Pattern of ovarian tumours among Malaysian women at General Hospital, Kuala Lumpur

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Summary

The objective of this two year retrospective study is to find out the pattern of ovarian tumours among Malaysian women. A total of 280 cases were reviewed. Of these 193 were benign, 81 were malignant and six cases belonged to borderline malignancy. In the general population, equal distribution of serous and mucinous tumours among the benign (15.4%) and malignant (4.3%) types is quite a striking feature. The teratomas were the commonest benign tumour among the Malays and Chinese. Serous cystadenomas were the commonest among the Indians. The Malays had higher incidence of malignant epithelial tumours whereas the Chinese had a higher incidence of metastatic and germ cell tumours. Endometroid tumours occured from an earlier age of thirty years. There was a preponderance of mucinous tumours among the borderline variety.

Key words: ovarian tumours, Malaysian women.

Introduction

Ovarian tumours, until they reach a considerable size tend to be symptomless and therefore remain undiagnosed. Ovarian cancer is third in frequency in female genital cancer and accounts for 15–25 percent of all malignant genital neoplasms.[1]

Though a number of papers have been written on ovarian tumours, a collective picture giving a pattern in a certain population is still lacking. Taylor[2] reviewed 800 ovarian tumours at a time when classification of ovarian tumours was far from satisfactory. Though Govan[3] mentioned that of all ovarian tumours 20 percent were mucinous, 25 percent were serous, 1.7 percent were Brenner, 3 percent were granulosa cell tumours, 3 percent were dysgerminomas, 10 per cent were cystic teratomas, and 0.01 percent were solid teratomas, the data was not from a single study population.

The objective of this study was to find out the pattern of ovarian tumours among Malaysian women in a hospital population in general. The World Health Organisation[4] histological classification of ovarian tumours was used for this study.

Materials and method

This is a retrospective study covering the two year period from 1/1/1986 till 31/12/1987. The case records of all patients who had a laparotomy done at the Gynaecological Unit of General Hospital Kuala Lumpur and found to have ovarian tumours were reviewed. These were then checked with the histopathology register for diagnosis.

The tumours were broadly classified into primary ovarian tumours of benign, borderline or malignant variety and secondary metastatic tumours.

A total of 280 cases of ovarian tumours were reviewed out of which 193 were benign tumours, 81 malignant tumours and 6 cases of borderline malignancy.

It was realized that the difficulties with ovarian tumours started with its identification. About 16 per cent of epithelial tumours and three out of four sex cord tumours were put under unclassified category. Those tumours with torsion and haemorrhage, Cystadenofibromas and Adenocarcinomas without specific histological classification were included under unclassified benign and malignant tumour groups respectively. All germ cell tumours were considered under malignant tumours except for benign teratomas.

Results

Table I shows the distribution of ovarian tumours for the whole study population. It shows that epithelial tumours forming 55% of all the ovarian tumours to be the commonest group of ovarian tumours in this study. The striking feature is however the equal distribution of serous and mucinous tumours in both benign (15.5% each) and malignant (4.3% each) types. The second commonest group of ovarian tumours is germ cell tumours constituting 36.8% of all ovarian neoplasms. As a single entity, the benign teratomas (28.6%) form the commonest ovarian tumour in this study.

Table II shows the racial distribution of benign ovarian tumours. Among the Malays, the teratoma (forming 44%) is the commonest benign tumour followed by mucinous (21/5%) and serous (18.3%) tumours. The picture is almost similar among the Chinese. Among the Indians serous tumours (forming 39.5%) is the commonest tumour followed by teratomas (30.3%) and mucinous (12.1%) tumours.

Table III shows the age distribution of benign tumours for the entire study population. Majority (78%) of the benign tumours occured between the ages of 20–49 years. The peak incidence was in the 3rd decade. For epithelial tumours alone, 93% occurred between the ages of 20–59% years. Mucinous tumours seem to occur equally at all ages from 10–59 years. Mucinous tumours and teratomas have the widest range of age distribution.

Table IV, V and VI show the age distribution of benign ovarian tumours among the Malays, Chinese and Indians respectively. The peak incidence of benign tumours for Malays & Chinese are in the 2nd and 3rd decade whereas for Indians it is in the 3rd and 4th decades of life.

Table VII shows the racial distribution of malignant ovarian tumours. Serous & mucinous tumours form 18.9% each and are the commonest malignant tumours among the Malays. This is closely followed by metastatic tumours. Among the Chinese metastatic tumours (21%) are the commonest malignant ovarian tumours. The numbers are too small to make any valid comment for Indians.

