A review of genitourinary cancers at the Korle-Bu Teaching Hospital Accra, Ghana

G. O. Klufio
Unit of Urology
University of Ghana Medical School
P. O. Box 4263, Accra Ghana

Summary

Objective: **To determine the frequency and pattern of genitourinary malignancies seen at the Korle-Bu Teaching Hospital, Accra, Ghana**

Materials and methods: **A retrospective review of genitourinary malignancies seen at the Korle-Bu Teaching Hospital from 1980 to 1990 was undertaken. Data was obtained from the operating theatre register, histopathology reports, and patient case notes. Information retrieved included age and sex of patients, organ involved and laterality where appropriate and tumour type.**

Results: **548 genitourinary malignancies were seen, of which 479 (87.4%) were in males and 69 (12.6%) in females. Adults comprised 93.4% and children 6.6%. The organ-specific distribution was as follows – prostate 349 (63.7%), bladder 117 (21.3%), kidney 57 (10.4%), testis 13 (2.4%), penis 10 (1.8%) and one each of the ureter and urethra. The kidney tumours comprised nephroblatoma (56.1%), adenocarcinoma (35.1%) with the rest being of urothelial origin. Of the bladder tumours, 50.4% and 44.8% were transitional cell and squamous cell carcinoma respectively. Virtually all the prostatic cancers (99%) were adenocarcinomas. Of the testicular tumours 8(61.5%) were of germ cell and 5 (38.5%) non-germ cell origin. The penile cancers were all squamous. The ureteric and urethral tumours were due to transitional cell and squamous cell carcinomas respectively.**

Conclusion: **Prostatic carcinoma was the predominant genitourinary tumour, accounting for nearly two-thirds of cases, followed by the bladder and the kidney. Other tumours were relatively uncommon. Transitional cell carcinoma of the bladder was seen a little more commonly than the squamous type.**

Keywords: ***Prostate, Bladder, Kidney, Testis, Penis, Ureter, Urethra, Cancer, Site-specific, Histology.***

Résumé

Objectif: Déterminer la fréquence et la tendance des génito-urinaires maligns vus au centre hospitalier universitaire du Korle-Bu à Accra au Ghana

Matériels et Méthodes: Un bilan rétrospectif des génito-urinaires maligns vus au cntre hospitalier universitaire de 1980 au 1990 a été effectué. Des données ont été obtenues du registre de la salle d'operation, rapports histopathologies et dossier médical des patients. Des informations récupereés sont: âge, et sexe des patients, organe impliqués et lateralité, si c'est nécessaire et le type de tumeur.

Résultats: 548 cas des malignités génito-rinaire ont été vus, dont 479 soit 87, 4% étaient du sexe masculin et 69 soit 12,6% étaient du sexe féminin. Des adultes constituentt 93,4% et des enfants 6.6%. La repartition spécifique des organes sont representées par. prostate 349 (63,7%, la vessie 117 (21,3%), rein 57 (10,4%), testicule 13 (12,4%) penis 10 (1,8%) et chacun de uretere et uretre. Les tumeurs du rein sont representées par néphroblastome (56,1%) adenocarcinome (35,1%) et les autres etant d'origine d'urothélial. Parmi les tumeurs de vessei, 50,4% et 44,8% étaient des cellule transitionnelle et cellule carcinome du squame respectivement. Pratiquement, tous les cancers de la prostate (99%) étaient adénocarcinome. Parmi les tumeurs testiculaires 8 soit 61,5% étaient gamète et 5 soit 38,5% d'origine non gamète. Les cancers du penis étaient tous du squame. Des tumeurs uretériques et urètrales étaient tous attribuables au cellule transitionelle et cellule carcinome du squame respectivement.

***Conclusion*:** Carcinome de la prostate était la tumeur génito-urinaire la plus prédominale, constitute presque deux tiers des cas, suivi par la vessei et le rein. Tous les autres tumeurs sont relativement peu courant. Cellule carcinome transitionelle de la vessie était vue un peu plus fréquemment plus le type du squame.

