

Malignant Tumours of the Female Genital Tract in Zaria, Nigeria: Analysis of 513 Cases

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Abstract

Background: Female genital tract malignant tumours are common tumours that affect mainly the young female population. Unfortunately, the preventable carcinoma of the cervix is still the leading cause of cancer morbidity and mortality.

Methods: This is a retrospective histopathological analysis of female genital tract malignant tumours diagnosed over an eleven-year period (1993 – 2003). The information required was retrieved from histology bench books and request cards.

Results: In an analysis of 513 cases in Zaria, 77% were carcinoma of the cervix and this was the commonest. This was followed by the corpus uteri (10.1%), and ovarian tumours (8.4%). Tumours of the vagina and vulva were uncommon. One case of adenocarcinoma of the fallopian tube which accounted for 0.2% was noted. The commonest type of cervical cancer was squamous cell carcinoma (89.5%). Choriocarcinoma (57.7%) was the most common tumour of the corpus uteri and among ovarian tumours; serous papillary cystadenocarcinoma was the commonest (25.6%), followed by malignant granulosa cell tumour (20.9%). One case of ovarian Burkitt's lymphoma which accounted for 2.3% was noted. Malignant tumours of the corpus uteri and the cervix are more common in the fifth decade, while ovarian tumours are commoner in the fourth decade of life.

Conclusion: Carcinoma of the cervix was the commonest malignancy encountered in this study. Fortunately it is preventable by the routine Pap smear. Therefore governments of African countries should establish and sustain such screening centres.

Key words: Female genital tract, malignant tumour

Résumé

Arrière-plan : Les tumeurs malignes du système génital féminin sont commune et affectent généralement la jeune femme. Malheureusement le cancer du col de l'utérus pourtant évitable, reste la cause majeure de mortalité et morbidité lie au cancer.

Méthode : Ceci est une analyse rétrospective, de 1993 à 2003, des tumeurs malignes du système génital féminin vues au Département d'Anatomie Pathologie du centre Hospitalier Universitaire Ahmadu Bello Teaching Hospital, Zaria. Les données utilisées ont été récupérées de la banque des données du Département d'Anatomie Pathologie.

Résultats : Sur 513 cas récupérés, 77% étaient des cancers du col de l'utérus et étaient les plus commun. Ceci étaient suivi par les cancer de l'utérus (10.1%), et des tumeurs des ovaires (8.4%). Les cancers du vagin et de la vulve étaient rares. Un cas d'adénocarcinome de la trompe de Fallope qui représente 0.2% a été observé. Les types les plus commun des cancer du col de l'utérus étaient les carcinome squameux (89.5%). Le cancer de l'utérus le plus fréquent était le choriocarcinome (57.7%), alors que l'adénocarcinome papillaire cystique était le plus commun des cancers des ovaires, suivi par cancer granuleux (20.9%). Un cas de lymphome de Burkitt, 2.3%, a été observé. Le cancer de l'utérus et du col de l'utérus sont fréquent durant la cinquième décennie, alors que ceux des ovaires apparaissent à la quatrième décennie de vie.

Conclusion : le cancer de col de l'utérus était la tumeur maligne la plus fréquente de cette étude. Heureusement il est évitable si un frottis cervical est fait avec suivi. Les gouvernements africains devraient établir des campagnes et des centres de détection du cancer du col de l'utérus.

Mots clés : Système génital féminin, tumeur maligne

Introduction

Malignant tumours of the female genital tract call for concern worldwide and especially in developing countries where the commonest malignant tumour in the female population is found in the genital tract, the cervix.^{1,2}

These malignant tumours affect mainly the economically active group who still has some contributions to make to the society and are associated with significant morbidity and mortality.

Research has been directed towards cancer aetiology, preventive strategy and optimum treatment. It is therefore important to establish the pattern of distribution of cancers of the female genital tract in order to set priorities for research, management and policy making.³ There is paucity of data on the malignant tumours of the female genital tract, especially in Northern Nigeria and this necessitated this study.

