

Epidemiological and Clinical Aspects of Bladder Tumours at the Nianankoro Fomba Hospital in Segou in the Urology Department

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Abstract

Objectives: To study the epidemiological, diagnostic and prognostic aspects of bladder tumours in Segou Hospital. **Patients and Methods:** We conducted a descriptive cross-sectional study of bladder tumours over the period from 1 April 2012 to 1 April 2017, in the urology department of the Nianankoro Fomba Hospital in Segou. The first three years were used for patient recruitment, and the last two years for follow-up of the patients in the series. **Results:** Over a period of three years, we collected 165 cases of bladder tumours hospitalised out of 1308 hospitalisations from 7007 consultations, *i.e.* 12.6% of hospitalisations and 2.3% of consultations. The sex ratio was 1.2 in favour of men. A history of treated bilharzia was reported in 78.8% of cases and untreated bilharzia in 9.1% of cases. Haematuria was the most common reason for consultation. The majority of our patients were at stage T4 and T3 at the time of diagnosis, *i.e.* 53.3% and 44.3% respectively. Most patients consulted within 13 to 24 months after the first sign, *i.e.* 44.8%. **Conclusion:** The prognosis is still clouded by the delay in management. All the patients diagnosed had a bladder tumour infiltrating the muscle.

Keywords

Bladder Tumour, Bladder Cancer, Epidemiological and Clinical Aspects

1. Introduction

Bladder tumours are a major public health problem despite technical and technological advances. A bladder tumour is diagnosed or treated in 2.7 million

people worldwide each year and the majority of cases occur after the age of 60 [1]. In France, this disease, with an estimated 13,074 new cases and 5335 deaths in 2018, 80% of which were in men, ranks 4th^e in incidence and 7th^e in deaths for all cancers combined (Institut de Veille Sanitaire (In, Vs, 2018)) and is the second most common cancer after prostate cancer [2]. In developed countries, the main risk factor is tobacco intoxication [3], but in our context, urinary bilharziasis linked to *Schistosoma haematobium*, the most widespread with a high prevalence in the Office du Niger of 62.8% [4], is a proven risk factor for bladder tumours. It predisposes to squamous cell bladder tumour. This is the most common case in Africa [4] [5].

Diagnosis remains late in our country. Almost all patients are in stages T3 and T4, at the time of diagnosis 55% in stage T3 and 25% in stage T4 [6].

According to the cancer registry in Mali (2010), bladder tumour is the third^e most common cancer in men, the fifth^e most common in women and the fifth^e most common cancer in both sexes combined.

Bladder tumour is the leading cause of cancer mortality in the urology department of the Point G University Hospital.

The bilharzia endemic in the Segou region and especially in the Office du Niger zone justified our study of bladder tumours in a local hospital centre, knowing the role of bilharzia in the genesis of this pathology.

Thus, the general objective of this study was to study the socio-demographic and clinical characteristics of patients diagnosed with bladder tumours at the Nianankoro Fomba Hospital. The specific objectives were to:

- Identify history and risk factors in patients with bladder cancer;
- Assess the stage of development at the time of diagnosis;
- Study the survival of patients admitted with bladder cancer.

2. Patients and Methods

2.1. Type of Study, Period and Location

This was a descriptive cross-sectional study of bladder tumours at the Nianankoro Fomba Hospital over a period of 5 years (from 1^{er} April 2012 to 1^{er} April 2017), *i.e.* 3 years for patient recruitment and 2 years for follow-up of each patient.

2.2. Inclusion Criteria

The study included patients hospitalised during the study period, for whom the diagnosis of bladder tumour was retained on clinical and para-clinical examination, confirmed or not by histological examination.

2.3. Data Collection and Analysis

The data collection was based on the hospitalization register, hospital records, consultation register, and surgical protocol register. The following parameters were studied: -age -sex -ethnicity -occupation -residence in relation to endemic

areas -clinical and non-clinical parameters. Data entry and analysis were done with epi-info 3.5.1 version 6. Fr World Microsoft software.

