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ORIGINAL RESEARCH

Epidemiologic clinical and therapeutic profile of bladder cancers in two tertiary hospitals in Douala, Cameroon

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Background: Bladder cancer is a medical and surgical burden in both urology and oncology and constitutes the ninth most common cancer worldwide. Regional lymph nodes, bones, lungs, and liver are the most common metastases from bladder cancer. Bladder cancer has higher mortality if diagnosed late, thereby emphasising the importance of its early diagnosis. The purpose of this study was to evaluate the epidemiologic, clinical, and therapeutic aspects of bladder cancers in the city of Douala.

Methods: This study was a retrospective descriptive record-based study over a period of 10 years. We reviewed files of patients who were diagnosed with bladder cancer from 1 January 2009 to 31 December 2019. The study was carried out in the Douala General Hospital (DGH) and Douala Laquintinie Hospital (DLH).

Results: A total of 34 patients were included in our study. Bladder cancer consisted of 16.87% of urogenital tumours in our health facilities. Of the patients, 55.9% (19/34) were from DGH, while 44.1% (15/34) of patients were from DLH. Most of the patients were females (52.9%, 18/34). Most of the patients were within the age group of 50–59 years (35.3%) and 60–69 years (26.5%). Patients who were smoking tobacco comprised 52.9%. Concerning medical antecedents, 50% of the patients were hypertensive patients, while 41.2% and 35.3% of the patients had bilharziasis and diabetes respectively. The most common presenting symptoms were haematuria (97.1%) and lower abdominal pain (94.1%). Squamous cell carcinoma was the most common histological finding (58.3%). Regarding differentiation of cells, 58.3% of the patients were at Grade III, while 16.7% were at Grade II of bladder cancer. Chemotherapy was the only treatment for 29.4% of patients, while 50% of the patients had chemotherapy and surgical interventions. In this study, 12 patients (35.3%) died.

Conclusion: Delayed diagnosis of bladder cancer is very common in our setting due to late presentation at consultation and this is associated with high morbidity and mortality. There is a need to improve bladder cancer management in our setting and this will require better hospital equipment with access to endoscopy, which will aid in early diagnosis.

Keywords: bladder cancer, urogenital tumour, bilharziasis, Schistosoma

Introduction

Urinary bladder carcinoma is the second most common urologic malignancy.[1] It is the fourth most commonly diagnosed malignancy in men and the eighth most common cancer in women.[1] Bladder cancers are one of the deadliest genitourinary tumours, accounting for over 16 390 deaths in 2016 in the USA.[2] Smoking and occupational exposure are the main reported risk factors.[3] In Africa, in bilharzia endemic areas there is a histologic type of squamous cell carcinoma, which is characterised by a high risk of local progression and recurrence with reduced sensitivity to radiotherapy and chemotherapy.[4] Bladder cancers require early diagnosis for effective management because the late stage of disease is always associated with increased mortality.[4] Most African nations have failed to reduce or terminate the transmission of schistosomiasis despite its close association with bladder cancer. This may be due to insufficient awareness, poor coverage of chemoprophylaxis, and constant exposure to Schistosoma infection among children.[5] As such, bladder cancer diagnosis poses a real challenge for urologists working in low-income countries and in areas with high-incidence bilharzia infection where it is usually associated with a high mortality rate. The aim of our study was to present the epidemiological, clinical, and therapeutic aspects of bladder cancer in two tertiary hospitals in Douala, Cameroon.

Methods

This was a retrospective descriptive record-based study carried out over a period of 10 years (1 January 2009 to 31 December 2019). Medical files were reviewed in the archives of the urological surgical unit of the Douala General Hospital (DGH) and Douala Laquintinie Hospital (DLH). The inclusion criteria were all the patients diagnosed with bladder cancer with complete medical file records.

