OVARIAN TUMOURS IN POSTMENOPAUSAL WOMEN*

(A Clinicopathological Study of 205 Cases)

By

ASHI R. SARIN, PREM SINGLA AND SUDERSHAN GUPTA

SUMMARY

A clinicopathological study of 205 cases of ovarian tumours among 2,645 postmenopausal women from Feb. 1977 to Dec. 1984 is given. Ovarian tumours were found in 7.7% cases. The main clinical features were abdominal mass (58.5%), postmenopausal bleeding (41.4%), ascites (2.4%) and abdominal pain (1.9%). Benign tumours (65.8%) were more common than malignant (34.2%), and were mostly cystic (77.7%). Malignant tumours were mostly solid (80%), bilateral in 18.5% and commoner (7.8%) in women with postmenopausal bleeding than in nonbleeding cases (2.2%). In benign tumours, endometrium was atrophic in 50.4%, but was hyperplastic in 51.4% of cases with malignancy. These findings are in agreement as well as at variance with other published reports.

Introduction

Ovarian tumours in postmenopausal women pose special diagnostic and management problems because of their late presentation, high risk of malignancy and poor therapeutic outcome. Sometimes they may present as cases of postmenopausal bleeding.

A host of factors like viral infections, earlier onset of menopause, low parity, infertility and talc as dusting powder on perineum have been implicated in the genesis of ovarian tumours (Joly *et al* 1974; McGowan *et al* 1979; Cramer *et al* 1983), whereas oral contraceptive use is said to have a protective effect (Hildreth *et al* 1981).

Material and Methods

A total of 2,645 symptomatic women with established menopause (one year or more after the last normal menstrual period) and above the age of 40 years were analysed. Cases with prior hysterectomy or hormone therapy were excluded. Out of 2,645 postmenopausal women 205 (7.7%) were found to have ovarian tumours.

Besides the history, clinical examination and routine investigations, endometrium was studied in all cases. The endometrium was obtained by aspiration biopsy, curettage and after hysterectomy when it formed part of the therapeutic procedure. The diagnosis of ovarian tumours was confirmed on laparotomy for radical surgery, debulking or by

---

* *Presented at the XIth World Congress of Gynaecology and Obstetrics (September 15-20, 1985) at Berlin (West).*

From: Departments of Obstetrics and Gynaecology and Histopathology, Government Medical College and Hospital, Patiala-147 001.

Accepted for publication on 22-7-86.

biopsy in inoperable cases. Histopathological typing and staging was done by WHO (World Health Organisation) classification and nomenclature (Scully, 1977). Inoperable tumours were diagnosed by the study of ascitic fluid for malignant cells, by laparoscopy and ultrasonography. In 6 cases of FIGO (International Federation of Gynaecology and Obstetrics, 1965) special category only clinical diagnosis could be made.

The mean (± SD) age at menopause of cases with ovarian tumours was 43.2 ± 1.45 years compared to 46.2 ± 2.46 years in the entire series. The mean (± SD) parity was 3.5 ± 1.12 compared to 5.2 ± 0.98 in postmenopausal women without ovarian tumours. The corresponding infertility rates were 18.5% and 10.5% respectively. None had used oral contraceptives. The clinical features of cases with ovarian tumours are shown in Table I. Their median age at the time of presentation was 51.9 years and the median interval between the menopause and the onset of symptoms was 8.2 years.

Results

Out of the total of 205 ovarian tumor cases, 135 (65.8%) were benign and 70 (34.2%) were malignant. The histopathological findings in benign and malignant tumours are shown in Tables II and III respectively. Associated genital lesions were remarkable common (19 cases: 23.3%) in 85 ovarian tumour cases with postmenopausal bleeding.

TABLE I

Clinical Features

Presenting symptoms*	Diagnosis	No. of cases	Per cent
Abdominal mass**			120 (58.5)
	(a) Benign cystic ovarian tumour	78	
	(b) Solid malignant ovarian tumour	22	
	(c) Benign solid ovarian tumour	12	
	(d) Uterine fibromyoma	6	
	(e) Inflammatory adenexal mass	2	
Postmenopausal bleeding ***			85 (41.4)
	(a) Malignant ovarian tumour	26	
	(b) Solid ovarian tumour	36	
	(c) Uterine fibromyoma	8	
	(d) Benign cystic ovarian tumour	9	
	(e) Endometrial carcinoma with ovarian tumour	4	
	(f) Metastatic ovarian malignancy	2	
Abdominal pain			4 (1.9)
	(a) Benign ovarian tumour with torsion	3	
	(b) Advanced ovarian malignancy	1	
Ascites	Advanced ovarian malignancy		5 (2.4)

* Some cases appear in more than one category.

** 80% of malignant tumours were solid while 77.7% of benign tumours were cystic.

*** 7.8% women with this complaint had malignant tumours in contrast to only 2.2% in non-bleeding cases with ovarian tumours.

These included uterine fibromyoma (10 cases), endometrial carcinoma (5 cases), cervical polyp (2 cases) and adenomyosis (2 cases).

TABLE II
Histopathological Findings in Benign Ovarian Tumours (Total: 135 cases)

Histopathology	No. of cases	(Per cent)
(a) *Ovary**		
Serous cystadenoma	42	(31.1)
Pseudomucinous cystadenoma	50	(37.0)
Papillary cystadenoma	8	(5.9)
Dermoid cyst	12	(8.9)
Solid teratoma	1	(0.7)
Granulosa/theca cell tumour	7	(5.2)
Brenner tumour	8	(5.9)
Mixed tumour	4	(3.0)
Fibroma	3	(2.2)
(b) *Endometrium*		
Atrophic	68	(50.4)
Proliferative	55	(40.7)
Hyperplastic	10	(7.4)
Premalignant	2	(1.5)

* Bilateral lesions in 12 cases (8.9%) with 3 (2.2%) neoplasms.

