CLINICO-PATHOLOGIC FEATURES OF OVARIAN TUMORS IN POST MENOPAUSAL WOMEN

(A study of 50 cases)

by

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Introduction

Ovarian tumors present a number of problems as regards etiology, classification, diagnosis and treatment. No organ in the body produces such a multiplicity or diversity of tumors. Ovarian tumors occur at any age. In post-menopausal women, they present special problems due to the process of ageing. Progressive depletion of the ovarian follicles during the childbearing age, leaves the ova which are presumably resistant to gonadotropin stimulation. These follicular changes are accompanied by sclerosis of ovarian vessels, increase in the connective tissue and decrease in the metabolism of the ovary. The ovary atrophies, decreases in weight and the tunica albuginea thickens.

Ovarian neoplasms may develop after menopause and the ovaries may also show stromal hyperplasia. Ovarian tumors or stromal hyperplasia may be the seat of hormone production mainly oestrogen but may also produce progesterone.

Material and Methods

Fifty cases of ovarian tumors in post-menopausal women were admitted from January 1974 to April 1978. The study was undertaken to assess the types of ovarian tumors and their distribution after menopause.

History about symptoms, duration of symptoms, number of years after menopause was recorded. Careful general and local examinations were made. Special search was made for associated medical complications and if these were present, corrected before the definitive treatment. Endometrium was studied before operation. Ascitic fluid whenever present was studied for malignant cells. Aspiration biopsy of the tumors, hormone estimations and lateral vaginal wall smears for hormone status were not undertaken though desirable. During the period of study 314 cases of ovarian tumors were admitted.

Observations

TABLE I
Age Distribution

Age in years	No. of cases	Per cent
45—60	21	42
51—60	22	44
61 and above	7	14
Total	50	100

The incidence of the tumor declined after the age of 60 years.

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TABLE II
Development of Tumour After Menopause

No. of years after menopause	No. of cases	Percentage
3— 5	18	36
6—10	12	24
11—15	11	22
16—20	05	10
21—25	04	08
	50	100

It is observed that the incidence of tumor decreased with the number of years and steeply fell after 15 years of menopause. Two cases had menopause because of hysterectomy for menorrhagia earlier and their records showed conservation of the one ovary only. Other ovary was removed in the absence of any pathology.

TABLE III
Symptoms

Symptoms	No. of cases	Per cent
Pressure symptoms	2	4
Acute abdomen	3	6
Pathological fracture (Other causes for pathologic fracture ruled out)	1	2
Post-menopausal bleeding	5	10
Enlargement of the abdomen and ill health	39	78
Total	50	100

The commonest symptom was enlargement of the abdomen, the duration of which was variable.

TABLE IV
Histology of Endometrium

Endometrial pattern	No. of cases	Per cent
Atrophic	23	67.6
Proliferative	3	8.8
Cystic glandular hyperplasia	3	8.8
Adenocarcinoma	4	11.7
Tuberculosis	1	3.9
Total	34	100.0

Endometrium could be studied on 34 cases only. In 14 cases no tissue was available. Two cases had undergone hysterectomy with conservation of one ovary some years before. Commonest histologic pattern was atrophic (67.6%) and consistant with the age, followed by adenocarcinoma (11.7%).

Table V shows that malignant tumors were bilateral in (70.8%) majority of the cases.

Out of the 50 tumors, 48 were studied histologically. Thirty-four were common epithelial tumors, 9 were germ cell tumors, 5 were sex cord tumors. Two cases of pseudomucinous cyst adenocarcinoma were associated with pseudomyxoma peritoneii.

