UTERINE CANCER - THE KK HOSPITAL EXPERIENCE

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ABSTRACT

Kandang Kerbau Hospital saw 165 new cases of uterine cancers over the 4-year period from 1991 to 1994. The median age of presentation was 54.1 years and 10.9% of these cases occurred in those aged less than 40 years, unlike the corresponding figures of 61 years and less than 5%, respectively, which are often quoted for endometrial cancers in standard textbooks.

Endometrioid adenocarcinoma was the commonest type of uterine cancer seen in our population (75.2%) as in other series. However, we had fewer cases of adenoacanthoma (1.4%) and adenosquamous carcinoma (1.4%) but more cases of uterine sarcoma (11.5%) than is usually reported. 6.7% of our patients had papillary serous adenocarcinoma and 3.0% had clear cell carcinoma. These 2 sub-types are associated with poorer prognosis and there is a need to increase awareness of their existence in our local population as their management differs from that for the usual endometrioid adenocarcinoma.

We had fewer patients with stage I disease (53.3%) but more patients with stage III disease (22.4%). This is most likely due to the use of surgico-pathological staging currently as opposed to the clinical staging used previously which led to the under-staging of a proportion of patients.

keywords: uterine cancer, age distribution, histological type, stage

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INTRODUCTION

Uterine cancer is the commonest gynaecological cancer in the United States of America and the second commonest pelvic malignancy in the United Kingdom [1]. In Singapore, however, its incidence (age-standardised rate, ASR, of 6.1 per 100,000 females per year) still falls behind those for cervical cancer (ASR 16.2) and ovarian cancer (ASR 8.8) [2]. Nevertheless, there has been a gradual increase in its incidence over the last 15 years [2].

In Singapore, in the 5-year period from 1983 to 1987, uterine cancer accounted for 4.6% of all cancers in females in the age group 35 to 64 years. Over the same period, there were 302 cases of uterine cancer, that is, an average of 60.4 cases a year [2].

The incidence of uterine cancer varies markedly between countries and also between different racial groups within the same country [2-4]. The incidence of uterine cancer in Singapore is lower than in most of Western Europe, North America, Australia and New Zealand. It is similar to that in Hong Kong but higher than those in India, Japan and Shanghai [2]. Hence, this study was done to determine the local pattern of this disease.

MATERIALS AND METHODS

This is a retrospective analysis of all newly diagnosed cases of uterine cancers seen in Kandang Kerbau Hospital in the 4-year period from 1 January 1991 to 31 December 1994. The list of patients diagnosed to have uterine cancer during this period was obtained from the Pathology Department and the Women's Oncology Centre in this hospital. The case-notes of all these patients were traced and the relevant information extracted and entered into a computer database.

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RESULTS

There were a total of 165 patients with uterine cancer during the study period, with an average of 41 new cases per year. The racial distribution of these patients, as compared to the Singapore population in the 1990 Census [2], is shown in Table I.

The age distribution for all uterine cancers is shown in Table II and graphically in Fig 1. The age distribution for the various sub-types of uterine cancers - endometrioid adenocarcinoma, papillary serous adenocarcinoma, clear cell carcinoma, leiomyosarcoma, malignant mixed Mullerian tumours and endometrial stromal sarcoma - are compared in Fig 2 to 7 respectively.

Table III shows the distribution by histological type. The distribution is represented as a percentage of all uterine cancers, as well as a percentage of the sub-group of uterine cancers - endometrial cancers or uterine sarcomas.

The distribution by the stage of disease is shown in Table IV. Of the 17 patients who were 'Unstaged', 7 did not undergo staging laparotomy because they were medically unfit, 3 refused surgery and 7 went to other hospitals for their staging laparotomy after the diagnosis was made in our hospital.

Fig 8 shows a comparison of the distribution by stage in the various histological types of uterine cancers.

DISCUSSION

The 1983-1987 Singapore Cancer Registry's report has shown that the age-standardised rates for uterine cancer in Malays (4.1) and Indians (3.2) are lower than that in Chinese (6.5) [2]. The racial distribution of patients with uterine cancer in this study (Table I) seems to support this finding although we are unable to determine incidence rates.

It has often been quoted that the median age of presentation of endometrial cancer is 61 years and that at least 80% of cases occurred after the menopause, with less than 5% of cases occurring in women under the age of 40 [1,3]. In our study, however, the median age at diagnosis was lower - 54.1 years for all uterine cancers and 54.5 years for the endometrial cancers. We also had a higher proportion occurring in those aged less than 40–10.9% for all uterine cancers and 10.3% for the endometrial cancers. The 1983-1987 Singapore Cancer Registry report also showed that our age-specific rates rise gradually from 30 years of age and reach a peak at 60 and then decreases and plateaus at about age 65 [2]. This is different from that in England and Wales where a plateau is reached at age 55 and there is no

Table I – Racial distribution of patients with uterine cancer compared to the Singapore population in the 1990 Census

Race	Uterine cancer		1990 Singapore Population Census (%)
	N	%	
Chinese	132	80.0	77.7
Malay	22	13.3	14.1
Indian	8	4.8	7.1
Others	3	1.8	1.1

Table II – Age distribution of patients with uterine cancer

Age (years)	Number	Percentage
< 30	2	1.2
30 - 35	1	0.6
35 - 40	15	9.1
40 - 45	20	12.1
45 - 50	27	16.4
50 - 55	20	12.1
55 - 60	32	19.4
60 - 65	19	11.5
65 - 70	14	8.5
70 - 75	8	4.8
≥ 75	7	4.2

Fig 1 – Age distribution of all uterine cancers

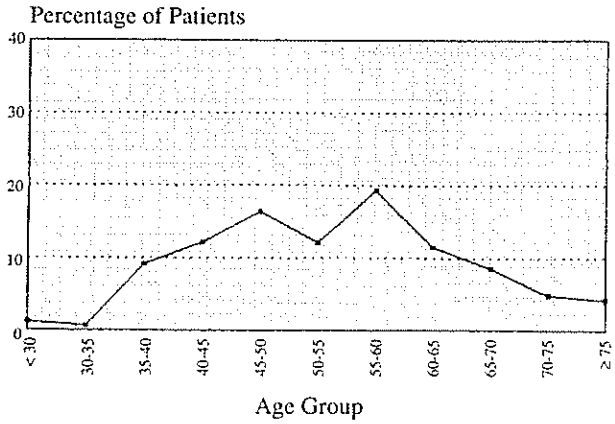


Fig 2 – Age distribution of endometrioid adenocarcinoma

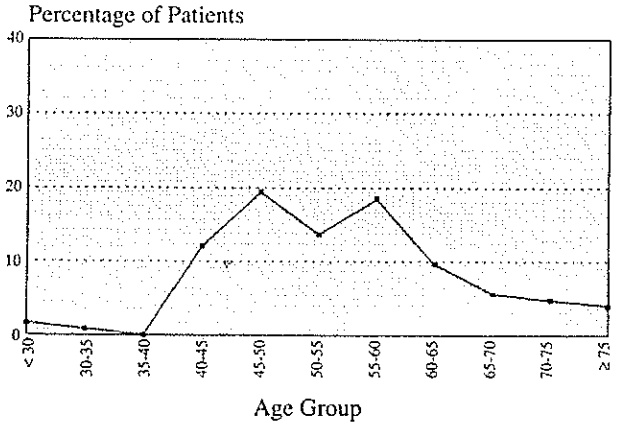


Fig 3 – Age distribution of papillary serous adenocarcinoma

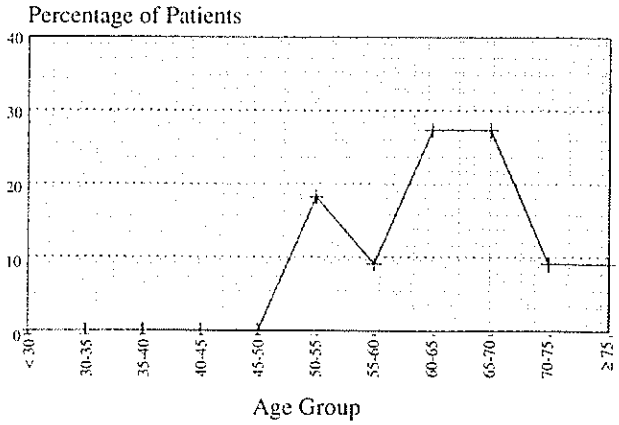


Fig 4 – Age distribution of clear cell carcinoma

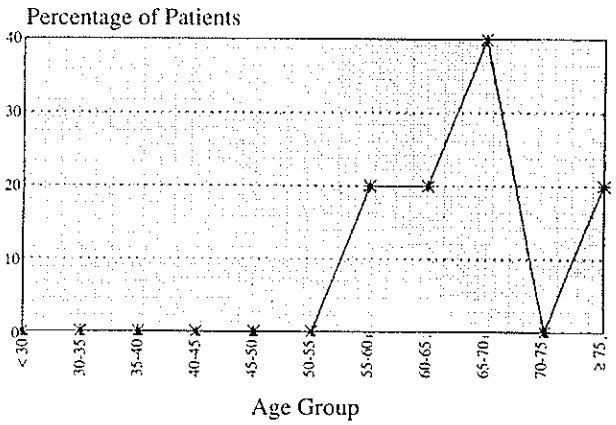
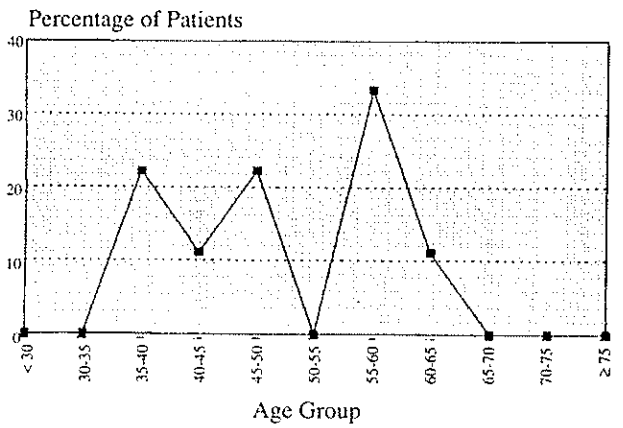


Fig 5 – Age distribution of leiomyosarcoma



decrease in incidence thereafter[4].

Table II and Fig 1 show that uterine cancer is found in all age groups from the reproductive age onwards. Our youngest patient was aged 27.8 years with a stage IA endometrioid adenocarcinoma and the oldest was 87.6 years with an unstaged endometrioid adenocarcinoma.

Fig 2 to 7 show that the age distribution varies with the histological type of the tumour. Endometrioid adenocarcinoma occurred in all age groups, mainly from age 40 onwards (Fig 2). In contrast, papillary serous adenocarcinoma occurred in those aged 50 and above (Fig 3) and clear cell carcinoma occurred in those aged 55 and more (Fig 4). Leiomyosarcoma occurred in

Fig 6 – Age distribution of malignant mixed Mullerian tumour

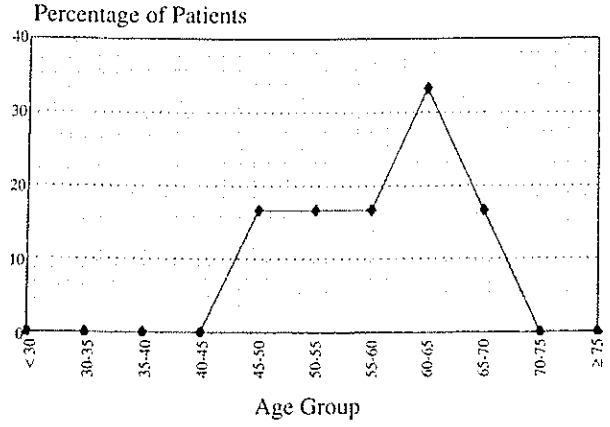
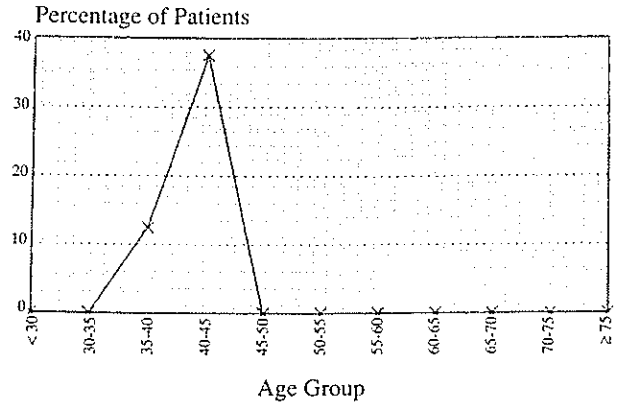


Fig 7 – Age distribution of endometrial stromal sarcoma



NB: y-axis scale different from the others

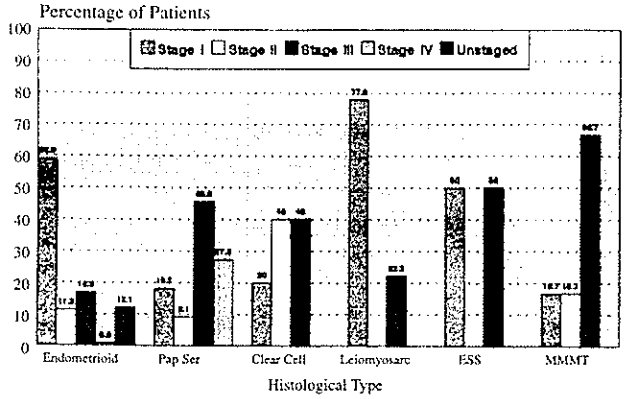
Table III – Distribution by histological type

