specific suture materials for vault closure, granulomas may be the external manifestation of low grade parametritis involving the cellular tissues of the vaginal vault and also the retained tubes and ovaries.

Krafft-Ebing (1990) observed that psychosis followed hysterectomy more frequently than other surgical procedures. The common psychiatric sequelae observed were depression and loss of libido in the form of true frigidity and dyspareunia. In the present study only in 60 cases in the abdominal hysterectomy group and 24 cases in the vaginal hysterectomy group, psychiatric analysis was possible. Significant association of decreased libido in the form of true frigidity and dyspareunia were detected where the ovaries were retained. This was perhaps due to changes in the retained ovaries, prolapse of ovaries in the vaginal vault, vault granuloma, apart from specific psychiatric problems. In the vaginal hysterectomy group patients also complained of dyspareunia. This might be due to narrowing and shortening of the vagina following operation. Dyspareunia may also be due to dryness of vaginal introitus and loss of elasticity and rugosity of the vaginal walls due to loss of ovarian hormonal functions. Dennerstein et al (1977) mentioned that when oestrogen replacement was not done, there was significantly more dyspareunia.

The commonest morbidity following hysterectomy was hot flushes. This was more prevalent where ovaries were removed, majority of the cases developed hot flushes within 2 to 4 weeks after the operation. Hot flushes were also detected in many cases where one or both ovaries were preserved, 30 cases out of the 50 cases studied (60%). In these cases ovarian hormonal functions were lost within 3 months to 1 year following the operation. This may be due to vascular changes of the retained ovary and infection through the

vaginal vault in the post operative period, apart from loss of target organ (uterus).

With regard to formation of neoplastic changes in the retained ovaries, Grogan (1967) mentioned an incidence of 2.6% comprising both benign and malignant ovarian neoplasms. In this study out of 114 cases of abdominal hysterectomy, where one or both ovaries were retained, 10 patients subsequently developed ovarian neoplasms, of which one was malignant (8.8%). In the vaginal hysterectomy group, only 2 cases subsequently developed benign ovarian cyst.

Thus Graves (1928) advocated routine removal of ovaries during hysterectomies in all women regardless of their age. He emphasised that bilateral oophorectomies during hysterectomies makes a neater operation and prevent subsequent neoplastic disease of the left-over ovary. Moreover he was of the opinion that the removal

of the uterus (target organ) may induce the ovaries to lose their function within a short time.

Finally, significant morbidity conditions were found to be associated following hysterectomies where ovaries were preserved. A conclusion thus has been drawn in favour of routine oophorectomies while undertaking hysterectomies for benign conditions and hormone replacement therapy (HRT) advised with rationality in the follow-up clinics.

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