

Epidemiology of Urological Cancers at the Fousseyni Daou Hospital in Kayes from 2018-2024

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DOI: <https://doi.org/10.36347/sjmcr.2025.v13i11.033>

| Received: 15.09.2025 | Accepted: 10.11.2025 | Published: 15.11.2025

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Abstract

Original Research Article

Urogenital cancers are fairly common in routine urological practice, and urologists devote a significant portion of their time to their management [1,2]. While epidemiological data are available in Northern countries, in Africa in general, data on their prevalence and mortality are scarce. This was a cross-sectional study conducted in the urology-andrology department of the Fousseyni DAOU hospital in Kayes from January 2018 to October 2024. Two hundred and thirty-two files were collected from observation files, hospitalization register, surgical report register and anatomopathological files. Urological cancers accounted for 3.02% of all outpatient visits and 25.27% of hospitalized patients. One hundred and twenty-four cases (53.45%) of prostate cancer, 105 cases (45.26%) of bladder cancer, and three cases of kidney cancer (1.29%), with an average of 33 cases per year. The average age of patients was 64.68, with a range of 22 to 94 years. The predominant age group was between 61 and 80 years. Males accounted for 162 cases (69.82%) and females for 70 cases (30.17%), with a sex ratio of 2.31. Urological cancers accounted for an average of 14 cases per year. The incidence of prostate cancer among hospitalized patients was 1.30%, with an average of 17.71 cases per year. Adenocarcinoma was the most common histological type, accounting for 78.22% of cases. Bladder cancer came second after prostate cancer, accounting for 45.26% of diagnosed cancers and 1.33% of outpatient visits. Females accounted for 68 cases (64.76%) and males 37 cases (35.23%). Squamous cell carcinoma was the predominant histological type, accounting for 27 cases (25.71%). Kidney cancer was the third most common urological cancer. Three cases underwent surgery. One case (0.43) % of squamous cell carcinoma and 2 cases (0.86%) of clear cell carcinoma.

Keywords: Epidemiology, Urological Cancers, Hospital, Surgical report.

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INTRODUCTION

Urogenital cancers are fairly common in routine urological practice, and urologists devote a significant portion of their time to their treatment [1,2].

They include cancers of the kidney, ureter, bladder, and urethra, and in men, cancers of the testicle, prostate, scrotum, and penis [3]. While epidemiological data are available in Northern countries on these urological cancers, in Africa in general data on their extent (incidence and prevalence) and mortality are poorly available, due to a lack of effective data collection tools, particularly the cancer registry, which are not in place in many Southern countries [4]. In Mali, the cancer registry was created in 1986 and located in the department of pathological anatomy and cytology of the

Point G University Hospital. It covers the population of the city of Bamako and its surroundings.

This study was initiated to determine the hospital prevalence of urological cancers.

Specific objectives:

To assess the annual incidence of cancers
To determine the histological type of cancers
To determine in-hospital mortality

PATIENTS AND METHODS

This was a cross-sectional study conducted in the Urology-Andrology Department of Fousseyni DAOU Hospital in Kayes from January 2018 to October 2024. Two hundred and thirty-two records were collated

from observation files, hospitalization records, surgical report records, and pathology records.

The parameters studied for each patient were:

- Age ;
- Annual cancer frequency
- Histological type
- Gleason classification for prostate cancer
- Hospital mortality
- Sex;
- Cancer location and rank;

- Survival during hospitalization.

RESULTS

Frequency

During our study period, we collected 232 cases of urological cancer, representing 3.02% of all outpatient visits and 25.27% of inpatients. One hundred and twenty-four cases (53.45%) were prostate cancer, 105 cases (45.26%) were bladder cancer, and three cases (1.29%) were kidney cancer, with an average of 33 cases per year. Table 1 illustrates the annual frequency of cancers.

Table 1: Annual frequency of cases of urological cancer

YEAR	Hospitalized	Urological cancers	Frequency (%)
2018	164	18	1,96
2019	152	43	4,68
2020	131	44	4,79
2021	108	46	5,01
2022	137	27	2,94
2023	121	32	3,48
2024	105	22	2,39
Total	918	232	25,25

Age, Sex

The mean age of the patients was 64.68, with a range of 22 to 94 years. The age range was between 61

and 80 years. There were 162 male patients (69.82%) and 70 female patients (30.17%), with a sex ratio of 2.31. Fig. 1.