An investigation sheet consisting of epidemiological data (age, sex, profession, risk factors), clinical data (time of consultation, presenting signs and symptoms, TNM staging), and histopathology results were recorded for each patient. The data collected from the medical files of those patients were analysed using EPI info 7.0. Quantitative variables were expressed as means, standard deviations and ranges from the minimum and maximum value, while qualitative variables were expressed as frequency and percentages represented on tables or charts.

Ethical authorisations were obtained from the administration of the DGH and DLH.

Results

A total of 243 cases of urogenital cancer were found, amongst which were 41 cases of bladder cancer in the two hospitals. Based on the inclusion criteria, 34 files were selected for this study. Bladder cancer consisted of 16.87% of urogenital tumours in our health facilities. There were 34 patients diagnosed with bladder cancer, amongst which 55.9% (*n* = 19) of the patients were from the DGH, while 44.1% (*n* = 15) of patients came from DLH. Most of the patients were female (18/34). The mean age was 56.76 ± 14.50 years old (range 13–81 years). Most of the patients were within the age group of 50–59 years (35.3%) and 60–69 years (26.5%) as shown in Table I.

Table I: Age group distribution of patients with bladder cancer

Age group	Frequency (*n*)	Percentage (%)
10–19 years	1	2.9
20–29 years	1	2.9
30–39 years	3	8.8
40–49 years	3	8.8
50–59 years	12	35.3
60–69 years	9	26.5
≥ 70 years	5	14.7
Total	**34**	**100**

Most of the patients were workers in the private sector (20.6%), retired workers (20.6%), and housewives (17.6%). There were 19 (55.9%) patients admitted as an emergency, while 29.4% (*n* = 10) and 14.7% (*n* = 5) of the patients were admitted following a referral and consultation respectively. There were 18 (52.9%) patients smoking tobacco. Concerning medical antecedents, 50% (*n* = 17)` of the patients were hypertensive patients, while 41.2% (*n* = 14) and 35.3% (*n* = 12) of the patients had bilharziasis and diabetes respectively. The most common presenting symptoms were haematuria (*n* = 33, 97.1%) and lower abdominal pain (*n* = 32, 94.1%) (Table II).

Table II: Main complaints of the patients

Symptoms	Frequency (*n*)	Percentage (%)
Haematuria	33	97.1
Lower abdominal pain	32	94.1
Pollakiuria	30	88.2
Urinary incontinence	19	55.9

Most of the patients presented in a cachectic state (*n* = 33, 97.1%). Chest X-ray revealed metastases in four patients (11.8%).

Urinary cytology was not systematically carried out for diagnosis among the patients. However, it was done in 44.1% (*n* = 15) of the patients and it revealed carcinoma in 60% (*n* = 9) of those patients. The histological type was obtained via bladder biopsy, which revealed that 58.3% (7/12) were squamous cell carcinoma (Figure 1). Regarding differentiation of cells, 58.3% (7/12) of the patients were at Grade III, while 16.7% of the patients (2/12) were at Grade II of bladder cancer.

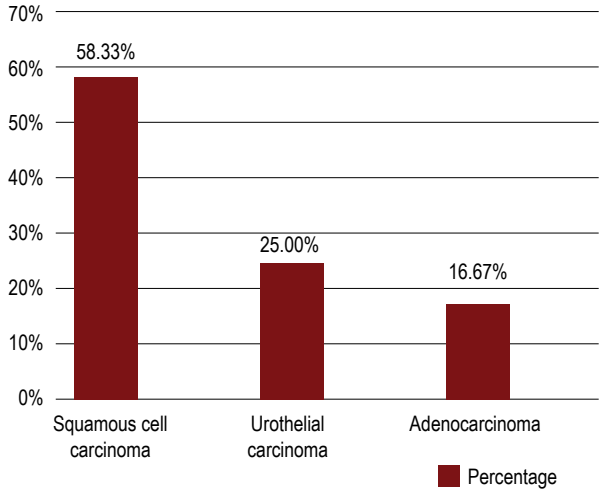

Figure 1: An illustration of the different histologic types of bladder cancer

There were 20 (58.8%) patients that had undergone surgical intervention. Transurethral resection of the bladder tumour was performed in nine (47.1%) patients, while 8.8% and 2.9% of the patients underwent partial cystectomy and tumour excision respectively. Chemotherapy was used either as monotherapy or combined with surgical intervention (*n* = 27, 79.4%). Among these patients, 29.4% (*n* = 8) had chemotherapy as monotherapy, while 50% (*n* = 14) of the patients had chemotherapy and surgical interventions. In this study, 12 patients (35.3%) died.