Table I
Distribution of ovarian tumours

Ovarian tumours	Benign		Malignant		Borderline	
	No.	%	No.	%	No.	%
EPITHELIAL:						
Serous	43	15.5	12	4.3	1	0.4
Mucinous	43	15.5	12	4.3	5	1.8
Endometrioid			9	3.2		
Clear cell			2	0.7		
Brenner	2	0.7				
Unclassified	19	6.8	6	2.1		
SEX CORD STROMAL TUMOURS:						
Sertoli-Leydig cell			1	0.4		
Unclassified sex cord	1	0.4	2	0.8		
Fibromas	5	1.8				
GERM CELL TUMOURS:						
Dysgerminomas			5	1.8		
Teratomas	80	28.6	8	2.9		
Endodermal sinus tumours			7	2.5		
Mixed germ cell			3	1.1		
METASTATIC			14	5.0		
Total	193	68.9	81	28.9	6	2.1

Table II
Racial distribution of benign ovarian tumours

Tumours	**Malay**		**Chinese**		**Indian**		**Total**	
	No.	%	No.	%	No.	%	No.	%
EPITHELIAL:								
Serous	17	18.3	13	19.4	13	39.5	43	22.3
Mucinous	20	21.5	19	28.4	4	12.1	43	22.3
Brenner	1	1.1	1	1.5			2	1.0
Unclassified	12	12.9	3	4.5	4	12.1	19	9.8
SEX CORD + STROMAL:								
Unclassified					1	3.0	1	0.5
Fibromas	2	2.2	2	3.0	1	3.0	5	2.6
GERM CELL:								
Benign Teratomas	41	44.0	29	43.2	10	30.3	80	41.5
Total	93	100.0	67	100.0	33	100.0	193	100.0

Table III
Age distribution of benign ovarian tumour of all races

Tumours	Age(years)							
	0–9	10–19	20–29	30–39	40–49	50–59	60–69	70–79
EPITHELIAL:								
Serous	1		15	11	12	4		
Mucinous	2	7	10	7	7	7		3
Brenner					1	1	–	
Unclassified			6	4	6	3		
SEX CORD STROMAL:								
Unclassified						1		
Fibromas				2	3			
GERM CELL:								
Teratomas	6	4	31	26	9	2	1	1
Total	**9**	**11**	**62**	**50**	**38**	**18**	**1**	**4**

Table IV
Age distribution of benign ovarian tumours among Malays

Tumours	Age(years)					
	0–9	10–19	20–29	30–39	40–49	50–59
EPITHELIAL:						
Serous			10	5	2	
Mucinous		3	6	5	2	4
Brenner					1	1
Unclassified			5	2	4	
SEX CORD STROMAL:						
Fibromas				1	1	
GERM CELL:						
Teratomas	1	3	16	13	7	1
Total	**1**	**6**	**37**	**26**	**17**	**6**

Table V

Age distribution of benign ovarian tumours among Chinese

Tumours	Age(years)							
	0–9	10–19	20–29	30–39	40–49	50–59	60–69	70–79
EPITHELIAL:								
Serous			4	1	4	4		
Mucinous		4	5	1	3	4		2
Unclassified				1	1			
SEX CORD STROMAL:								
Fibromas					2			
GERM CELL:								
Benign Teratoma	2	1	15	7	2		1	1
Total	**2**	**5**	**24**	**10**	**13**	**8**	**1**	**3**

Table VI

Age distribution of benign ovarian tumours among Chinese

Tumours	Age(years)						
	0–9	10–19	20–29	30–39	40–49	50–59	70–79
EPITHELIAL:							
Serous	1		1	5	6		
Mucinous				1	2		1
Unclassified			1	1	1	1	
SEX CORD STROMAL:							
Fibromas				1			
GERM CELL:							
Benign Teratoma		1	2	6		1	
Total	**1**	**1**	**4**	**13**	**9**	**2**	**1**

