

A STUDY OF OVARIAN NEOPLASMS

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Ovarian neoplasms pose many problems to the gynaecologist, due to their high complication rate. Moreover, one can never be sure of the benign nature of the tumour clinically. Cancer of the ovary is now the leading cause of death amongst all gynaecological cancers, and occurs second in frequency, after cervical cancer. Due to the above mentioned facts, ovarian neoplasms need to be studied in detail, so that early detection and treatment can be performed.

Material and Methods

All cases of ovarian neoplasms that were admitted in the Deptt. of Obstetrics and Gynaecology, H. P. Medical College, Simla, from October, 1974 to September 1978, were studied regarding the age, parity, clinical features, pathology, complications and management of the tumours.

Observations

The total number of ovarian tumours, during 4 years were 115. Of these, 75 were benign and 40 were malignant,

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giving a percentage of 65.2 and 34.8 per cent respectively.

Age

The benign tumours were most common in the 21-50 years age group, forming 81.3 per cent, with a peak incidence of 40 per cent at 31-40 years.

The incidence in nullipare was 37.3 and 42.5 per cent in the benign and malignant neoplasms respectively. Table I shows the incidence of the ovarian neoplasms in relation to the parity of the patients.

The most frequent presenting symptoms of both benign and malignant ovarian tumours were the enlargement and pain in the abdomen, which were present in 83 and 60 cases respectively. Menstrual disorders were also prominent presenting symptoms of the ovarian neoplasms, and occurred in 40 out of 115 cases (34.7 per cent). The menstrual disorders ranged from excessive vaginal bleeding, postmenopausal bleeding to oligomenorrhoea and amenorrhoea. It was further noted that postmenopausal bleeding and excessive vaginal bleeding were commoner in the malignant ovarian tumours, and in 1 case of thecoma of the ovary, an associated endometrial carcinoma of the uterus was present. The other symptoms pertaining to the gastro-intestinal and urinary systems were more common in the benign ovarian tumours. Table II

TABLE I
Parity

Para	Benign		Malignant	
	No. of Cases	Per cent	No. of Cases	Per cent
Nullipara	28	37.3	17	42.5
1	8	10.6	5	12.5
2	6	8.0	4	10.0
3	12	16.0	4	10.0
4	8	10.6	0	0.0
5 and above	13	17.3	10	25.0

TABLE II
Presenting Symptoms

Symptoms	Total	Benign (75)		Malignant (40)	
	115	No. of Cases	Per cent	No. of Cases	Per cent
1. Abdominal enlargement	83	53	70.6	30	75.0
2. Abdominal pain					
Acute	10	5	38	5	22
Chronic	50	33		17	
3. Menstrual disorders	40	24	32.0	16	40.0
a. Abnormal bleeding	16	11	12	5	10
b. P.M. bleeding	6	1		5	
c. Amenorrhoea/ Oligomenorrhoea	18	12	16.0	6	15.0
4. Gastro-intestinal (vomiting, anorexia, epigastric pain etc)	10	6	8.0	4	10.0
5. Urinary symptoms	6	5	6.6	1	2.5

shows the presenting symptoms of the ovarian neoplasms.

Tables III and IV show the histology of

TABLE III

Histology of Benign Ovarian Tumours

Histology	No. of cases	Per cent
Simple serous cystadenoma	37	49.3
Pseudomucinous cystadenoma	15	20.0
Cystic teratoma	11	14.6
Papillary serous cystadenoma	4	5.3
Serous cystadenofibroma	4	5.3
Fibroma	1	1.3
Report not available	3	4.3

TABLE IV

Histology of Malignant Ovarian Tumours

Histology	No. of cases	Per cent
Papillary cystadenocarcinoma	14	35.0
Pseudomucinous cystadenocarcinoma	5	12.5
Adenocarcinoma	4	10.0
Granulosa cell carcinoma	6	15.0
Thecoma with endometrial carcinoma	1	2.5
Dysgerminoma	4	10.0
Fibrosarcoma	1	2.5
Malignant Brenners tumour	1	2.5
Died before surgery	3	7.5

the benign and malignant neoplasms respectively. In the benign tumours, the simple serous cystadenoma was the commonest, and was present in 49.3 per cent of the benign tumours (37 out of 75). The papillary cystadenocarcinoma was the commonest, and was found in 35 per cent of the malignant tumours.

The malignant tumours were staged according to the classification adopted by the International Federation of Obstetrics and Gynaecology, 1970, and the results are tabulated in Table V.

TABLE V
Staging of Ovarian Carcinoma

Stage	No. of cases	Per cent
I	12	30.0
Ia	9	22.5
Ib	1	2.5
Ic	2	5.0
II	6	15.0
III	14	35.0
IV	5	12.5
Special category	3	7.5

Treatment

The treatment given to the patients is shown in Table VI. In the malignant ovarian tumours, as far as possible, total

abdominal hysterectomy with bilateral salpingo-oophorectomy was attempted, and this was performed in 72.5 per cent of the cases. In 1 patient who had an unilateral ovariectomy, for Stage Ia carcinoma of the ovary, came back after 7 months with recurrence, and on a second laparotomy she was found to be inoperable. There were 3 deaths in patients diagnosed as malignant ovarian tumours before surgical intervention, probably due to widespread metastasis and uraemia. Three patients died post-operatively, 2 being stage IV, and 1 advanced stage III. The latter patient died on the 14th post-operative day, due to pulmonary embolism. The other two, died due to post-operative circulatory failure, within 48 hours of surgery.