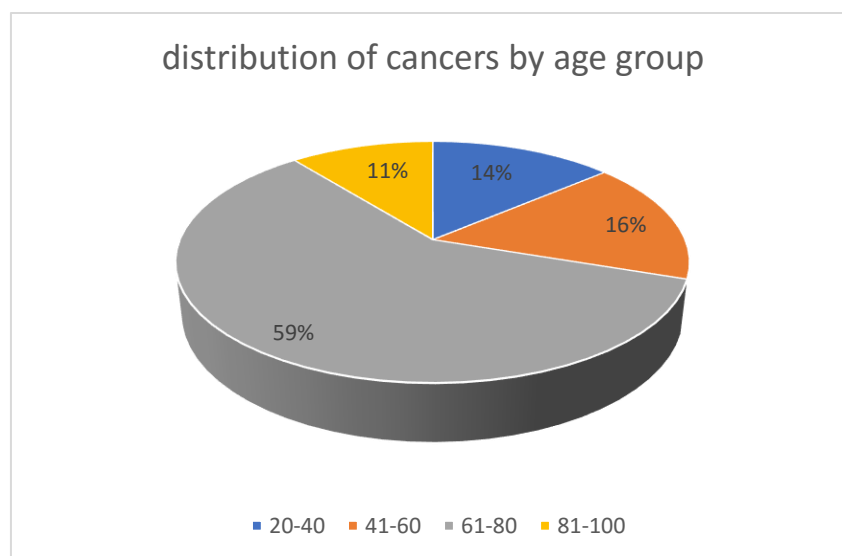


Figure 1: Patient repair by age

Location:

According to cancer location, we observed a predominance of prostate cancer (124 cases, or 53.45%),

followed by bladder cancer (105 cases, or 45.26%), and kidney cancer (3 cases, or 1.29%). Table 2 shows a distribution by location and rank.

Table 2: Distribution of cancers according to location and rank.

Type of cancer	Name	Frequency (%)	Rang
Prostate cancer	124	53,45	1 ^{er}
Bladder cancer	105	45,26	2 ^e
Kidney cancer	3	1,29	3 ^e
Total		100	

Histopathological Aspects

Histological results were obtained from surgical specimens (adenomectomy, prostate resection, prostate biopsy, bladder tumor resection, and nephrectomy).

Prostate cancer was the leading cancer, with a frequency of 53.45% and an average of 18 cases per year.

The mean age of prostate cancer patients was 73.15 years, ranging from 52 to 94 years.

Histologically, prostate adenocarcinoma was 78.22% (97 cases), transitional cell carcinoma 1.61% (2 cases), intraepithelial neoplasia 1.61% (2 cases) and untyped 18.54% (23 cases). According to the Gleason prognostic score, Gleason 9 was the majority (38.61%). Illustrated by Table 3.

Table 3: Distribution of prostate cancer cases according to Gleason classification.

Gleason Stadium	Gleason 4 (3+1)	Gleason 5 (3+2)	Gleason 6 (3+3)	Gleason 7 (3+4)	Gleason 7 (4+3)	Gleason 8	Gleason 9
Prostate cancer	3	3	5	8	35	8	39 (38,61%)
Total							101

Bladder cancer was the second most common urological cancer, accounting for 45.26% of cases. Its outpatient frequency was 1.33%. The average age of patients with bladder tumors was 54.89, with a range of 22 to 87 years. By sex, 68 cases were female (64.76%)

and 37 cases (35.23%) were male. The male-to-female ratio was 0.54, favoring women.

The histological types found were: squamous cell carcinoma (27 cases, 25.71%), followed by urothelial carcinoma (8 cases, 7.62%). 68 cases of bladder tumors were not typed, representing 64.76%.

Table 4: Distribution of cancers according to histological type defined by anatomopathology

Histological type Cancers	Prostate adenocarcinoma	Squamous cell carcinoma	Urothelial carcinoma	Clear cell carcinoma	Transitional type carcinoma	Intraepithelial neoplasia	Not typical
Prostate	97				2	2	23
Vessie	3	26	8				68
Rein		1		2			
Total	100 (43,10)	27 (11,64)	8 (3,45)	2 (0,86)	2 (0,86)	2 (0,86)	92 (39,65)

Kidney cancer ranked third among urological cancers with 1.29% (3 cases). Histologically, we noted 1 case (0.43%) of squamous cell carcinoma, 2 cases (0.86%) of clear cell carcinoma.

