

Common epithelial cancers of the ovary at Chulalongkorn Hospital (1985-1989).

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The present study reports on borderline and malignant epithelial tumors of the ovary which accounted for the most common type of ovarian cancer seen at Chulalongkorn Hospital during the period 1985 to 1989. Of 179 cases of ovarian cancer, common epithelial tumor accounted for 77.6 percent of the total. The mean age of the patients in this study was younger than noted in Western reports but the stage of disease was more advanced than in those reports; this is a characteristic of the diseases in Thai women. In the malignant group, serous tumor was the most common type observed, whereas mucinous tumor was the most common type in the borderline group. The presenting symptoms usually were abdominal symptoms, which may be non-specific for ovarian cancer. Sixty percent of the malignant serous tumor were in stages 3 and 4, and 40 percent of the cases had bilateral ovarian involvement.

Key words: Borderline, Malignant, Cancer, Epithelial tumors, Ovary.

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สมชัย นิรุตติศาสตร์. มะเร็งของรังไข่ชนิด คอมมอน อีพิทีเลียล ทูเมออร์ ในโรงพยาบาลจุฬาลงกรณ์ (พ.ศ. 2528-2532). จุฬาลงกรณ์เวชสาร 2534 พฤศจิกายน; 35(11): 735-743

รายงานฉบับนี้ รายงานถึงมะเร็งของรังไข่ชนิด *common epithelial tumor* ซึ่งเป็นมะเร็งของรังไข่ที่พบบ่อยที่สุดในภาควิชาสูติศาสตร์-นรีเวชวิทยา โรงพยาบาลจุฬาลงกรณ์ ระหว่าง พ.ศ. 2528-2532 จากจำนวนผู้ป่วยมะเร็งของรังไข่ 179 ราย พบมะเร็งรังไข่ชนิด *common epithelial tumor* ร้อยละ 77.6 ของทั้งหมด อายุเฉลี่ยของผู้ป่วยจะมีอายุน้อยกว่าในรายงานของต่างประเทศ แต่จะมีระยะของโรครุนแรงกว่า ซึ่งเป็นลักษณะพิเศษที่พบในรายงานนี้ มะเร็งของรังไข่ชนิด *serous* เป็นชนิดที่พบบ่อยที่สุดในกลุ่ม *malignant* ส่วนในกลุ่ม *borderline* จะพบชนิด *mucinous* มากที่สุด อาการนำของผู้ป่วยมักจะเป็นอาการทางช่องท้อง ซึ่งอาจจะไม่เฉพาะเจาะจงสำหรับมะเร็งรังไข่ ร้อยละ 60 ของมะเร็งชนิด *serous* จะมีระยะของโรคในระยะที่ 3 และ 4 และจะมีโอกาสพบว่าเป็นกับรังไข่ทั้ง 2 ข้างสูงถึงร้อยละ 40

Ovarian cancer is the leading cause of death among women with gynecological cancers.⁽¹⁾ It is the second most common cancer of the female's genital tract after cervical cancer.⁽²⁾ In ovarian cancers, the common epithelial tumor is the most common type, accounting for 80 percent of all ovarian cancers.^(2,3) Patients with ovarian cancer may present with indefinite symptoms, which leaves both doctors and patients unaware of the presence of this deadly disease.^(2,4-6) Because of the resulting delay in seeking medical care, the prognosis for this disease is usually poor.^(2,7) The present study reports on the clinical picture of malignant epithelial tumors in Thai women, which is the most common form of cancer of the ovary, to determine the distribution of histological types, clinical symptoms, stages of disease and sites of metastasis in order to understand the natural history of this cancer so that improved understanding can be brought to bear in the proper management of patients.

Material and Method

This study collected all cases of ovarian cancer who were treated at the Department of Obstetrics and Gynecology, Chulalongkorn Hospital during the

period 1985 to 1989. Following operation on these cases, having been given a copy of the relevant pathological reports, all cases were interviewed with a prepared questionnaire and the data recorded by a social worker who was responsible for tumor registry. One hundred and seventy-nine cases of ovarian cancer were collected.

However, there were only 139 cases of borderline and malignant epithelial tumors which were analysed for this study. The present study follows the WHO histological classification of ovarian tumors and the FIGO staging of cancer of the ovary.

Result

During the period 1985-1989, 1,805 cases of gynecological cancer were registered by the Department of Obstetrics and Gynecology, Chulalongkorn Hospital. Ovarian cancer was the second most common form of cancer, accounting for 9.9 percent of all the cases. In ovarian cancer, common epithelial tumor (Table 1) was the most common type, comprising 77.6 percent of ovarian malignancies, and germ cell tumor was the second most common, comprising 11.2 percent of the total.