Discussion

Bladder cancer consisted of 16.87% of urogenital tumours in our health facilities. This finding is close to the result of Ouattara et al.[6] in Benin, which revealed that 17.38% of the cases were urogenital cancers.

Most of the patients were within the age group of 50–59 years (35.3%). This finding was similar to Engbang et al. in Cameroon, which had most patients within the age group of 50–59 years (34.4%).[7] Ageing promotes carcinogenesis by potentiating genetic abnormalities induced by risk factors and by reducing the performance of the immune system which can destroy cancer cells.[7] This could explain the high frequency of bladder tumours in the elderly.

The most common risk factor encountered among patients was tobacco smoking (52.9%). This result approaches the observations of Toure in Mali, which revealed that 45.2% of patients had a history of tobacco smoking.[8] Of the patients, 41.2% had urinary bilharziasis. This finding is similar to Toure in Mali, which revealed a bilharzia infestation of 41.7%.[8] A review of the literature revealed that bilharzia infection is a risk factor for squamous bladder tumours.[9]

Haematuria was the main presenting symptom among our patients (97.1%). This finding was similar to Kone et al. in Mali, which showed that haematuria was the most common reason for consultation in 96.4% of cases.[10] The origin of haematuria in blood cancer is due to direct haemorrhage of the tumour, however minor it may be.[10]

The most common histological type was squamous cell carcinoma (58.3%). This finding is similar to Toure in Mali, which found that

the most frequent histological type was squamous cell carcinoma in 57.9% of patients.[8] It differs from the result of Kone et al. in Mali, with the most common histological type being urothelial carcinoma in 49.2% of patients.[10] The discrepancy in results may be due to the difference in the risk factors of bladder cancer in those studies. Moreover, there is a need to carry out further studies to analyse the factors favouring the occurrence of these histological types.[10]

Regarding differentiation in our study, most patients (58.3%) were Grade III bladder cancer. This finding was similar to Engbang et al. in Cameroon, who had most patients at Grade III with a percentage of 39.5%.[7]

Concerning surgical interventions, 47.1% were transurethral resection of the bladder tumour. This finding is similar to Traore et al. in Senegal, which revealed that 49% of the patients had undergone transurethral resection of the bladder tumours.[11] This may be because this technique has the advantage of conserving bladder function.[11]

Chemotherapy was carried out amongst 29.4% of patients, this finding is similar to Anghel et al. in Romania, which showed that 32.9% of patients had undergone chemotherapy alone.[1] This may be because the diagnosis of bladder cancer was made at an advanced stage of the disease, requiring chemotherapy as the modality of management.[1]

Conclusion

Bladder cancer is a common urological tumour amongst patients hospitalised in our department. Most diagnoses are made at an advanced stage due to delays in patient consultation. Squamous cell carcinoma is the most common histologic type, and it is associated with a high prevalence of bilharziasis. Bladder cancer is the most common urothelial tumour, and it is associated with a high rate of recurrence. Diagnosis is made through a cystoscopy and histopathological analysis of specimens from biopsy or transurethral resection of the bladder tumour. Effective control against urinary schistosomiasis is needed to reduce the prevalence of bladder cancer.

Conflict of interest

The authors declare no conflicting financial or personal interests.

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Ethical approval

Ethical approval was obtained from the administration of the GHD and LHD Institutional Ethics Committee (N 2020/008/UdM/PR/CEI).

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