TABLE III
Histopathological Findings in Malignant Ovarian Tumours (Total: 70 Cases)

Histopathology	No. of cases	(Per cent)
(a) *Ovary**		
Pseudomucinous cystadenocarcinoma	21	(30.0)
Adenocarcinoma	15	21.4)
Papillary cystadenocarcinoma	6	(8.6)
Serous cyst—adenocarcinoma	5	(7.1)
Undifferentiated carcinoma	5	(7.1)
Mixed tumours	2	(2.8)

TABLE III (Contd.)

Teratoma, malignant	5	(7.1)
Malignant granulosa cell tumour	2	(2.8)
Dysgerminoma	1	(1.4)
Metastatic carcinoma (colon and breast)	2	(2.8)
FIGO, special category (clinical diagnosis)	6	(8.6)
(b) *Endometrium*		
Atrophic	12	(17.1)
Proliferative	14	(20.0)
Hyperplastic	36	(51.4)
Premalignant	3	(4.3)
Adenocarcinoma	5	(7.1)

* Bilateral tumours in 13 cases (18.5%).

Discussion

In contrast to most of other reports (Table IV), the benign tumours in the present study were more common even in the postmenopausal women. This could be due to earlier onset of menopause in the North Indian women (Serin *et al* 1985) or due to the late presentation of our cases. However, there were no significant differences as regards their subtypes and relative frequency when comparisons were made with the series reported by Eddie (1967), Bennington *et al* (1968), Rome *et al* (1973) and Dumir *et al* (1980).

The mean (± SD) age (43.2 ± 1.45 years) of postmenopausal women with ovarian neoplasms in this series is significantly less ($p < .001$ by student's t-test) than 46.2 ± 2.46 years in the entire group of our 2,645 symptomatic postmenopausal women. This confirms the observations of Eddie (1967) and Cramer *et al* (1973) but contradicts those of Joly *et al* (1974) and Hildreth *et al* (1981). The lower mean parity ($p < .001$ by student's t-test) (3.5 and 5.2 respectively in cases with and without tumours) is in accord with

TABLE IV

Comparative Incidence of Ovarian Tumours in Women of Menopausal Age

Reference	Country	No. of cases	Benign (Per cent)	Malignant (Per cent)
Eddie (1967)	U.K.	161	(57.3)	(43.7)
Bennnington *et al* (1968)	U.S.A.	560	(12.5)	(87.5)
Rome *et al* (1973)	Australia	38	(50)	(50)
Chowdhury *et al* (1977)	India	65	(25.3)	(74.7)
Dumir *et al* (1980)	India	50	(48)	(52)
Present Study	India	205	(65'8)	(34.2)

Joly *et al* (1974) and Hildreth *et al* (1981).

The endometrial pattern (Tables II and III) was commonly (50.4%) atrophic in benign but hyperplastic (51.4%) in malignant ovarian tumours. This shows that continued ovarian hormonal activity (Rome *et al* 1973) and stromal hyperplasia (Jeffecoate, 1981) after the age of menopause may be related to ovarian malignancy.

The clinical presentation of our cases resembled those of Dumir *et al* (1980) and Richardson *et al* (1985). Similarly in our postmenopausal bleeding cases malignant ovarian tumours were more likely (7.8%) than in nonbleeding cases (2.2%). This has also been reported by Woodruff *et al* (1978) and Jeffecoate (1981).

To conclude, in this series benign ovarian tumours were more common even in the postmenopausal women. However, the clinical picture and histopathological subtypes of both benign and malignant ovarian tumours resembled other published reports.

References

1. Bennington, J. L., Ferguson, B. R. and Haber, S. L.: Obstet. Gynec. **32**: 627, 1968.
2. Chowdhury, N. N. R., Sanyal, M. K., Sanyal, S. and Bhattacharjee, K. K.: J. Obstet. Gynec. India, **27**: 723, 1977.
3. Cramer, D. W., Welch, W. R., Cassells, S. and Scully, R. E.: Am. J. Obstet. Gynec. **147**: 1, 1983.
4. Dumir, D. B. and Sathe, C. H.: J. Obstet. Gynec. India, **30**: 325, 1980.
5. Eddie, D. A. S.: J. Obstet. Gynaec. Brit. C'wlth., **74**: 283, 1967.
6. Hildreth, N. G., Kelsey, J. L., Livelsi, V. A., Am. J. Epidemiol. **114**: 398, 1981.
7. International Federation of Gynaecology and Obstetrics: J. Int. Fed. Gynecol. Obstet. **3**: 204, 1965.
8. Jeffcoate, N.: Principles of Gynaecology, ed. 4, London. Boston 1981, Butterworths, p. 484.
9. Joly, D. J., Lilienfeld, A. M., Diamond, E. L. and Bross, I. D. J.: Am. J. Epidemiol. **30**: 190, 1974.
10. McGowan, L., Parent, L., Lednar, W. and Norris, H. J.: Gynecol. Oncol., **7**: 325, 1979.
11. Richardson, G. S., Scully, R. E., Nikrui, N. and Nelson, J. H. J.: New Engl. J. Med. **312**: 415, 1985.
12. Rome, R. M., Laverty, C. R. and Brown, J. B.: J. Obstet. Gynaec. Brit. C'wlth. **80**: 984, 1973.
13. Sarin, A. R., Singla, P. and Gupta, S.: Asia-Oceania, J. Obstet. Gynaecol. **11**: 539, 1985.
14. Scully, R. E.: Am. J. Pathol. **87**: 686, 1977.
15. Woodruff, J. D., Perry, H., Genadry, R. and Parmley, T.: Obstet. Gynec. **51**: