OVARIAN NEOPLASMS IN SARAWAK

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SYNOPSIS

This is an analysis of ovarian neoplasms encountered in Sarawak during the period January 1976-December 1977. There were 149 benign and 36 primary malignant tumours with an incidence of 44.3 per cent and 23.6 per cent respectively, in neoplasms of the Reproductive System. Amongst the benign ovarian tumours Dermoid Cyst (Cystic Teratoma) was quite frequent (29.5 per cent). In malignant neoplasms Cystadenocarcinomas constituted 66.7 per cent of the total. A case each of Granulosa cell earcinoma, Adenoacanthoma and Endodermal sinus tumours, 4 of Dysgerminoma and 6 of metastatic ovarian tumours were also recorded.

INTRODUCTION

Muir and Oakley (1966) have reported 11 malignant tumours of the ovary in a total of 236 malignancies in females over a period of three years in Sarawak with an incidence of 4.66 per cent. Arulambalam (1968) recorded 7 malignant ovarian neoplasm in a total of 178 primary malignant tumours with an incidence of 3.9 per cent in 2 years and Kothare (1978) reported 42 malignant ovarian tumours in 642 malignancies in females with an incidence of 6.5 per cent in Sarawak. Kannan Kutty and Balasegaram (1972) published a large series of 5061 malignant tumours in females in West Malaysia, amongst which there were 452 ovarian neoplasms with an incidence of 8.93 per cent.

MATERIALS AND METHODS

Ovarian neoplasms, benigan and malignant, over a period of two years (Jan. 1976-Dec. 1977) recorded in the Central Laboratory, Kuching and the Divisional Laboratory, Sibu, form the basis of this report. Tumour-like lesions are excluded and neoplasms have been classified as recommended in "A coded compendium of the International Histological Classification of Tumours" (W.H.O. — 1978). Amongst the malignant neoplasms are also included the so called "Boderline" tumours.

The multiracial population of Sarawak is broken down into four groups. Sea and Land Dayaks together as Dayaks (D), Chinese (CH), Malays (M) and "Others" (Othrs) consisting of small indigenous ethnic groups, Indians and Europeans.

RESULTS

Benign tumours (Table No. 1A): There were 877 benign tumours in females out of which 149 were ovarian, with an incidence of 16.9 per cent. In the Female Reproductive System alone there were 336 neoplasms which included soft tissue tumours of the uterus and ovarian tumours. The incidence of Ovarian tumours was 44.3 per cent. Hydatidiform mole was excluded as its neoplastic status in the true sense has been questioned.

TABLE NO. IA
INCIDENCE OF BENIGN OVARIAN NEOPLASMS IN RELATION TO BENIGN NEOPLASMS IN THE REPRODUCTIVE SYSTEM AND ALL SITES IN FEMALES

BEN. NEOPLASMS	BEN. NEOPLASMS	INCIDENCE %
REPRO. SYS. 336 (including ovary)	OVARIAN 149	44.3
ALL OTHER SITES 541		
TOTAL : 877		16.9

Benign ovarian tumours are listed in Table No. II with their racial distribution, age range and incidence. Serous and Mucinous Cystadenomas were equally present, 34.9 per cent each and the Dermoid Cyst (Cystic Teratoma) constituted 29.5 per cent of all benign tumours. The majority of patients with Serous and Mucinous Cystadenoma fell in the 3rd, 4th and 5th decade of life. Twenty-four out of 44 patients with Dermoid Cyst were below 30 years of age; the youngest was only 7 years old. In 10 patients Dermoid Cyst was bilateral, the right ovary was involved in 17, the left in 14 and the site not recorded in 3 patients. Grossly the largest cyst was 15.0 x 12.0 x 11.0 centimeters in size, and multilocular. The contents of all cysts were characteristically cheesy with hair and a button-like projection on the inner surface. Histologically 16 out of 44 showed structures of tridermal origin and the rest with tissues arising from more than one germinal layer. Thyroid tissue was seen in 4 ovarian cysts. Structures arising from the ectodermal layer were seen in all. The only case of Fibroma was in a Chinese 67 years old.

Malignant tumours (Table No. 1B). There were 541 primary malignant neoplasms out of which 36 were ovarian with an incidence of 6.65 per cent. When Reproductive system alone was considered there were 152 primary malignant tumours out of which 36 were of the ovary with an incidence of 23.6 per cent. Choriocarcinoma has not been included in the Reproductive System. Malignant tumours of the ovary with their racial distribution, age range and incidence are listed in Table No. II. Amongst the primary tumours there were 10 cases of Serous Cystadenocarcinoma with an incidence of 27.7 per cent. The youngest was 21 and the oldest 69 years. There were 14 cases of Mucinous Cystadenocarcinoma with an incidence of 38.8 per cent and an age range of 10-77 years. There were 4 cases of Dysgerminoma; one of these patients was 16 years old. The only case of Adenoacanthoma was in a Chinese 45 years old. The tumour was unilateral, partly cystic and solid and measured 8.0 x 7.0 x 4.0 cms. It showed essentially the structure of a mucus producing adenocarcinoma with focal acanthomatous cell groups. The acathomatous change appeared to be of metaplastic origin (Fig. 1, 2 & 3). Another unilateral ovarian tumour from a Malay aged 21 years showed on cutsurface a variegated appearance with tiny cystic spaces. Histologically the neoplasm showed groups of spheroidal cells with clear cytoplasm, at places, separated by small irregular spaces with flattened cell lining. The histology was compatible with Endodermal Sinus tumour (Fig. 4 & 5).

TABLE NO. IB
INCIDENCE OF PRIMARY MALIGNANT OVARIAN NEOPLASMS IN RELATION TO PRIMARY MALIGNANT NEOPLASMS IN THE REPRODUCTIVE SYSTEM AND ALL SITES IN FEMALES

MAL. NEOPLASMS	MAL. NEOPLASMS	INCIDENCE %
*REPRO. SYS. 152 (including ovary)	OVARIAN 36	
**ALL OTHER SITES 389		
TOTAL : 541		6.65

*This excludes metastatic tumours to ovary.
**This excludes all metastic tumours.

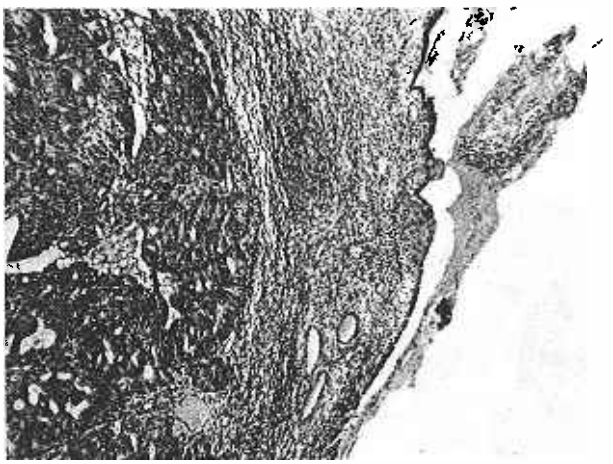

Figure 1. Photomicrograph showing part of the ovarian cyst and the adenocarcinomatous area in the substance of the ovary, (H & E 40 X).

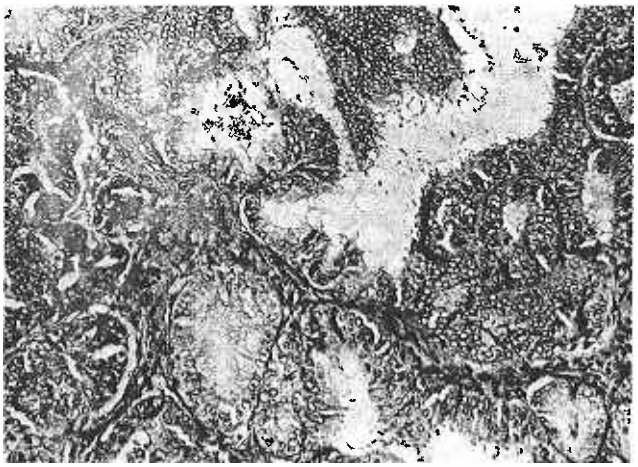

Figure 2. Photomicrograph showing an area of mucus producing adenocarcinoma, (H & E 400x).

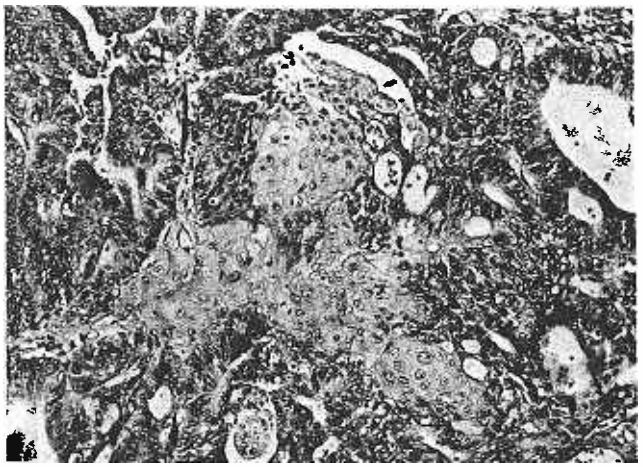

Figure 3. Photomicrograph showing an acanthomatous area in the adenocarcinoma, (H & E 400 x).