Materials and Method

This study was an eleven-year retrospective histopathological analysis of tumours of the female genital tract seen at the Department of Pathology of the Ahmadu Bello University Teaching Hospital Zaria, Nigeria (January 1993 to December 2003).

Histopathology diagnosis of specimens of female genital tract were retrieved from the laboratory bench books and relevant information on the age of the patient and histopathologic type were analysed using Microsoft® Excel; frequency tables and figure were then generated.

Results

Five hundred and thirteen (513) women had malignant tumours of the female genital tract. The cervix uteri was the commonest site occurring in 395 women (77% of cases) while corpus uteri was the second most common (10.1%) and is followed by malignant ovarian tumours (8.4%). Malignant

tumours of the fallopian tube are however rare and only one case was seen in this study as shown in Table 1.

Malignant tumours of the cervix uteri have a peak age of incidence in the fifth decade with an age range of 25 – 76 years. The histopathological types seen showed that squamous cell carcinoma (89.5%) was the commonest, followed by adenocarcinoma (6.6%). Three cases of clear cell carcinoma and one case of malignant carcinoid were noted (Table 2).

Malignancies of the corpus uteri have a broad peak of incidence between the third to fifth decades. Choriocarcinoma was the commonest malignant tumour of the corpus uteri (57.7%) and this was followed by endometrial adenocarcinoma (21.2%). Leiomyosarcoma and endometrial stromal sarcoma accounted for 3 and 2 cases respectively (Table 3). Choriocarcinoma occurs mainly in the young age group between second to fifth decades with a mean age of 28 years, while cases of endometrial adenocarcinoma have a uniform distribution between the third to eighth decades with a mean age of 52.7 years.

Ovarian malignancies have a uniform distribution between first to eighth decades with a peak age in the fourth decade. Serous papillary cystadenocarcinoma was the commonest (23.9%) and this was followed by malignant granulosa cell tumour (20.9%) and mucinous papillary cystadenocarcinoma (13.9%). Dysgerminoma accounted for 9.3% and one case of Burkitt's lymphoma was noted in this study (Table 4).

Table 1: Site of malignant tumours of the genital tract in 513 patients

Site	No. (%)
Cervix uteri	395 (77.0)
Corpus uteri	52 (10.1)
Ovary	43 (8.4)
Vagina	16 (3.1)
Vulva	6 (1.2)
Fallopian tube	1 (0.2)
Total	513 (100)

Table 2: Age histology of malignant tumours of cervix uteri in 395 patients

Age (years)	SCC	AC	ASC	UC	CCC	MC	Total
20-29	14	2	-	-	-	-	16
30-39	75	5	2	3	-	-	85
40-49	116	10	-	2	-	-	128
50-59	86	5	2	1	1	1	96
60-69	48	2	-	1	-	-	51
70-79	15	2	-	-	2	-	19
Total (%)	354(89.5)	26(6.6)	4(1.0)	7(1.8)	3(0.8)	1(0.3)	395(100)

SCC: squamous cell carcinoma; AC: adenocarcinoma; ASC: adenosquamous carcinoma; UC: undifferentiated carcinoma; CCC: clear cell carcinoma; MC: malignant carcinoid

Table 3: Age and histology of malignant tumours of the corpus uteri in 52 patients

Age (years)	CC	EC	LS	AS	ESS	ACC	MT	Total
10-19	6	-	-	-	-	-	-	6
20-29	11	1	-	1	1	1	-	15
30-39	9	2	-	-	-	-	-	11
40-49	4	2	2	1	1	-	1	11
50-59	-	1	1	-	-	-	-	2
60-69	-	3	-	-	-	-	1	4
70-79	-	2	-	-	-	-	1	3
Total (%)	30(57.7)	11(21.2)	3(5.8)	2(3.8)	2(3.8)	1(1.9)	3(5.8)	52(100)

CC; choriocarcinoma; EC: endometrial carcinoma; LS: leiomyosarcoma; AS: angiosarcoma; ESS: endometrial stroma sarcoma; ACC: adenoid cystic carcinoma; MT: metastatic tumour

