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Original Research Article

Menstrual Features and Ovarian Cancer Risk in Relation to main Tumour Histologic Subtypes: A Prospective Randomized Study

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Abstract

Aims: To evaluate the menstrual characteristics in relation to ovarian cancer risk overall, and in relation to the major tumour histologic subtypes.

Methods: A prospective, randomized study was conducted in the Department of Obstetrics and Gynecology, lady Harding medical college , New Delhi, India, for 1 year. In all about 100 patients with palpable abdominal and pelvic adnexal mass with ovarian pathology were included for this study.

Results: Out of 100 patients 40% was 20-30 years age group and followed by 30-40 years**.** It is evident from the above table that 92 patients were married giving the incidence of 92% while 8% of cases were unmarried. It is evident that 68% had regular menstrual cycle, 7% had surgical menopause, 3% had lactational amenorrhoea, 8% had amenorrhoea of pregnancy and 10% had physiological menopause, Secondary amenorrhea 2% and Bleeding P/V after amenorrhea was 2%.

Conclusion: We conclude that there was no significant relation between menstrual history and occurrence of ovarian tumour.

Keywords: Menstrual, Woman, Ovarian & Masses.

Introduction

Up to 10% of women will have some form of surgery during their lifetime for the presence of an ovarian mass. In premenopausal women almost all ovarian masses and cysts are benign.[1] The overall incidence of a symptomatic ovarian cyst in a premenopausal female being malignant is approximately 1:1000 increasing to 3:1000 at the age of 50. Preoperative differentiation between the benign and the malignant ovarian mass in the premenopausal woman can be problematic with no test or algorithm being clearly superior in terms of accuracy. An important reason for the high mortality rates of this cancer is the late diagnosis. Many patients present in advanced stage, mostly because the disease is often asymptomatic or associated with nonspecific symptoms in the early stage. Incidental detection of adnexal mass is very

common in clinical practice. Etiopathogenesis of ovarian tumours is not fully understood; however, it appears to be multifactorial. The leading risk factor is familiarity; namely, history of ovarian cancer in a first-degree relative. However, only 5–10 % of cases are related to hereditary syndromes: the main one is the breast-ovarian cancer syndrome, due to mutations in the BRCA1 and BRCA2 tumour suppressor genes. Approximately 90–95 % of cases are sporadic, with an increasing risk related to nulliparity, early menarche and late menopause, while pregnancy, lactation, early menopause and use of oral contraceptives appear to be protective factors.[2]

The influence of menstrual and reproductive factors, with the exception of parity, remains uncertain. The incessant ovulation hypothesis suggests that risk is increased by chronic post-ovulatory trauma to the epithelial surface of the ovary, and the tendency to form inclusion cysts.[3] The gonadotrophin hypothesis proposes that excessive gonadotropin secretion and consequent increases in oestrogen stimulation lead to proliferation and malignant transformation of ovarian epithelium.[4] More recent hypotheses have suggested a role for chronic ovarian inflammation androgens and progesterone.[5] and the possibility that pregnancies reduce risk by clearing transforming cells from the ovaries.[6]

Up to 10% of women will have some form of surgery during their lifetime for the presence of an ovarian mass. In premenopausal women almost all ovarian masses and cysts are benign.[7] The overall incidence of a symptomatic ovarian cyst in a premenopausal female being malignant is approximately 1:1000 increasing to 3:1000 at the age of 50. Preoperative differentiation between the benign and the malignant ovarian mass in the premenopausal woman can be problematic with no test or algorithm being clearly superior in terms of accuracy.[8] Many ovarian masses in the premenopausal woman can be managed conservatively. Functional or simple ovarian cysts (thin-walled cysts without internal structures) which are less than 50 mm maximum diameter usually resolve over 2–3 menstrual cycles without the need for intervention.[9] we evaluate the menstrual characteristics in relation to ovarian cancer risk overall, and in relation to the major tumour histologic subtypes. Our findings are considered in light of several current hypotheses regarding ovarian cancer pathogenesis.

Material and Methods

A prospective, randomized study was conducted in the Department of Obstetrics and Gynecology, Lady Harding medical college, Delhi, India, for 1 year, after taking the approval of the protocol review committee and institutional ethics committee. All the patients with symptoms suggestive of adnexal mass were taken for the study and among these patients with ovarian pathology were subsequently included in the study. In all about 100 patients with palpable abdominal and pelvic adnexal mass with ovarian pathology were included for this study. The patients with uterine origin of mass were excluded from the study.

A detailed history of each case was recorded with reference of age, religion, parity, socioeconomic status, symptomatology, marital status, menstrual history, obstetrics history, family history, history of contraceptive method, method adopted and history of present and past, medical and surgical illness. A special attention was given to those patients presenting with the four target symptoms viz. abdominal pain, abdominal mass, GIT symptoms and pelvic pain.