3. Results

Over a period of three years, we collected 165 cases of bladder tumours hospitalised out of 1308 hospitalisations from 7007 consultations, *i.e.* 12.6% of hospitalisations (**Table 1**) and 2.3% of consultations. The sex ratio was 1.2 in favour of men (**Figure 1**).

The 30 - 45 age group was the most represented with 31.5% (**Table 2**). Housewives and farmers were the most represented with 46% and 36.4% respectively because of activities related to risk factors (**Table 3**). A history of treated bilharzia was reported in 78.8% of cases and untreated bilharzia in 9.1% (**Table 4**).

Haematuria was the most common reason for consultation 96.4% (**Table 5**).

The majority of our patients were in stage T4 and T3 at the time of diagnosis, 53.3% and 44.3% respectively (**Table 6**). Most patients consulted within 13 to 24 months after the first sign, 44.8%. The survival of patients exceeded 36 months in only 5 cases (**Figure 2**).

The origin of the patients was mainly the areas covered by the rice-growing and market gardening activities of the Office du Niger, with 40.6% coming from Niono and 32.2% from Macina, this being related to the bilharzia endemic (**Figure 3**).

Table 1. Frequency of bladder tumours among other inpatient conditions during the 3-year period.

Pathologies	Frequency	Percentage
Benign prostatic hyperplasia	446	34.5%
Bladder tumour	165	12.6%
Hernia	133	10.3%
Renal lithiasis	16	1.2%
Bladder lithiasis	32	2.5%
Hydrocele	63	4.9%
Urogenital infection	20	1.5%
Gynephrosis	23	1.8%
Narrowing of the urethra	65	5.0%
Cystocele	35	2.7%
Prostate cancer	23	1.8%
Gangrene in the stock market	32	2.5%
Renal failure	12	0.9%
Pelvic ureteral stenosis	72	5.6%
Other	171	13.2%
TOTAL	1308	100%

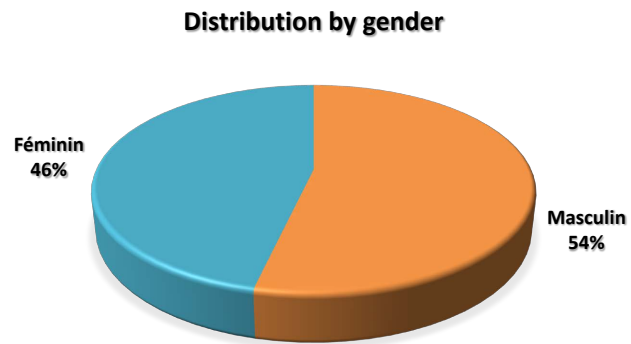


Figure 1. Distribution of patients by gender.