TABLE NO. II OVARIAN NEOPLASMS RACE, AGE AND INCIDENCE

	BENIGN: 149	CH	D	M	"OTHRS"	AGE RANGE IN YRS.	NO. CASES	INCIDENCE %	
1.	SER-CYST-ADENO	25	19	8	—	21 - 67	52	34.9	
2.	MUC-CYST-AEENO	23	16	12	1	11 - 66	52	34.9	
3.	DERMOID CYST	26	9	9	—	7 - 66	44	29.5	
4.	FIBROMA	1	–	–	—	67	1	0.6	
		75	44	29	1	–	149	—	
	MALIGNANT: 42	CH	D	M	"OTHRS"	AGE RAIVGE IN YRS.	NO. CASES	INCIDENCE %	
								PRIM. MAL.	ALL MAL. NEO.
5.	SER-CYST-CA	4	3	2	1	21 - 69	10	27.7	23.7
6.	MUC-CYST-CA	3	8	3	—	10 - 77	14	38.8	33.3
7.	PAPI-CA	1	–	2	—	28, 46, 70	3	8.3	7.1
8.	ADENO-CA	–	2	–	—	19, 48	2	5.5	4.7
9.	ADENOACAN	1	–	–	—	45	1	2.7	2.38
10.	DYSGERM	2	1	1	—	16, 22 24, 27	4	11.1	9.5
11.	GRAN-CA	1	–	–	—	33	1	2.7	2.38
	MALIGNANT:	CH	D	M	"OTHRS"	AGE RAIVGE IN YRS.	NO CASES	INCIDENCE %	
								PRIM. MAL.	ALL MAL. NEO.
12.	END-SIN-TU	–	–	1	—	21	1	2.7	2.38
13.	META-CA	3	1	1	1	—	6	—	14.28
		15	15	10	2	—	42		

Key

1. SEROUS CYST ADENOMA
2. MUCINOUS CYST ADENOMA
5. SEROUS CYSTADENOCARCINOMA
6. MUCINOUS CYSTADENOCARCINOMA
7. PAPILLARY CARCINOMA
8. ADENOCARCINOMA
9. ADENOACANTHOMA
10. DYSGERMINOMA
11. GRANULOSA CELL CARCINOMA
12. ENDODERMAL SINUS TUMOUR
13. METASTATIC CARCINOMA

Figure 4. Photomicrograph showing groups of tumour cells with irregular spaces in between, (H & E 40 x).

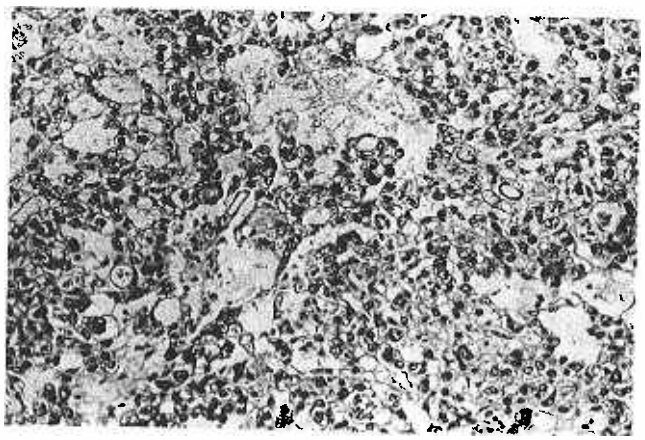

Figure 5. Photomicrograph showing groups of spheroidal shaped tumour cells, at places heaped up and projecting into spaces lined by flattened cells, (H & E. 400 x).

DISCUSSION

As biopsies were referred to either of these Laboratories from all 7 Divisions, except perhaps a few which may have been sent outside the country for histopathology by private Medical Practitioners, the data presented here could be considered representative for the whole of Sarawak population.

In the present series the incidence of the Serous as well as the Mucinous Cystadenoma was 28.1 per cent of all ovarian neoplasms. According to Ackerman (1968) the Serous type is generally 25.0 per cent of all ovarian tumours. Serous and Mucinous Cystoma with equal incidence constituted nearly 70.0 per cent of benign ovarian tumours. The incidence of Dermoid Cyst was unusually high, — 29.5 per cent of benign tumours. When considered with all ovarian tumours the incidence was 23.7 per cent which was higher than reported in the literature. Kent and Mckay (1960) have reported an incidence of 20.0 per cent; while Ashley (1978) has stated that Dermoid Cyst forms more than 10.0 per cent of all ovarian tumours. Kurman and Norris (1978) observed that Cystic Teratoma constituted 14-19 per cent of all ovarian neoplasms. Another interesting feature of this tumour was the bilateral involvement of the ovary. In this series 22.7 per cent were bilateral. The majority of patients in this series with such a lesion, bilateral or otherwise, were Chinese. A study of a larger series of Teratomas in general may reveal racial predisposition, if any. It is also necessary to search for an oncogenic agent, in the diet and indigenous medications, taken during the early stage of pregnancy which may be responsible for such tumours in the offsprings. Histologically the interesting feature was the presence of thyroid tissue in 4 cases. In 2 it was sufficiently preponderant to label this as "Struma ovarii". The only case of ovarian fibroma was not associated with Meigs' Syndrome.

Malignant tumours of the ovary formed nearly 24.0 per cent of all malignancies in the Reproductive System, second to cancer of the Cervix (Kothare, loc cit). Amongst the Serous Cystomas (benign: 52 and malignant: 10) 16.1 per cent were Cystadenocarcinoma; whereas in the Mucinous Cystomas 14 out of 66 were malignant with an incidence of 21.2 per cent. Generally Serous Cystadenocarcinoma is slightly more frequent than the Mucinous type. In the present series the incidence of malignant Mucinous Cystoma is higher which also is an unusual feature.

ACKNOWLEDGEMENT

I am grateful to Dr. Tan Yaw Kwang, Director of Medical Services, Sarawak for giving me permission to publish this report.

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