Introduction

The incidence of malignant disease has been shown to be rising the world over[1]. In Ghana, the role of cancers as significant cause of morbidity and mortality has received concerted attention at various times in the past. An offshoot of this concern was the formation of the National Cancer Foundation in 1990. One of it's fundamental aims was to promote cancer research and the efficient care of cancer sufferers. Research information available on some cancers in the country at the time was highlighted in an accompanying publication[2]. It was noted that information on genitourinary malignancies was scanty. This retrospective review was therefore initiated to document the frequency and pattern of genitourinary cancers seen at the Korle-Bu Teaching Hospital (KBTH).

Materials and methods

The study was undertaken in 1991 and involved a review of pathologically proven genitourinary malignan-

Correspondence

cies seen at the Korle-Bu Teaching Hospital, Accra, Ghana, from June 1980 to May 1990. Relevant information was gathered from the following sources – the theatre operations register, patient case notes, and surgical pathology reports at the Korle-Bu Teaching Hospital and in some cases at the 37 Military Hospital, Accra. During the 1980s, many patients had their pathological specimens processed at the Military Hospital in order to avoid undue delays at KBTH. Data extracted from the records included patient age and sex, organ involved, laterality of the tumour where appropriate and histological characteristics of the tumour.

Results

Over the 10-year period, 548 genitourinary malignancies were seen of which 479 (87.4%) were in males and 69 (12.6%) in females. Adults comprised 93.4% and children 6.6%. The organ-specific frequency of occurrence is shown in Table 1. Leading tumour sites (in descending order) comprised prostate, bladder and kidney respectively. Together these accounted for 95.4% of the cases. Tumours of the testis, penis, ureter and urethra accounted for the remainder. In the adults, 9 of the kidney tumours were right-sided and 11 left-sided. The distribution for nephroblastoma (Wilms' tumour) in children was 17 on the right and 15 on the left. Eight of the testicular tumours occurred on the right and 5 on the left. Table 2 gives the age and sex characteristics of patients in relation to tumour site. The 2 children with testicular tumours were both aged 5 years. Of the kidney tumours 25 (43.9%) were in adults and 32 (56.1%) in children.

Histological features of the various tumours types are shown in Table 3. The adult kidney tumours comprised adenocarcinoma, sarcoma and transitional as well as squamous cell carcinomas of the renal pelvis. All the cases of nephroblastoma occurred in children. The rhabdomyosarcoma amongst the cases with prostatic cancer occurred in the only child in this group. Of the testicular cancers, the yolk sac tumour and one paratesticular tumour occurred in children.

Table 1 Genitourinary cancers at KBTH (1980 – 1990): frequency of occurrence

Tumour site	Number of cases	%
Prostates	349	63.7
Bladder	117	21.3
Kidney	57	10.4
Testis	13	2.4
Penis	10	1.8
Ureter	1	0.2
Urethra	1	0.2
Total	**548**	**100.0**

Table 2 Patient characteristics in relation to tumour site

Tumour site	Sex		Age (Years)	
	Male	Female	Mean	Range
Kidney				
Adults	9	16	44.0	24 – 74
Children	19	13	3.3	0.25 – 8
Bladder	81	36	56.5	20 – 90
Prostate	348*	–	72.9	35 – 90
Testis				
Adults	11	–	25.0	14 – 54
Children	2	–	5.0	–
Penis	10	–	61.5	33 – 72
Ureter		1	60.0	–
Urethra	1		51.0	–