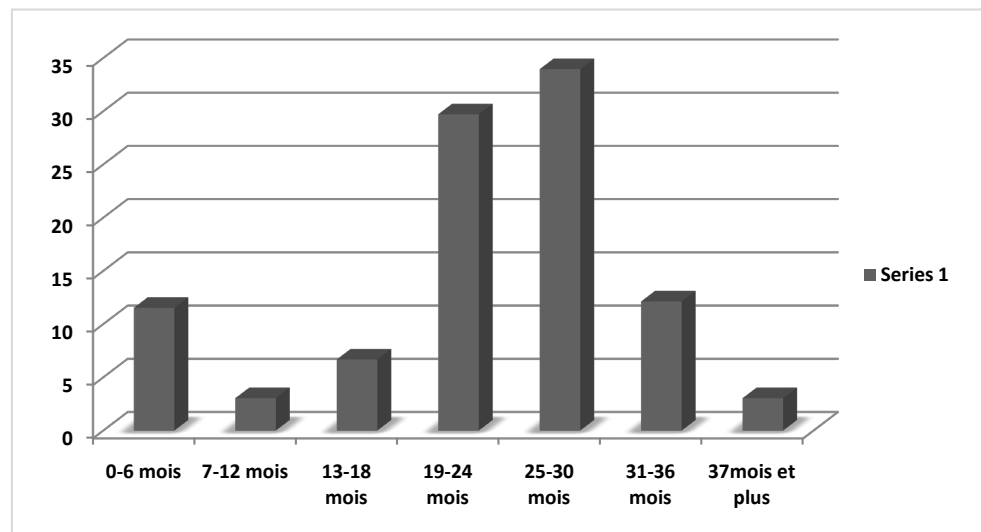


Figure 2. Distribution of patients by survival time.

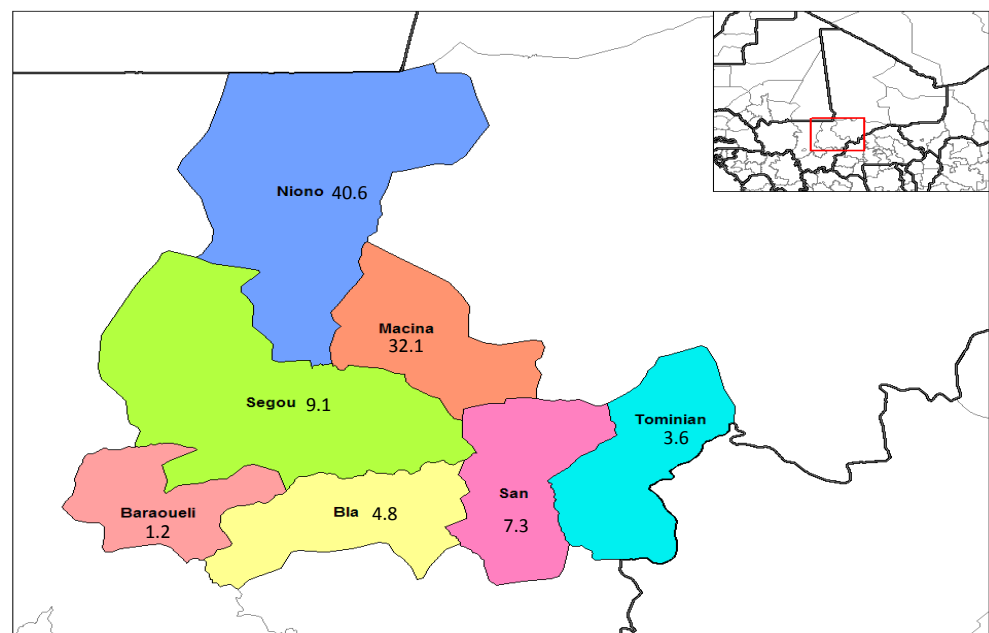


Figure 3. Distribution of patients by residence.

Table 2. Age distribution.

Age group	Frequency	Percentage
15 - 30	12	7.3
31 - 45	52	31.5
46 - 60	48	29.1
61 - 75	50	30.3
More than 75 years	50	30.3
Total	165	100

Table 3. Distribution of patients according to socio-professional activities.

Profession	Frequency	Percentage
Cultivator	60	36.4
Housekeeper	76	46.0
Worker	4	2.4
Trader	6	3.6
Driver	4	2.4
Breeder	6	3.6
Fisherman	5	3.0
Teacher	2	1.2
Other	2	1.2

Table 4. Distribution of patients according to urological history.

Past history	Frequencies	Percentages
Bilharzia Processed	130/165	78.8
Bilharzia Untreated	15/165	9.1
Recurrent urinary tract infections	25/165	15.1
Prostatic hypertrophy	20/165	12.1
Treated bladder lithiasis	3/165	1.8

Table 5. Distribution of patients by reason for consultation.