Complications

Complications were seen mostly with benign tumours. Torsion was the most common, and found in 10.6 per cent. All of them were simple serous cystadenomas. Infection was present in 8 and 2.5 per cent of the benign and malignant ovarian tumours respectively. Four tumours were found ruptured at laparotomy, 1 being benign, this was a case of psuedomyxoma peritonii. The other 3 were

TABLE VI
Treatment

Treatment	Benign		Malignant	
	No. of cases	Per cent	No. of cases	Per cent
Ovarian cystectomy	10	13.3	0	0
Ovariectomy unilateral	26	34.6	2	5.0
Ovariectomy bilateral	0	0	4	10.0
TAH with BSO	38	50.6	29	72.5
Subtotal hysterectomy with BSO	1	1.3	1	2.5
Laparotomy	0	0	1	2.5
Died unoperated	0	0	3	7.5

TAH—Total abdominal hysterectomy.

BSO bilateral salpingo-oophorectomy.

malignant tumours, with caseating material coming out of the tumours. Four per cent of the benign tumours were bilateral (Table VII) the complications of the ovarian tumours.

Indian women were also noted in the studies of Chowdhury *et al* (1977) and Bhuvanesh and Logambal (1978).

The other important epidemiological factor found in this study was the high

TABLE VII
Complications

Complications	Benign		Malignant	
	No. of cases	Per cent	No. of cases	Per cent
Torsion	8	10.6	Nil	Nil
Infection	6	8.0	1	2.5
Rupture	1	1.3	3	7.5
Impacted	2	2.6	—	—

Discussion

One hundred and fifteen cases of ovarian tumours have been studied, in regard to their epidemiology, pathology, complications and management. The benign and malignant tumours were 65.2 and 34.8 per cent respectively. The higher incidence of malignant tumours may be attributed to the fact that they were more often referred from the peripheral hospitals. According to Bhuvanesh and Logambal (1978) and Mehta and Purandare (1964) the incidence of malignant ovarian neoplasms in the ovarian tumours was 25.7 and 28.9 per cent respectively.

The malignant ovarian tumours were most common in the age group 41-50 years (37.5 per cent), and 85 per cent occurred at 31-60 years. According to the western authors Gusberg and Frick (1970) and Shaw (1973), the commonest age group for the malignant ovarian tumours was one decade later, i.e. between 5th to 6th decade. In this study only 32.5 per cent of the malignant neoplasms occurred after 50 years, whereas according to Gusberg and Frick (1970) the incidence was 60 per cent. The younger age group in

nulliparity rates, and low fertility of the women with ovarian neoplasms. The nulliparity rate was 37.3 and 42.5 per cent for the benign and malignant neoplasms respectively. Moreover 55.9 and 65 per cent of the women were para 2 or less in the benign and malignant ovarian neoplasms respectively, which was very significant, especially in the malignant ovarian tumours, as they were of the older age group. Gusberg and Frick (1970) found a nulliparity rate of 32 per cent, whereas Chowdhury *et al* (1977) had only 18.9 per cent in the cases of ovarian cancer. In Himachal Pradesh, pelvic infections are much higher leading to sterility, and probably to ovarian neoplasms. It has been noted however, that the incidence of endometrial carcinoma is comparatively low in Himachal Pradesh.

The commonest presenting symptoms for the ovarian neoplasms were enlargement and pain in the abdomen. It was noted that these symptoms were present for a long duration before the patient came for medical attention. The other significant presenting complaints were the menstrual disorders, which were present in 40 out of 115 cases of ovarian tumours (34.7 per cent). The menstrual disorders

were commoner in the ovarian cancers, being 40 per cent, as compared to 32 per cent in the benign tumours. Abnormal vaginal bleeding and post-menopausal bleeding occurred in 25 per cent and 16 per cent of malignant and benign tumours respectively, whereas the symptoms of amenorrhoea/oligomenorrhoea were not significantly different.

The commonest histological variety in the present study of ovarian cancer was the papillary cystadenocarcinoma (35 per cent), and the malignant cysts were 19, and solid ovarian tumours were 18. Chowdhury *et al* (1977) also found 33.4 per cent of cancer of the ovary were papillary cystadenocarcinomas.

Most of the malignant tumours were in an advanced stage, 47.5 per cent being stage III and IV, and 3 patients (7.5 per cent) died before surgical intervention. The factors accounting for this were delayed treatment, mostly by the patients, histological variety and the malignancy potential of the tumours. It was noted that dysgerminomas and the functioning ovarian tumours (granulosa cell tumour/thecoma) were often present in early stages, whereas, the papillary cystadenocarcinoma and adenocarcinoma were usually seen in an advanced stage of the disease.

It was observed that malignant change in the benign ovarian tumours was unlikely, as the majority of benign tumours were simple serous cystadenomas, and only 4 cases out of 75 benign tumours, were papillary serous cystadenomas. The treatment of choice, for the malignant tumours, which is widely accepted is radical surgery (total hysterectomy with bilateral salpingo-oophorectomy) followed by radio-therapy. Conservative surgery was found to give bad results, and should be avoided.

In the present study the complication rate of the ovarian tumours was 18.2 per cent. Complications were more common in the benign tumours, again lending support that surgery should be performed without delay. The commonest complications being torsion and infection of the ovarian tumours.

Summary

One hundred and fifteen consecutive ovarian neoplasms over a 4 year period have been studied. Malignant ovarian tumours were 34.8 per cent in this study. Benign ovarian tumours were most common in 31-40 years group, and malignant tumours in the 41-50 years group. Nulliparity was present in 42.5 and 37.3 per cent in the malignant and benign ovarian tumours respectively, and was an important epidemiological feature of the tumours. Ovarian cancer was found to be advanced in 47.5 per cent of the patients, giving a poor prognosis. Surgery is the primary line of treatment for ovarian tumours, which should be radical, irrespective of age, in the malignant ovarian tumours. Torsion was the most common complication, and mostly occurred in the simple serous cystadenomas.

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