Table 4: Age and histology of malignant ovarian tumours in 43 patients

Age (years)	SPC	MPC	MGCT	EST	MR	DS	MST	MM	LS	BL	MT	EC	UC	Total
0-9	-	-	-	-	-	1	-	-	-	1	-	-	-	-
10-19	-	-	-	1	1	2	-	-	-	-	-	-	-	-
20-29	-	1	1	-	-	-	1	-	-	-	-	-	-	-
30-39	5	2	1	-	-	1	-	-	-	-	1	1	1	5
40-49	2	2	3	-	-	-	-	1	1	-	-	1	-	2
50-59	3	-	2	-	2	-	-	-	-	-	-	-	-	3
60-69	1	1	1	1	-	-	-	-	-	-	-	-	-	1
70-79	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Total (%)	11 (25.6)	6 (13.9)	9 (20.9)	2 (4.6)	3 (7.0)	4 (9.3)	1 (2.3)	1 (2.3)	1 (2.3)	1 (2.3)	1 (2.3)	2 (4.6)	1 (2.3)	11 (25.6)

SPC: serous papillary cystadenocarcinoma; MPC: mucinous papillary cystadenocarcinoma; MGCT: malignant granulosa cell tumour; EST: endodermal sinus tumour; MR: malignant teratoma; DS: dysgerminoma; MST: malignant stromal tumour; MM: malignant mixed müllerian tumour; LS: leiomyosarcoma; BL: Burkitt's lymphoma; MT: metastatic tumour; EC: endometrioid carcinoma; UC: undifferentiated carcinoma

Discussion

This study shows that the cervix is the commonest site of malignant tumours of the female genital tract. This correlates well with studies done in other parts of Nigeria and other African countries. The 77% recorded in this study is slightly higher than the 61.5% reported in Sokoto, 63.1% from Port Harcourt, 70.5% and 73.6% from Maiduguri; and 73.1% from Enugu.³⁻⁷ This shows that cervical cancer should be given great attention in terms of prevention by instituting screening programs especially Pap smear and colposcopic examinations. The percentage given above can be reduced if patients are educated on the importance of Pap smear examination and the service made available and affordable to the populace.

The commonest histopathological type of cervical cancer is the squamous cell carcinoma (89.5%) and this is followed by adenocarcinoma (6.6%). The trend is similar to studies done in other centres.^{3,4} This trend is not unexpected since squamous cell carcinoma is pathogenetically associated with human papillomavirus, which is sexually transmitted and a common infection. On the other hand glandular neoplasia has been associated with long term use of oral contraceptives, especially in young adults.^{8,9}

Choriocarcinoma (57.7%) is the most common malignant tumour of the corpus uteri and endometrial carcinoma accounts for 21.2%. This agrees with a

study from Maiduguri which recorded 54.1% of all malignant tumours of the corpus uteri. This is in contrast to a study in Port Harcourt which showed choriocarcinoma to be uncommon.^{3,4} Improvement in the management of choriocarcinoma being a curable cancer should be achieved by early detection. This is important because it metastasizes early via haematogenous routes and mainly affects women in their most productive age.¹⁰⁻¹²

Although ovarian tumours accounted for 8.9% of the cases, which is lower than 18.2% and 16.3% reported from Sokoto and Maiduguri respectively,^{6,7} they still pose a threat because of their location leading to late presentation. Serous papillary cystadenocarcinoma is the commonest recorded (23.9%) and followed by malignant granulosa cell tumour, and mucinous papillary cystadenocarcinoma accounting for third most common malignant ovarian tumour. One case of ovarian Burkitt's lymphoma was recorded in this study. These results disagree sharply with studies done in other centres where serous papillary cystadenocarcinoma accounted for 51.3%.⁴ The prominence of malignant granulosa cell tumour in this study remains unclear. The overall prognosis of ovarian cancer remain poor, a direct result of its rapid growth rate, lack of early symptoms and poor understanding of causative factors.¹³⁻¹⁵