TABLE V
Site of Tumors

Type	Unilateral		Bilateral	Total
	Right	Left		
Benign	10 (38.5%)	9 (34.6%)	7 (26.9%)	26 (100%)
Malignant	2 (8.3%)	5 (20.9%)	17 (70.8%)	24 (100%)

TABLE VI
Histology of the Tumors

Tumor type	No. of cases	Per cent
Simple cyst	5	10
Serous cystadenoma	5	10
Pseudomucinous cystadenoma	4	8
Papillary cystadenoma	3	6
Adenocarcinoma	9	18
Papillary cystadenocarcinoma	5	10
Pseudomucinous cystadenocarcinoma	4	8
Mixed (adenocarcinoma and papillary cystadeno-carcinoma)	1	2
Dermoid cyst—Benign	4	8
Dermoid cyst—Malignant	1	2
Struma ovarii	2	4
Granulosa cell tumor—Benign	1	2
Granulosa cell tumor—Malignant	2	4
Fibroma	2	4
Histology not available. Only clinical diagnosis (FIGO special category)	2	4
Total	50	100

In two cases histology of the ovarian tumor was not available had bilateral malignant tumors clinically. The above Table shows that in the malignant group of bilateral tumors, the tumors were identical.

TABLE VIII
Treatment

Method	No. of cases	Per cent
Hysterectomy with bilateral salpingo-oophorectomy (HSO)	31	62
Ovariotomy (Unilateral)	2	4
HSO and Radiotherapy	3	6
HSO and Chemotherapy	6	12
HSO, Chemotherapy and Radiotherapy	1	2
Biopsy and Chemotherapy	5	10
No treatment	2	4
Total	50	100

HSO — hysterectomy with salpingo-oophorectomy.

HSO group had 24 benign cases, unilateral ovariotomy was done in 2 cases as the tumors had occurred in the ovary conserved at previous hysterectomy.

TABLE VII
Bilateral Tumors. Contralateral Ovary Tumor Type

Original tumor type	Contralateral ovary
Serous cystadenoma	Simple cyst
Serous cystadenoma	Dermoid cyst
Dermoid cyst	Simple cyst
Pseudomucinous cystadenoma (2 cases)	Pseudomucinous cystadenoma (2 cases)
Papillary cystadenoma	Papillary cystadenoma
Dermoid cyst	Dermoid cyst
Adenocarcinoma (5 cases)	Adenocarcinoma
Papillary cystadenocarcinoma (4 cases)	Papillary cystadenocarcinoma
Pseudomucinous cystadenocarcinoma (3 cases)	Pseudomucinous cystadenocarcinoma
Malignant Granulosa cell tumor (1 case)	Malignant Granulosa cell tumor
Mixed Tumor (1 case)	Mixed Tumor
Papillary cystadenocarcinoma (1 case)	Simple cyst

Discussion

In this series of 50 cases, 32 cases had amenorrhoea for longer than 5 years. Rome *et al* (1973) reported amenorrhoea

for atleast 5 years in all but 6 cases in a series of 38 cases. A long period of amenorrhoea precedes in most of the cases. The commonest symptom was enlargement of abdomen, in 39 cases.

Post-menopausal bleeding was the presenting symptom in 5 cases. Rome *et al* (1973) reported it in 6 cases. Post-menopausal bleeding in the presence of an ovarian tumor is due to a number of factors. Novak stated that significant number of women with post-menopausal bleeding have ovarian tumors. Green attributed post-menopausal bleeding in ovarian tumors to associated uterine pathology. Woodruff and Novak (1960) suggests the possibility of stimulation of ovarian stroma by the tumor. Fathalla (1968) put forth a concept that ovarian stroma may occasionally differentiate into a tissue capable of hormone production. Smith (1941) described ovarian stromal hyperplasia in post-menopausal women. Woll (1948) observed that stromal cells not only show hyperplasia but may also show luteinization. Procope (1969) stated that removal of ovaries with stromal hyperplasia, cause reduction in the estrogen level in post-menopausal women. Rome *et al* (1973) measured urinary estrogen and pregnanediol in 38 women with post-menopausal ovarian tumors pre-operatively and post-operatively. They correlated these studies with vaginal smears, and endometrial pattern. The tumor and the contralateral ovary were examined for stromal changes. There was reduction in the hormone levels after removal of the ovaries. Biochemical evidence of hormone production was observed in 14 of 30 surface epithelial tumors, in 2 metastatic tumors and in 4 of 5 sex cord tumors. Fathalla (1968) reported estrogenic activity in 22 of 28 granulosa cell tumors and in 69 of 318 other tumors. Post-menopausal bleeding in ovarian tumors could be due to hormone activity in the tumor itself or due to stromal hyperplasia. Endometrium may indirectly reflect ovarian activity, partly correlate with post-menopausal activity. Extension of the malignant tumor to the endometrium or endometrial carcinoma associated with estrogen producing tumors are important causes of post-menopausal bleeding.