Reason for consultation	Frequency	Percentage
Hematuria	159/165	96.4
Dysuria	86/165	52.1
Suprapubic pain	62/165	37.6
Pollakiuria	78/165	47.3
Lumbar pain	30/165	18.2
Burning of the bladder	42/165	25.4
Acute urine retention	12/165	7.3
Hypogastric mass	40/165	24.2
Urine leakage	2/165	1.2

Table 6. Distribution of patients according to the stage of development at the clinic.

Progressive stage	Frequency	Percentage
T2	4	2.4
T3	73	44.3
T4	88	53.3
Total	165	100

4. Discussion

4.1. Frequency

Over a period of three years, we recorded 165 cases of bladder tumours out of 1308 hospitalisations from 7007 consultations at NIANANKORO FOMBA hospital, *i.e.* 12.6% of hospitalisations and 2.3% of consultations. This frequency, which was estimated at 12.6% of admissions, is higher than those reported by OUATTARA in Benin [7] and Odzébé in Congo Brazzaville [8], which were respectively 3.4% and 4.78%.

This can be explained by the high prevalence of bilharzia in our study area, which is the Office du Niger. Bilharzia is a proven risk factor for bladder tumours.

4.2. Socio-Demographic Study

4.2.1. Sex

In our study the sex ratio was 1.2, which is identical to that of B. Diao [9] in Senegal who reported a sex ratio of 1.25. However, Avakoudjo in Benin [10] found a sex ratio of 3/1. This can be explained by the high involvement of men in professional activities exposing them to the main risk factor of bilharzia; also some men were smokers

4.2.2. Ethnicity

The Bambaras were the most represented in our study with 41.2%, followed by the Bozos with 19.4% and the Peulhs with 12.1%.

These ethnic groups are involved in agriculture, particularly rice growing, market gardening, fishing, livestock breeding and the continuous search for pasture along the waterways. Thus these ethnic groups remain exposed to the main risk factor of bilharzia in the study area.

This result is similar to that of Tangara [11] where Bambara were the most represented.

4.2.3. Age

In our study, the 31 - 45 age group is the most represented with 31.5%. The average age of our patients, estimated at 38 years, is lower but close to that of B. Diao in Senegal, which is 45.5 years [9], and of OUATTARA in Benin, which is 49.7 years [7]. Our result is much lower than the average age reported in western countries such as France where Irani *et al.* reported an average age of 69 years for men and 71 years for women [12]. J. Palou reported an average age of 65 years [13].

This can be explained by the fact that Schistosomiasis is endemic in the study

area and has affected most patients in childhood or adolescence. In contrast, in Western or developed countries the risk factors are smoking and occupational exposure.

4.3. The Profession

Housewives and farmers were the most represented in our study with 46% and 36.4% respectively.

These results are in agreement with those of other studies of bladder tumours [11] [14].

Residence

Niono and Macina were the most common residences with 40.6% and 32.2% respectively, in relation to the main coverage area of the Office du Niger.

Ségou is the third most common residence reported with 9.1%, Ségou being the area with the highest concentration of the region's population, professional exposure activities, it is also the town where the reception and treatment centre is located.

4.4. Clinical Study

The Delay of Consultation

In our series 44.8% of the patients consulted between 13 and 24 months; 34.5% of the patients consulted between 7 and 12 months. Only 12.2% of the patients consulted between 0 and 6 months. This shows the delay in consultation of the patients in our study.

These results are comparable to those of other authors such as Benchakroun *et al.* who found that the average delay in consultation was 10 months [15]. This neglect is common as bladder tumours often occur in a disadvantaged population and access to care is not always easy.

4.5. The Reason for Consultation

The most common reason for consultation in our study was haematuria. It was present in 96.4% of cases. Haematuria was also the main reason for consultation in the study by Dembélé [5] with 73.9% for total haematuria and 23.9 for terminal haematuria. B Diao reported haematuria in 88% of cases in his series in Senegal [9].

The signs associated with this haematuria were dysuria, pollakiuria and suprapubic pain in 52.1%, 47.3% and 37.6% respectively.

This result is close to those of other authors [11] [14].