Histological type	No.	% of all uterine cancers	% of sub-group
A. Endometrial cancers			
Endometrioid adenocarcinoma	124	75.2	84.9
Adenoacanthoma	2	1.2	1.4
Adenosquamous carcinoma	2	1.2	1.4
Papillary serous adenocarcinoma	11	6.7	7.5
Clear cell adenocarcinoma	5	3.0	3.4
Unspecified adenocarcinoma	1	0.6	0.7
Undifferentiated carcinoma	1	0.6	0.7
Total	146	88.5	100.0
B. Uterine sarcomas			
Leiomyosarcoma	9	5.5	47.4
Endometrial stromal sarcoma	4	2.4	21.1
Homologous mixed sarcoma	4	2.4	21.1
Heterologous mixed sarcoma	2	1.2	10.5
Total	19	11.5	100.0

Table IV – Distribution by stage of disease

Stage	All uterine cancers		Endometrial cancers		Uterine sarcomas	
	No.	%	No.	%	No.	%
I	88	53.3	78	53.4	10	52.6
II	18	10.9	17	11.6	1	5.3
III	37	22.4	29	19.9	8	42.1
IV	5	3.0	5	3.4	0	0.0
Unstaged	17	10.3	17	11.6	0	0.0

Fig 8 – Distribution by stage of various uterine cancers



Pap Ser = papillary serous adenocarcinoma; ESS = endometrial stromal sarcoma; MMMT = malignant mixed Mullerian tumour.

those aged 35 to 65 (Fig 5) and malignant mixed Mullerian tumours occurred in those aged 45 to 70 (Fig 6). In contrast, the endometrial stromal sarcomas in our series occurred in younger women aged 35 to 45 (Fig 7). However, it must be noted that 3 out of our 4 cases of endometrial stromal sarcomas were low-grade tumours and only one was a high-grade tumour. High-grade endometrial stromal sarcomas typically occur in the postmenopausal age group [3].

Christopherson reported that 21.7% of endometrial cancers were adenoacanthomas and 6.9% were adenosquamous carcinomas [5]. In our series, however, only 1.4% of the endometrial cancers were adenoacanthomas and only 1.4% were adenosquamous carcinomas (Table III). On the other hand, we had more cases of uterine sarcomata (11.5%), unlike the often quoted figure of 2% to 6% [3,6].

Uterine papillary serous adenocarcinoma was not established as a distinctive entity until 1982 [7]. Both papillary serous adenocarcinoma and clear cell carcinoma were not listed in the Singapore Cancer Registry report for 1983 - 1987 and there were 10.6% of uterine cancers listed under 'Carcinoma NOS' in the report [2]. Papillary serous adenocarcinomas accounted for 4.7% to 10% of endometrial cancers in various studies [5,7,8] while clear cell carcinomas accounted for 1% to 5.7% of endometrial cancers [5,9,10]. In our series, 7.5% of endometrial cancers were papillary serous adenocarcinomas and 3.4% were clear cell carcinomas (Table III). It is possible that some of the tumours listed under 'Carcinoma NOS' in the Singapore Cancer Registry

report [2] were papillary serous adenocarcinoma or clear cell carcinoma.

It is especially important to identify papillary serous adenocarcinoma because its clinical behaviour is distinctly different from the usual endometrioid adenocarcinoma. Unlike endometrioid adenocarcinoma, papillary serous adenocarcinoma is associated with a poor prognosis and high mortality [7-9]. This tumour is frequently clinically understaged as invasion and spread may not be grossly apparent [7-9]. As in ovarian papillary serous carcinoma, uterine papillary serous adenocarcinoma commonly spreads to the peritoneal surface and the omentum. This tumour also has a propensity for lymphatic spread. As such, omentectomy and lymphadenectomy are necessary for proper evaluation of disease stage and prognosis when the diagnosis of papillary serous adenocarcinoma is made. Cisplatin-based chemotherapy may also be considered in the management of this tumour.

Clear cell carcinoma is generally associated with a poor prognosis. Although the 3- and 5-year survival rates for clear cell carcinoma is not worse than that for endometrioid adenocarcinoma of the same clinical stage, clear cell carcinoma, in general, presented with a higher clinical stage [11]. Lymph node sampling or lymphadenectomy is indicated in medically fit patients with this type of tumour if the diagnosis is known pre-operatively.

