MULTIPLE PRIMARY CANCERS IN GYNAECOLOGIC ONCOLOGY - KIMIO EXPERIENCE

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SUMMARY

During the 10 year period, between the years 1980 and 1989, 13,322 patients with a primary gynaecologic malignancy were registered for treatment at the Department of Gynaecologic Oncology, Kidwai Memorial Institute of Oncology (KIMIO), Bangalore. A retrospective analysis of these case records identified 30 cases that were associated with another primary malignancy. The characteristics studied were, age at presentation, histological association, chronology of occurrence, treatment offered and outcome and an attempt was made to do a clinico-pathologic review of the multiple primary neoplasms occurring in association with gynaecologic cancers. The observations appear to suggest that at our center, malignancies of the upper aerodigestive tract are the most common other primary malignancy that occurs in patients with gynaecologic malignancy.

INTRODUCTION

Multiple primary malignant neoplasms were first clearly documented more than a century ago by Bilroth (1889). Since then, many such cases have been reported in literature. This increase in reporting may be due to an improved clinical awareness, as well as the improvement in the survival of patients with the initial cancer.

The criteria put forth by Warren and Gates 1932 for the diagnosis of multiple primary tumours still hold true, and are (i) each tumour must present a definite picture of malignancy, (ii) each must be distinct and (iii) the probability of one being a metastasis of the other must be

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excluded.

Gynaecological cancers are the most common cancers (47%) observed in women presenting for treatment at our center. The objective of this study was to identify and describe the sites and the histological types of the other primary tumours that occurred in a patient with a gynaecological cancer.

MATERIAL AND METHODS

A review was undertaken of the case records of 13,322 patients who registered between the years 1980 and 1989 for treatment of a proved gynaecologic malignancy. The last date of followup for the purpose of this study was 30, June, 1990. A second primary malignancy was observed in association with a gynaecologic malignancy in thirty cases. The criteria established by Warren and Gates formed the basis for diagnosing multiple primary cancers. Thus the cancers were classified into synchronous or metachronous cancers depending upon the chronology of occurrence into :

(1) Synchronous cancers : Those discovered and histologically confirmed at the same time or within one year of each other, and
(2) Metachronous cancers : Those discovered more than one year after the discovery of the first cancer.

The characteristics studied were the sites of occurrence, age distribution, histopathology, chronology of occurrence, treatment of the index cancer and the results of treatment.

All the histology slides were reviewed by the same pathologist to confirm the diagnosis.

RESULTS

Multiple primary cancers were observed in 0.23% of all cases with gynaecologic cancers registered between 1980 and 1989. Synchronous cancers were seen in 17 and metachronous in 13. Table I and II indicates the sites of occurrence of synchronous and metachronous

Table I

Relationship between sites of synchronous cancers

Sites	Cervix	Corpus	Vagina	Ovary	Total
UADT*	4	—	2	—	6
Thyroid	1	—	—	—	1
Breast	1	—	—	1	2
Rectum	1	—	—	—	1
Parotid	1	—	—	—	1
CM Luekaemia	2	—	—	—	2
Other gynaec	2	1	—	1	4
Total	12	1	2	2	17

* Upper aerodigestive tract

cancers respectively.

Both the index and second cancer involved the genital organs in six cases. The types of such associations is depicted in Table III.

The minimum age at presentation of patients developing synchronous cancers was 40 years and the maximum age was 64 years, with the majority (59%) being more than 50 years, while for metachronous cancers the figures were 34, 62 and 53 years respectively.

The histological associations between the index cancer and the second primary are depicted in Table IV.

Among the metachronous cancers the minimum and maximum time intervals for the occurrence of the second primary malignancy were 12 and 132 months respectively. The average was 40.4 months and the median 24 months.

The treatment of the index cancer in those patients who developed a second metachronous primary consisted of surgery alone in 3, a combination of surgery + radiotherapy + chemotherapy in 1 and radiotherapy in 9. Among the patients given radiotherapy only in one patient did the second primary occur in the previously irradiated area. This was a spindle cell sarcoma arising in the sacro-coccygeal area 11 years after pelvic radiotherapy for carcinoma cervix.

The results of treatment are shown in Table V.

DISCUSSION

The overall incidence of multiple primary cancers is reported to be 10-12/1000 cases and the prevalence is 3.7 to 6.8% (Warren and Ehrenreich 1944, Moertel 1977). Multiple primary cancers were observed in the present study in

Table III

Association between gynaecologic sites of multiple primaries

Sites	Number
Cervix + ovary	2
Cervix + vulva	3
Ovary + vulva	1
Total	6

Table II

Relationship between sites of metachronous cancers

Sites	Cervix	Corpus	Vagina	Vulva	Total
UADT*	4	—	2	—	6
Breast	2	—	—	1	3
Rectum	—	1	—	—	1
Soft tissue	1	—	—	—	1
Other gyn	1	1	—	—	2
Total	8	2	2	1	13

* Upper aerodigestive tract

Table IV

Histological association between index and second cancer

Histology	Squamous CA	Adeno CA	Adenosquamous CA
Squamous cell ca	11	—	—
Adeno ca	5	3	—
Undiff ca	3	—	—
Mucoepidermoid ca	1	—	—
Colloid ca	—	—	1
Adenoid cystic ca	—	1	—
Sarcoma	1	2	—
CM leukaemia	2	—	—
Total	23	6	1

Table V

Outcome of treatment

Disease Status	Synchronous Cancers	Metachronuous Cancers
N. E. D.	2	—
Residual disease	4	1
Recurrence	2	—
Unknown (lost for followup)	3	5
Noncompliant to therapy	6	5
Death other cause	—	1
On treatment	—	1
Total	17	13

only 0.23% cases with gynaecologic malignancies. This observation may be due to the following factors peculiar to this patient population

(i) High level of noncompliance to treatment

(ii) Short period of observation after treatment due to noncompliance to followup.

These factors lead to a limited observation of the population at risk, especially as it has been earlier observed, that the risk of development of a second primary cancer increases with time following the diagnosis of the first cancer.

Many theories implicating embryologic, hormonal or other Phenomenon have been put forth to explain the observation of multiple similar neoplasms in the female genital tract (Woodruff et al 1985, Goodall 1911, Laughlan 1972, Sica et al 1984). One such association i.e.

primaries involving the cervix and vulva was observed in 3 cases in this study.

The histology of the multiple primary cancers was of a similar cell type in 41.1% of cases with synchronous cancers and in 53.8% with metachronous cancers. However there was a difference in the grade of the two primary cancers in some of the cases (51.7%).

The index cancer was of the female genital tract in 61.5% of these with metachronous cancers, and 60% of the second metachronous cancers developed within 24 months of the diagnosis of the index cancer. There was a history of prior radiotherapy in 76.1% of cases who developed a second metachronous primary, however only one of these arose in the previously irradiated field.

The upper aerodigestive tract (UADT) was the most common site of the non gynaecologic second primary cancer. This site was implicated in 35.5% of patients with synchronous cancers, and in 46.1% of patients with metachronous cancers. Such tumour associations have been previously reported (Moertel 1977). At our center UADT cancers are common (17%) in women. These are considered to be tobacco related cancers. As both these sites i.e. gynaecologic and UADT are the common sites of cancer in Indian women further study is required to assess the relation between them.

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