Results

Out of 100 patients 40% was 20-30 years age group and followed by 30-40 years**.** Demographic profile of the patients show in table 1**.** It is evident from the above table that 92 patients were married giving the incidence of 92% while 8% of cases were

unmarried.(table.2) table. 3 shows that it is evident that 68% had regular menstrual cycle, 7% had surgical menopause, 3% had lactational amenorrhoea, 8% had amenorrhoea of pregnancy and 10% had physiological menopause, Secondary amenorrhea 2% and Bleeding P/V after amenorrhea was 2%.

Table 1: Demographic profile of patients

Parameter	N=100	%
Age		
Below 20 years	18	18
20-30 years	40	40
30-40 years	26	26
Above 40 years	16	16
Education		
Illiterate	18	18
Literate	82	82
Occupation		
House wife	78	78
Working	22	22
Socio economic status		
High	14	14
Middle	71	71
Low	15	15
BMI		
Normal	62	62
Over weight	38	38

Table 2: Incidence of Ovarian Tumor According to Marital Status

Marital Status	ovarian tumours=100	Incidence
Married	92	92
Unmarried	8	8

Table 3: Menstrual Pattern in Cases of Ovarian Tumors

Menstrual Pattern	Number of Cases (N=100)	Incidence
Regular	68	68
Surgical menopause	7	7
Secondary amenorrhea	2	2
Bleeding P/V after amenorrhea	2	2
Lactational amenorrhea	3	3
Post-abortal amenorrhea	-	-
Amenorrhea of pregnancy	8	8
Physiological menopause	10	10
Oligomenorrhea	-	-
Menorrhagia	-	-
Polymenorrhagia	-	-
Continuous bleeding P/V	-	-
Metrorrhagia	-	-
Primary amenorrhea	-	-
Polymenorrhea	-	-

Discussion

Ovarian masses are a common finding in daily clinical practice and may be incidentally detected or identified in symptomatic patients. Characterization of an ovarian lesion represents a diagnostic challenge; it is of great importance in the preoperative setting in order to plan adequate therapeutic procedures and may influence patient's management. The strong and consistently observed risk reduction associated with parity provides, in part, the basis of most hypotheses regarding ovarian pathogenesis. It has been shown, however, that interruption of ovulation during pregnancy, lactation, and oral contraceptive use is inadequate to account for the magnitude of the observed decrease in ovarian cancer risk.[10] Menstrual cycles occurring between ages 25 and 39 are most likely to be ovulatory [11] and pregnancies occurring between these ages have a greater potential to interrupt ovulatory cycles. Thus, our observation of reduced risk associated with later ages at first or last birth provides some support for hypotheses regarding incessant ovulation or ovarian inflammation. Pituitary secretion of gonadotropins generally increases during adulthood, but decreases during pregnancy; thus, the protective effects of later childbirth are also consistent with the gonadotropin hypothesis. The decreasing risk associated with later age at last birth is also consistent with the ovarian clearance hypothesis, and in particular with the notion that the protective 'clearance' effect of pregnancy is greater in older women, who are more likely to have premalignant ovarian epithelial cells.[6] Jeffecott's Principles of Gynaecology says that "Neither malignant nor benign growth usually affects the menstrual function in any way unless they happen to have sex endocrine function." Even if both ovaries are the seat of large tumours, there is always enough normal ovarian tissue left to continue a regular menstrual cycle.[12] In our study 68% had regular menstrual cycle, 7% had surgical menopause, 3% had lactational amenorrhoea, 8% had amenorrhoea of pregnancy and 10% had physiological menopause, Secondary amenorrhea 2% and Bleeding P/V after amenorrhea was 2%. Similar finding was observed other study.[13] Majority of the patients underwent surgical treatment excluding very few cases which were treated conservatively or were referred to cancer hospital.[14] 34 (34%) patients underwent hysterectomy (TAH) among which 11(11%) underwent bilateral salpingo-oophorectomy, 7(7%) underwent unilateral salpingo-oophorectomy and 19(19%) with cyst removal. Ovarian cystectomy was done in 29(29%) cases. similar results was found in other study.[15] 4 patients were pregnant. In 4 cases LSCS was done and in 3 case only the ovarian mass was removed in second trimester and the pregnancy continued. Mehta (1977)[16] reported incidence of ovariotomy and ovarian cystectomy to be 27.49% cases. Debulking surgery was done in 7% cases in my cases. Debulking was done due to advanced stage of the disease. All the patients were referred to cancer hospital for further management.

Conclusion

The present study concluded that there was no significant relation between menstrual history and occurrence of ovarian tumour.

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