The finding of a hypogastric mass justified consultation in 24.2%; this testifies to the advanced stage of these tumours and the delay in consultation of the patients in our study.

4.6. Urological History

Treated bilharzia was reported in 78.8%, untreated bilharzia in 9.1%.

Bilharzia was the main history found in our study patients.

4.7. Inspection

Pallor was found in 61.8% of patients in our study.

This result is superior to that of A Elmahfoudi in Morocco who found a discoloration of the conjunctiva in 36% of cases [16]. This difference can be explained by the long delay in consultation while haematuria exposes to blood spoliation. Weight loss was the 2nd^e sign of inspection with 44.2% contrary to the study conducted by Dembélé [5] where it was the first sign of inspection with 54.3%. This result reflects the advanced stage of bladder tumours at the time of diagnosis. This is in agreement with the results of all local authors.

4.8. Abdominal Palpation and Pelvic Touch

In our study, induration of the bladder floor was found in 62.4% of cases. Tangara found 84% infiltration of the bladder floor.

In our study, pelvic shielding was found in 36.4% of patients. This result is superior to that of Dembélé [6] who found pelvic shielding in 23.9% of patients.

A palpable suprapubic mass was found in 34.5% of patients in our study. Also seven (7) cases of vesico-vaginal fistula and three (3) cases of neoplastic vesico-rectal fistula were found in our study. All this shows that there is a significant delay in consultation and management, leading to the recruitment of patients at an already advanced stage.

4.9. Para-Clinical Study

4.9.1. Imaging

Ultrasound was performed in all patients in our study either for diagnosis or for extension or for both. For diagnosis, ultrasound was performed on all our patients, *i.e.* 100% Dembélé reported 84.8% of cases [6].

This ultrasound noted an absence of impact on the upper urinary tract in 59.4% of cases. Benchakroun *et al.* [15] found a ureterohydronephrosis, *i.e.* no impact on the upper urinary tract in 79% of cases, which is higher than in our series. Four (4) cases of hepatic metastases (2.4%) were reported.

Urethrocytostcopy was performed in four (4) cases, while it confirmed the presence of a bladder mass in 71.4% of cases in the study by Dembélé [6] and in 70% of cases in the study by Tangara [11]. This is explained by the non-availability of urethrocytostcopy in our facility during the study period.

In our study:

IVU was performed in 27 cases, *i.e.* 16.36%. This rate is much lower than that of Lougue [17] who reported 100%, however U-I-V whenever performed was suggestive of tumour, often with hydronephrosis.

This sensitivity of V.I.U. was also recognised in the Lougue series [17] where 100% of bladder tumours were evoked by IVU.

Chest X-rays were performed in 24 cases and revealed lung metastases in four

(4) cases.

CT scans were performed elsewhere in six (6) patients in our series and revealed one (1) case of metastases.

These results do not contradict those of some authors in the literature who state that metastases are rare in bladder tumours.

The performance of CT in our study patients was influenced by the lack of financial means and the non-availability of this examination in the vicinity.

4.9.2. Stage of Development

In our series, the majority of our patients were in stage T4 and T3 at the time of diagnosis, *i.e.* 53.3% and 44.3% respectively.

4.10. Survival

In our study

Patient survival exceeded 36 months in only 5 (five) cases.

The largest number of patients had a survival of 25 - 30 months or 33.94%. 29.7% of the patients survived for 19 - 24 months, death of the patient during the first ^{ère}year after diagnosis was observed in 24 cases or 14.5%.

Dembélé [5] reported that six (6) out of 26 patients died within one year of diagnosis, or 23.07%.

Tangara [11] observed 66% of deaths within one year of diagnosis.

5. Conclusion

Bladder tumours remain a major public health problem in the Segou region because of the high frequency of this pathology and the problems associated with its management. Bilharzia is the most common risk factor. The diagnosis is late and all the patients in our series had a bladder tumour infiltrating the muscle, so the prognosis remains poor for these patients.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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