The distribution of the various types of sarcomata in our series seems to be similar to other reports, with 47% leiomyosarcoma, 21% endometrial stromal sarcoma and 32% malignant mixed Mullerian tumours (Table III), as compared to 43%, 14% and 39% respectively which were quoted by Lurain and Piver [6].

Our stage distribution is also different from the usually quoted figures. The usually quoted proportion for stage I endometrial cancers varies from 70.0% to 76.5% [1,3] whereas only 53.3% of our uterine cancers and 53.4% of our endometrial cancers were stage I disease (Table IV). One the other hand, we had higher proportion of stage III disease – 22.4% for uterine cancers and 19.9% for endometrial cancers (Table IV), compared to earlier studies which quoted 6.2% - 10.4% [1,3] for endometrial cancers. This difference is probably due to the use of surgico-pathological staging nowadays in contrast to the clinical staging used previously which led to the under-staging of a proportion of patients.

Fig 8 shows that the majority of patients with endometrioid adenocarcinoma and leiomyosarcoma had stage I disease whereas the majority of those with papillary serous adenocarcinoma, clear cell adenocarcinoma and malignant mixed Mullerian tumours presented with advanced disease.

CONCLUSION

Our study shows that the distribution of uterine cancers in our population differs from that quoted in standard textbooks. Our patients presented at a younger age, had fewer adenoacanthomas and adenosquamous carcinomas but more uterine sarcomas. Serous papillary adenocarcinoma and clear cell carcinoma are also seen in our patients and need to be identified as their management differs from that for the usual endometrioid adenocarcinoma.

Patients with papillary serous adenocarcinoma, clear cell carcinoma and malignant mixed Mullerian tumours tended to be in the peri- and post-menopausal age group and had advanced disease at presentation. In contrast, patients with low grade endometrial stromal sarcoma presented in the reproductive age. Patients with endometrioid adenocarcinoma and leiomyosarcoma were found in all age groups from 35 years onwards but the majority of these patients had early stage disease.

With the use of surgico-pathological staging, we find a lower proportion of patients with stage I disease but a higher proportion of patients with stage III disease in contrast to previously reported figures.

For optimal management of uterine cancers, there must be accurate diagnosis of the histological type of tumour and complete surgico-pathological staging wherever possible.

REFERENCES

1. Oram D. The management of cancer of the uterine corpus. In: Shepherd JH, Monaghan JM. eds. Clinical Gynaecological Oncology. UK: Blackwell Scientific Publications, 1990:115-22.
2. Lee HP, Chia KS, Shanmugaratnam K. Cancer incidence in Singapore: 1983-1987. IARC Scientific Publications, Lyon: International Agency for Research on Cancer, 1992:2-115.
3. Quinn MA, Anderson MC, Coulter CAE. Malignant disease of the uterus. In: Shaw RW, Soutter WP, Stanton SL. eds. Gynaecology. UK: Churchill Livingstone, 1992:533-46.
4. Day NE. The epidemiology of gynaecological cancers. In: Shaw RW, Soutter WP, Stanton SL. eds. Gynaecology. UK: Churchill Livingstone, 1992:457-8.
5. Christopherson WM. Significance of pathologic findings. In: Creasman WT, ed. Endometrial cancer. Clinics in Obstetrics and Gynaecology. USA: WP Saunders 1986.
6. Lurain JR, Piver MS. Uterine sarcomas: clinical features and management. In: Coppleson M, Monaghan JM, Morrow CP, Tattersall MHN. eds. Gynecologic Oncology: Fundamental Principles and Clinical Practice. UK: Churchill Livingstone, 1992:827-37.
7. Carcangiu ML, Chambers JT. Uterine papillary serous carcinoma: A study on 108 cases with emphasis on the prognostic significance of associated endometrioid carcinoma, absence of invasion, and concomitant ovarian carcinoma. Gynecol Oncol 1992;47:298-305.
8. Lee KR, Belinson JL. Papillary serous adenocarcinoma of the endometrium: A clinicopathologic study of 19 cases. Gynecol Oncol 1992;46:51-4.
9. Huang SJ, Berek JS, Fu YS. Pathology of endometrial carcinoma. In: Coppleson M, Monaghan JM, Morrow CP, Tattersall MHN. eds. Gynecologic Oncology: Fundamental Principles and Clinical Practice. UK: Churchill Livingstone, 1992:753-74.
10. Kanbour-Shakir A, Tobon H. Primary clear cell carcinoma of the endometrium: A clinicopathologic study of 20 cases. Int J Gynecol Pathol 1991;10:67-78.
11. Crum CP, Fechner RE. Clear cell adenocarcinoma of the endometrium. A clinicopathologic study of 11 cases. Am J Diag Gynecol Obstet 1976;1:261.