Vaginal and vulval malignant tumours are uncommon in this study and agrees with previous

reports.⁴ One case of adenocarcinoma of the fallopian tube was noted which accounted for 0.2% of all female genital malignant tumours. Some series reported fallopian tube cancer occurring in 1% of primary genital tract malignancy,¹⁶ it is worthy of note that it is still a rare phenomenon. High index of suspicion on malignant cells in cervico-vaginal cytology may give a clue to the diagnosis, since the tumour is usually intraluminal.¹⁷

Malignant tumours of the cervix and the corpus uteri occur most common in the fifth decade, while ovarian tumours in the fourth decade of life. This agrees with a study from Maiduguri but disagrees with a study from Port Harcourt which showed cervical tumours being common in the sixth decade and ovarian tumours in the fifth decade of life.^{3,4}

This study showed that malignant tumours of the female genital tract at an economically active life of Nigerian women. The government should focus attention to cancer prevention, especially by screening cancer of the cervix, and provide well equipped and well staffed health centres that can properly manage these malignant tumours.

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References

1. Parkin DM, Muir CS, Whelan SL, Gao YT, Ferlay J, Powell (eds). Cancer incidence in five continents. VI IARC, Lyon, 1992
2. Armon PJ, Missaleh W. Carcinoma of the cervix in Tanzania. *East Afr Med J* 1978; 55: 534 – 537
3. Nwosu SO, Anya SE. Malignancies of the female genital tract at the University of Port Harcourt Teaching Hospital. *Niger Postgrad Med J* 2004; 11: 107 – 109
4. Pindiga UH, El-Nafarty AU, Ekanem IA. Female genital malignancies in Maiduguri, Nigeria: a review of cases. *Tropical Journal of Obstetrics and Gynaecology* 1999; 16: 52 – 56
5. Megafu U. Cancer of the genital tract among the Ibo women in Nigeria. *Cancer* 1979; 44: 1875 – 1878
6. Airede LR, Malami SA. A five-year review of female genital tract malignancies in Sokoto, northwestern Nigeria. *Mary Slessor Journal of Medicine* 2005; 5: 51 – 56
7. Kyari O, Ngadda H, Mairiga A. Malignant tumours of female genital tract in north eastern Nigeria. *East Afr Med J* 2004; 81: 142 – 145
8. Gallys DG, Abell MR. Invasive adenocarcinoma of the uterine cervix. *Obstet Gynecol* 1977; 49: 596 – 603
9. Valente PT, Hanjani P. Endocervical neoplasia in long-term users of oral contraceptives: clinical and pathological observation. *Obstet Gynecol* 1986; 67: 695 – 704
10. Ishizuka T, Tomoda Y, Kaseki S et al. Intracranial metastasis of choriocarcinoma: a clinicopathological study. *Cancer* 1983; 52: 1896 – 1903
11. Mazur MT, Lurain JR, Brewer JJ. Fatal gestational choriocarcinoma: clinicopathologic study of patients at a trophoblastic disease centre. *Cancer* 1982; 50: 1833 – 1846
12. Soper JT, Mutch DG, Chin N, Clarke-Pearson DL, Hammond CB. Renal metastasis of gestational trophoblastic disease: a report of eight cases. *Obstet Gynecol* 1988; 72: 796 – 798
13. Malkasian GD, Melton LJ, O'Brien PC, Green MH. Prognostic significance of histologic classification and grading of epithelial malignancies of the ovary. *Am J Obstet Gynecol* 1984; 149: 274 – 284
14. Piver MS. Epidemiology and etiology of ovarian cancer. *Semin Oncol* 1991; 18: 177 – 184
15. Bast RC. Malignant transformation of the ovarian epithelium. *J Natl Cancer Inst* 1992; 84: 557 – 558
16. Rosenblath KA, Weiss NS, Schwartz SM. Incidence of malignant fallopian tube tumours. *Gynecol Oncol* 1989; 35: 236 – 239
17. Lehto L. Cytology of the human fallopian tube. *Acta Obstet Gynecol Scand* 1963; 42: 1 – 95