Table VII

Racial distribution of malignant ovarian tumours

Tumours	Races							
	Malay		Chinese		Indian		Total	
	No.	%	No.	%	No.	%	No.	%
EPITHELIAL:								
Serous	7	18.9	4	10.5	1	16.7	12	14.8
Mucinous	7	18.9	5	13.1			12	14.8
Endometroid	3	8.1	4	10.5	2	33.3	9	11.1
Clear cell	1	2.7	1	2.6			2	2.5
Unclassified	3	8.1	2	5.3	1	16.7	6	7.4
SEX CORD STROMAL:								
Sertoli-Leydig cell			1	2.6			1	1.2
Unclassified	1	2.7	1	2.6			2	2.5
GERM CELL:								
Dysgerminoma	1	2.7	4	10.5			5	6.2
Endodermal sinus	3	8.1	2	5.2	2	33.3	7	8.6
Malignant teratoma	3	8.1	5	13.2			8	9.9
Mixed germ cell	2	5.4	1	2.6			3	3.7
METASTATIC	6	16.2	8	21.0			14	17.3
Total	**37**	**100.0**	**38**	**100.0**	**6**	**100.0**	**81**	**100.0**

Table VIII shows the age distribution of malignant tumours. The peak incidence of germ cell tumours is in the third decade and epithelial tumours and metastatic tumours occur in the 5th and 6th decades of life respectively. The endometroid tumours occur at a earlier age and is equally distributed at all groups from 4th to 8th decades of life. Malignant mucinous tumours are not noted after the 6th decade.

Table IX shows the primary sites of metastatic ovarian tumours.

Conclusion

The distribution of benign, malignant and borderline tumours were 69, 29 and 2 percent. When calculated for epithelial tumours only, the figures were 69, 27 and 4 percent respectively. These figures were very much different from that quoted by Russel[5] who quoted a figure of 56, 39 and 14 percent for benign, malignant and borderline varieties.

The most striking feature was however the equal distribution of serous and mucinous tumours in both the benign and malignant variety. It was equally striking to see the predominance of mucinous tumours in the borderline variety. In Russell's series, mucinous tumours were more common than serous among the benign tumours, serous were more common than mucinous amongst the borderline tumours. Among the malignant tumours, there was a total predominance of serous (16 percent compared to 2 percent) over mucinous tumours.

Endometroid tumours were relatively more common among Malaysian women in this study compared with the Caucasians. Clear cell carcinoma on the other hand is relatively less common showing an incidence half of that of Russell's series[5].

Table VIII
Age distribution of malignant ovarian tumours

Tumours	Age (years)							
	0–9	10–19	20–29	30–39	40–49	50–59	60–69	70–79
EPITHELIAL:								
Serous				2	2	3	3	2
Mucinous			2	5	1	4		
Endonmetroid				2	2	1	2	2
Clear cell					2			
Unclassified			1		3		1	1
SEX CORD STROMAL:								
Sertoli-Leydig cell					1			
Unclassified		2						
GERM CELL:								
Dysgerminoma			4	1				
Endodermal	1	1	4		1			
Teratoma		2	1		1	1	2	1
Mixed germ cell		1		1		1		
METASTATIC			1	3	2	4	2	2
Total	**1**	**6**	**13**	**14**	**15**	**14**	**10**	**8**

Table IX
Primary sites of secondary metastatic tumours

Primary Sites	Number	%
Breast	2	14.3
Endometrium	3	21.4
Cervix	1	7.2
Colon	3	21.4
Krukenberg	2	14.3
Unknown origin	3	21.4
Total	**14**	**100.0**

The overall figures of other tumours are not very much different from that quoted in standard textbooks[6] The incidence of teratomas which was the commonest benign tumour the Malaysian women in this study fell within the figures quoted by Nogales F.F.[7].

There were definite racial differences in the distribution of the ovarian tumours. The Indians had a higher incidence of benign serous cystadenomas and the ratio of serous to mucinous cystadenoma was 3:1.

The Chinese seemed to have the maximum incidence of 28 percent benign mucinous tumours as compared to 21 percent among the Malays and 12 percent among the Indians.

The Malays had more malignant epithelial tumours than the Chinese. The Indians sampled in this study are too few in number to make a comparison. The commonest malignant tumours among the Chinese were metastatic ovarian tumours followed by germ cell tumours.

In patients above the age of 50 years the incidence of malignant ovarian tumours was 57% of all ovarian neoplasms, whereas in those below 50 years of age the incidence was only 22 per cent. Patients above 60 years of age who presented with ovarian tumours have a 78% chance of malignancy.

This study is not truly representative of the Malaysian population as it is a hospital based study. A prospective study to include the entire population in a certain area over a period of five years may give figures more representative of the population as a whole and enable better evaluation of racial pattern.

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