**Excludes one child aged 5 years*

Table 3 Histological classification of tumours

Tumour site	Total no cases	Histological types	No.(%)
Kidney	57	Adenocarcinoma	20(35.1)
		Transitional cell	2
		Squamous cell	1
		Sarcoma	2
		Nephroblastoma	32 (56.1)
Bladder	117	Transitional cell	59 (50.4)
		Squamous cell	52 (44.4)
		Adenocarcinoma	2
		Angiosarcoma	1
		Undifferentiated	3
Prostate	349	Adenocarcinoma	347 (99.4)
		Squamous cell	1
		Rhabdomysarcoma	1
Testis	13	Seminoma	4 (30.7)
		Teratoma	2 (15.4)
		Embryonal carcinoma	1(7.7)
		Yolksac tumour	1(7.7)
		Interstitial cell	2(15.4)
		paratesticular	3(23.1)
Penis	10	Squamous cell	10
Ureter	1	Transitional cell	1
Urethra	1	Squamous cell	1

Discussion

The importance of cancers as significant causes of morbidity and mortality in our environment is on longer in doubt[1]. A recent study, which employed the International Statistical Classification of Diseases and Related health Problems (ICD-10), found that malignant neoplasms ranked number 10 among 22 categories leading to hospital admission at the Korle-Bu Teaching Hospital[13]. In that study, genitourinary tumours constituted 12.8% (117 of

914) of all the cancers seen.

The current study has shed light on the pattern and frequency of genitourinary tumours seen at KBTH. In keeping with experience worldwide, the leading tumour sites (In descending order) were found to comprise the prostate, bladder and kidney. Other sites were either uncommon or rare[4,5]. The high frequency rate of prostatic cancer is noteworthy.

Currently in America, cancer of the prostate is the most commonly diagnosed cancer in males. In Nigeria it has been shown that it's incidence may be as great as that noted in blacks in America[6]. In deed a subsequent report from the same country showed that cancer of the prostate has become the number one cancer in Nigerian men[7]. It would be interesting to known the ranking of prostate cancer among other male cancers in Ghana, presently. Earlier data placed it fourth, behind liver cancer, lymphoid neoplasia (Hodgkins disease) and soft tissue sarcoms[1]. Among renal rumours, adenocarcinoma (renal cell carcinoma) is generally more common than the other histological types. In the current review however, nephroblastoma was encountered more often. The reason for this is not apparent. Although some reports suggest that nephroblastoma is more common in blacks[8], others indicate that it has a relatively uniform worldwide distribution[9,10]. Worldwide, about 90% of bladder tumours are transitional cell carcinoma. The high level of squamous cell carcinoma (45%), seen in this study, was due to the fact that *Schistosoma haematobium* infection, which is an aetiological agent[11,12], is endemic in the country. In Egypt where schistosomiasis is also endemic, squamous cell carcinoma (SCC) is responsible for more than 75% of the bladder tumours[13]. A preponderance of SCC has also been noted in Nigeria but a recent report suggested a changing trend with a rise in the frequency of TCC (49.9%) relative to SCC[14]. The various histological types of testicular tumours seen in this review is largely similar to findings from Nigeria[15] but differs from the experience in Cameroon where Burkitt's Lymphoma is the most common tumour[16].

With the exception of bladder tumours, the age incidence of the other malignancies are similar to findings generally. The peak incidence of the bladder tumours in the current review is lower than the 65 years or more, that is normally quoted for these tumours. Again the difference is due to the high proportion of squamous cell carcinoma in the present series.

Squamous cell carcinoma of the bladder has been shown to occur in patients 10 to 20 years younger than those with transitional cell carcinoma[17]. Indeed in this review, the mean ages of patients with squamous and transitional cell carcinomas of the bladder were 50.4 and 60.5 years respectively.

The male to female sex ratio for nephroblastomas (1.5:1) and bladder tumours (2.3: 1) established in this study are similar to other published data[8,9,18]. However, the preponderance of females (2:1) among patients with renal cell carcinoma is at variance with findings in Europe and America where the ratio is reverse, in favour of males[19]. there is no obvious reson for this difference. A prospective study is therefore to be initiated to clarify this observation.

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