Table 1. Distribution of ovarian cancer.

Classification	Percent (n = 179)
Common epithelial	77.6
Sex cord	2.8
Germ cell	11.2
Metastatic	8.4
Total	100.0

Table 2 shows the socio-demographic characteristics of patients with borderline and malignant epithelial tumor. The age of patients was between 20 and 77 years, the mean age being 47.2 ± 13.7 years. Fifty-five percent of the cases were between 40 and 60 years of age. Table 3 shows that the patients' age in the borderline group was younger than that of patients in the malignancy group (31.1 ± 7.5 years versus 49.3 ± 12.9). In the malignancy group, endometrioid tumor was found in the oldest age group (52.4 ± 9.9 years). In this study, 50.4 percent of the patients were in the post-menopausal stage of life (Table 2).

Table 4 shows that mucinous tumor comprised 81.2 percent of the cases of borderline epithelial tumor. Among the malignant tumors, serous tumor was the most common histological type; the second most common type was endometrioid tumor and the third most common was mucinous tumor. They comprised 25.2, 23.0 and 22.3 percent, respectively, of the malignant tumors. If both the borderline and malignant tumors are considered together, it is found that the mucinous type was the most common histological type and serous type was the second most common of this type.

Table 2. Patients' characteristics.

Characteristics	Percent (n = 139)	Mean \pm S.D.	Range
Age (years) :		47.23 \pm 13.73	20-77
<20	1.4		
21-30	11.5		
31-40	21.6		
41-50	20.9		
51-60	27.3		
61-70	11.5		
>70	5.8		
Gravida :		3.18 \pm 3.08	0-13
0	30.2		
1-3	27.4		
4-6	27.3		
7-9	10.8		
>9	4.3		
Parity :		2.65 \pm 2.61	0-11
0	30.9		
1-3	36.0		
4-6	22.3		
7-9	8.6		
>9	2.2		
Marital status :			
Not stated	1.4		
Single	18.0		
Married	56.8		
Divorced	8.0		
Widowed	15.8		
Menopause :			
No	50.4		
Yes	49.6		

Table 3. Distribution of age of ovarian epithelial tumor by histological type.

Histological type	Mean age \pm S.D. (years)	Range (years)
Serous (n = 35)	47.1 \pm 14.8	23-77
Mucinous (n = 31)	46.9 \pm 15.5	21-73
Endometrioid (n = 32)	52.4 \pm 9.9	34-72
Clear cell (n = 17)	48.7 \pm 8.6	36-66
All types of malignancy (n = 123)	49.3 \pm 12.9	21-77
All types of borderline* (n = 16)	31.1 \pm 7.5	20-46

*Serous and mucinous type (n = 16)

Table 4. Pathological result. (Percent)

Histology	Borderline (n = 16)	Malignancy (n = 123)	Total (n = 139)
Serous	2.2	25.2	27.4
Mucinous	9.4	22.3	31.7
Endometrioid	—	23.0	23.0
Clear cell	—	12.2	12.2
Mixed	—	3.6	3.6
Undifferentiated	—	0.7	0.7
Unclassified	—	1.4	1.4
Total	11.6	88.5	100.0

Stages of disease are shown in table 5. All patients with borderline tumors were in stage 1. Fifty percent of the cases were in stage 1 ai. Among those with malignant tumors, 40.7 percent of them were in stage 1 and 50.4 percent were in advanced stages (35.8 percent in stage 3 and 14.6 percent in stage 4). Considering the relationship between histological

type and stages of disease, we found that mucinous tumors and clear-cell tumors tended to be found at an early stage (51.6 percent of the mucinous type and 64.7 percent of the clear-cell type were in stage 1). Serous tumors tended to present in an advanced stage (60.0 percent of this type were in stages 3 and 4).

Table 5. Stage of disease by histological type (percent).

Histological type	Stage of disease				
	1	2	3	4	unknown
All types of malignancy (n = 123)	40.7	8.1	35.8	14.6	0.8
Serous (n = 35)	31.4	8.6	48.6	11.4	0
Mucinous (n = 31)	51.6	6.4	22.6	19.4	0
Endometrioid (n = 32)	31.2	15.7	31.2	21.9	0
Clear cell (n = 17)	64.7	0	35.3	0	0
All types of borderline (n = 16)	100.0	0	0	0	0

Table 6 shows the clinical features of the patients. The most common presenting symptom was abdominal mass. Other common symptoms were abdominal pain, abdominal swelling and dyspepsia; only one case had no presenting symptom. Duration of presenting symptoms before treatment ranged from 0 to 15 months (mean 2.6 ± 2.6 months). The symptom of abdominal pain led to most of the patients so afflicted to seek medical care quickly, whereas those with abdominal mass seemed to have

delayed seeking medical care for some time. Nearly 85 percent of the patients had never had a pelvic examination within two years before diagnosis. Symptoms of abdominal swelling, dyspepsia, weight loss and gastrointestinal discomfort seemed to related with disease in the advanced stages. In particular, dyspepsia and weight loss seemed to be highly significant symptoms in relation to stages 3 and 4 (Table 7).