Study of Endometrial Pattern

Endometrium was studied in 34 cases. Twenty-three specimens showed atrophic endometrium. In 38 cases reported by Rome *et al* (1973) 10 showed atrophic endometrium. Atrophic endometrium is common after menopause. Adenocarcinoma was present in 4 cases in this study whereas it was present in 2 cases of the 38 cases reported by Rome *et al* (1973). Proliferative endometrium was seen in 3 cases in this study while it was present in 10 cases reported by Rome *et al* (1973). Cystic glandular hyperplasia was present in 3 cases of this report. Cystic glandular hyperplasia, adenomatous hyperplasia, atypical hyperplasia was seen in 1 each of the 3 cases studied by Rome *et al* (1973). Ramchandran *et al* (1972) observed hyperplastic endometrium in 6 cases of granulosa cell tumors in post-menopausal women. Endometrium reflects the ovarian activity indirectly. One specimen showed tuberculous endometritis and was an incidental finding in this series.

Treatment of the cases was possible in 48 cases and was guided by the nature of the tumor, benign or malignant and by the extent of the malignant tumor. Most malignant tumors were in advanced stage.

Summary

Fifty cases of ovarian tumors in post-

menopausal women were studied. Twenty-four cases were benign tumors and 26 cases were malignant. In both the groups the surface epithelium tumors formed the majority. Others were germ cell tumors and sex cord tumors.

The commonest presenting symptom was enlargement of the abdomen (39 cases). Post-menopausal bleeding was the presenting symptom in 5 cases; 4 had associated adenocarcinoma of the endometrium and one had cystic glandular hyperplasia in this group. Endometrium was studied in 34 cases, 23 had atrophic endometrium. Cystic glandular hyperplasia was observed in 3 cases and may be due to ovarian activity.

Complete surgical treatment was done in 33 cases. Of these 24 cases had benign tumors. In 24 cases who had malignant tumor complete surgical treatment was possible in 7 cases only. This is due to delay in the medical consultation. Additional therapy was given in advanced cases. Two cases did not have any treatment. Pseudomyxoma peritoneii was present in 2 cases and was associated with pseudomucinous cystadenocarcinoma.

References

1. Fathalla, M. F.: J. Obstet. Gynec. Brit. C'wlth. 75: 78, 1968.
2. Green, J. W., Jr.: Quoted by Reference 1. Brit. C'wlth., 74: 279, 1967.
3. Novak, E. R. and Woodruff, J. D.: Gynaecologic and Obstetric Pathology, Ed. 7. Tokyo. 1974, Igaku Shoin Ltd. p. 465.
4. Procope and Adlarcreutz, Acta. endocrinol. 62: 461, 1969.
5. Ramchandran, G., Harilal, K. R., Chinnamma, K. K. and Thangavele, M.: J. Obstet. Gynec. India. 22: 309, 1972.
6. Rome, R. M., Colin, R. L., and Brown, J. B.: J. Obstet. Gynec. Brit. C'wlth. 80: 984, 1973.
7. Smith, G. V. S.: Quoted by Eddie, D. A. S.: J. Obstet. Gynec. Brit. C'wlth. 74: 286, 1967.
8. Woll, E., Hertig, A. T., Smith, G. V. S. and Johnson, L. C.: Am. J. Obstet. Gynec. 56: 617, 1948.
9. Woodruff, J. D. and Novak, E. R.: Obstet. Gynec. 15: 551, 1960.