Table 6. Clinical features.

Clinical features	Percent (n = 139)	Duration (months)	
		Mean \pm S.D.	Range
Presenting symptoms			
Abdominal mass	41.0	3.3 \pm 3.3	1-5
Abdominal pain	25.2	1.7 \pm 1.5	1-6
Abdominal swelling	10.8	2.6 \pm 1.8	1-6
Dyspepsia	10.1	1.9 \pm 0.9	1-4
Frequent urination	2.2	-	-
Metastatic symptom	2.2	-	-
Others	7.8	-	-
No symptom	0.7	-	-
Overall	100.0	2.6 \pm 2.6	0-15
Last pelvic examination			
< 2 years	15.8	-	-
> 2 years	84.2	-	-

Table 7. Symptoms and stage of ovarian epithelial tumors.*

Symptoms	Stage of disease (number)	
	1 and 2 (n = 77)	3 and 4 (n = 62)
Abdominal swelling	19	28**
Abdominal pain	33	31
Abdominal mass	51	41
Dyspepsia	29	43***
Weight loss	27	40***
GI discomfort	18	32**

* More than one symptom present in one case.

** P < 0.05

*** P < 0.001

Sites of metastasis are presented in Table 8. Intraabdominal spreading was a common form of metastasis; the most common sites of metastasis were, excluded ascites, omentum and peritoneum. Serosa of the bowels was the second most common site.

Table 9 depicts the laterality of malignant epithelial tumors. Overall, bilateral malignancies comprised 29.6 percent of the malignancy cases. The right ovary seemed to be more frequently involved than the left ovary. Malignant serous tumor had the

highest incidence of bilateral ovarian involvement, which accounted for 40.1 percent of the cases. The bilaterality of malignant mucinous tumor accounted for only 12.9 percent of the cases. All histological types, except endometrioid tumors, more frequent right ovarian involvement than left involvement. For the borderline mucinous tumors (13 cases), the right ovary seemed to be more frequently involved than the left, bilateral involvement accounting for 7.7 percent of the cases.

Table 8. Site of metastasis.

Site of metastasis	Percent (n = 145)*
Ascites	26.2
Omentum	25.5
Peritoneum	20.0
Small bowel	6.2
Large bowel	6.2
Liver	4.8
Rectum	2.1
Chest	1.4
Brain	0.7
Others	6.9
Total	100.0

*more than one site per case.

Table 9. Laterality of malignant epithelial tumor.

Laterality	Histological types (percent)				
	Serous (n = 35)	Mucinous (n = 31)	Endometrioid (n = 32)	Clear cell (n = 16)	All types (n = 123)
Right	37.1	45.2	28.1	43.8	35.8
Left	11.4	35.5	34.4	31.2	27.6
Bilateral	40.1	12.9	34.4	18.8	29.3
Unknown	11.4	6.4	3.1	6.2	7.3
Total	100.0	100.0	100.0	100.0	100.0

Discussion

Ovarian cancer was the second most common type of gynecological cancer observed at Chulalongkorn Hospital; cervical cancer was the most common type. Ovarian cancer accounted for 9.9 percent of the total of gynecological cancer. Among the types of ovarian cancer, common epithelial tumors were the most common type, comprising 77.6 percent of all cases, which is a little lower than the 80-90 percent reported elsewhere.^(2,3)

In this report, mucinous tumor appeared to be the most common borderline epithelial tumor of the ovary while serous tumor was the most common malignant variant. Among the malignant tumors, the second most common type was mucinous tumor

and the third most common type was endometrioid tumor. This finding differs from those in Western reports which found that malignant endometrioid tumor was the second most common type of cancer among common epithelial tumors,^(8,9,10) which is in agreement with the report of Isurangkul from Ramathibodi Hospital.⁽¹¹⁾ Even though malignant serous tumor was found to be the most common type in other reports, the incidence of this type of tumor in the present study was lower (25.2 percent versus 40 percent)^(9,10) This may be because this report found a higher incidence of mucinous and endometrioid tumors than other reports.

With regard to borderline tumors, the mean age of the patients was nearly 20 years less than in

those with malignant tumors. This finding also differs from those of other reports, in which the age difference between the two groups was only 10 years.^(7,8,11) In those with malignant tumor, the mean age was 49.33 ± 12.95 years, which is comparable with the previously mentioned study of Isarangkul,⁽¹¹⁾ but different from that of other reports which found this tumor in patient in the older age group.^(7,12) This observation should imply that malignant epithelial tumor in Thai women is found at younger ages than in Western countries. When we categorized the tumors by histological type, malignant serous and mucinous tumors were found in younger women than in other studies.^(7,12) Those with malignant endometrioid tumors, which had been found among those in the oldest mean age group in this study, were of an age comparable with those in previous reports.^(7,8,13) For malignant clear-cell tumors, we found that the mean age was nearly the same as for malignant serous and mucinous tumors, which was younger than the study of Czernobilsky et al.⁽¹⁴⁾

Of the malignant serous tumors in this study, 48.6 percent were in stage 3 and 11.4 percent in stage 4. This observation suggests that the behavior of this type of tumor is more aggressive in terms of intra-abdominal spreading, which would confirm the report of Julian et al.⁽¹⁵⁾ Of malignant clear-cell tumors, 62.5 percent were found in stage 1, compared with the studies of Roger et al. and Aure et al., which suggested that this tumor usually is found in an early stage and therefore offers a good prognosis.^(16,17) However, the malignant mucinous and endometrioid tumors in this report were found in stages 3 and 4 in a higher percentage than the report of Kottmeier⁽¹⁸⁾ which found such cases in only 20 percent of the total. This finding may be caused by the procrastination of the patients in seeking treatment or the aggressive behavior of these types of tumor in Thai women.

In this study, we observed that abdominal swelling, dyspepsia, weight loss and gastrointestinal discomfort were related to the disease in the advanced stage; this was especially true for dyspepsia and weight loss. This finding is slightly different from that of Barber who reported that abdominal distention, abdominal pain, pelvic mass and vaginal bleeding were related to advanced disease.⁽¹⁹⁾ Most of the presenting symptoms in this study were abdominal symptoms. Nearly 90 percent of the patients in this report had never had a pelvic examination within the previous two years. Ranney et al. reported that patients in his study who died of cancer had never

had a pelvic examination for 2-16 years (average 9.26 years) prior to diagnosis and operation⁽⁷⁾ We suggest an approach that may assist in the early diagnosis of this deadly disease, i.e. annual pelvic examination and improved awareness about ovarian cancer among doctors and patients when abdominal symptoms are manifested. Patients with suspected ovarian cancer who have had gastrointestinal symptoms and/or weight loss should undergo a full investigation to determine if metastasis has occurred in order to determine staging and plan for treatment.

In this study, bilateral involvement in cases of malignant epithelial tumor was 29.6 percent. Malignant serous tumor showed the most frequent bilateral involvement, accounting for 40 percent of the total, which was also observed by others.⁽⁹⁻¹¹⁾ Bilaterality in cases of malignant mucinous tumor seemed to be the least frequent of all types, accounting for 12.9 percent of the total, which is comparable to the findings of others.⁽⁹⁻¹¹⁾ In cases of borderline mucinous tumor, bilaterality was 7.7 percent, compared with 3-10 percent in other reports.^(20,21) In the present study, although malignant tumors had a predilection for the right ovary, which was also observed by Isarangkul,⁽¹¹⁾ this finding remains unexplained. Right or left involvement shows no correlation with either the stage of disease or the survival of the patient, whereas bilaterality is related to a poorer prognosis than unilateral involvement.⁽²²⁾

Common epithelial tumors comprised the most common type of ovarian cancer. In the present study, serous tumor was the most common histological type in cases of malignant tumor whereas mucinous tumor was the most common histological type in the borderline group. The mean age of patients was younger, but the stage of disease was higher than reported elsewhere, but these data are compatible with a report from Ramathibodi Hospital, Bangkok, Thailand.⁽¹¹⁾ This finding may be caused by racial or environmental factors affecting Thai women. Among cases of malignant epithelial tumor, serous tumor was likely to present in an advanced stage and was most likely to demonstrate bilateral involvement. Patients may present with indefinite symptoms, such as gastrointestinal discomfort or dyspepsia. Therefore, diagnosis of ovarian cancer depends on the physician's awareness when confronted with these indefinite presenting symptoms. Barber suggested the following triad as an aid in the diagnosis of ovarian cancer: a) age 35 years or older, b) persistent unexplained

gastrointestinal symptoms and c) a long history of ovarian imbalance and malfunction.⁽¹⁷⁾

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