Fifty-nine percent of urological cancers were diagnosed between the ages of 61 and 80. In the studies of Ouattara *et al.*, [4], in Benin, 80% of cancers occurred after the age of 50. This proves that urological cancers are a pathology of the elderly. [8]

DISCUSSION

Urologic cancers, due to their worldwide prevalence, represent a real public health problem. Their frequency varies significantly around the world.

Indeed, data from Northern countries with a high technical level and cancer registries are very difficult to compare with those from Southern countries that do not have cancer registries. [5]

In our study, the frequency of urological cancers was 3.02% of outpatient consultations with an average of 14 cases per year. This frequency is lower than that of T. Darré *et al.*, [5] which was 39.9 cases per year and that of R. Salah *et al.*, [11] which was 29 cases per year. Concerning admissions, the frequency was 25.25% higher than that of A. OUATTARA *et al.*, [4] which was 17.38%.

Prostate Cancer

The incidence of prostate cancer among hospitalized patients was 1.30%, averaging 17.71 cases per year. This rate is lower than that of T. Darré *et al.*, [5] in Togo, which averaged 25 cases. It is the most common urological cancer [1]. This trend has been observed in most studies [1,8]. Its incidence is highest in the United States, Finland, and Sweden [2].

The average age of the patients was (73.15 years). Prostate cancer is a disease of the elderly as announced by previous studies reported by T. DARRE and A. OUATARA [6, 4] with respective average ages of (67.8 years) and (69.9 years). The average age in our series is higher than those of A. OUATARA *et al.*, and T. DARRE *et al.*, [4,6]. This means that the age of occurrence of prostate cancers in our series is later than in the series of A. OUATARA and T. DARRE [4,6].

This tumor affects older men and is often asymptomatic; incidence rates are therefore dependent on the diagnostic capabilities of the services. It is the most common tumor in men in Jamaica and is thought to be the second most common in the black population of the United States [1].

The prevalence of prostate cancer has increased considerably with the introduction of Prostate Specific Antigen (PSA) testing and prostate biopsies. This has led to a change in the epidemiology of urogenital cancers in many countries [3,4]. In our context, these cancers are often discovered late at a locally advanced or metastatic stage.

Results reported by numerous authors confirm that worldwide, prostate cancer is the most common urological cancer, ranking fourth after lung, stomach, and colorectal cancer. [1].

For untyped cases, these were distant metastases for which end-of-life therapeutic support was initiated. Adenocarcinoma was the predominant histological type, accounting for 78.22% of prostate cancers.

According to the Gleason score, Gleason 9 was the predominant type, accounting for 38.61%. This means that patients are diagnosed at a stage where the risk of disease progression is high.

Bladder Cancer

In our study, bladder cancer ranked second after prostate cancer, accounting for 45.26% of diagnosed cancers and 1.33% of outpatient visits. This rate is lower than that observed in the Beninese and Togolese series, which were 3.4%, respectively, by OUATTARA *et al.*, [4] and 14.16%, by T. Darré *et al.* [5].

The average age of patients with bladder tumors was 54.89 years older than that of the Beninese (49.7) and Togolese (47.3) series [4,6]. But remains a relatively young age. This relatively young age in our African series is different from those of Western authors who report higher average ages. As in France where Irani [10] reports an average age of 69 years in men and 71 years in women. It was the leading cancer in terms of mortality in the urology department with a rate of 1.52% of hospitalizations.

Bladder cancer mainly affects men (sex ratio: 3/1), but remains the leading urological cancer in women in our country, comparable to the results reported in Togo by T. Darré [5] *et al.*, and in Benin by Ouattara *et al.*, [4] Squamous cell carcinoma was present in 70.27% of the surgical specimens; adenocarcinomas and transitional cell carcinomas. The same findings were observed in the Senegalese series, Diao B *et al.*, [9] and Togolese T. Darré [5]. In our context, this female predominance in bladder cancers could be explained by

socio-professional tasks (rice cultivation, washing in the river or backwater) exposing them to bilharzian infestation.

As Mali is a bilharzia-endemic country, squamous cell carcinoma is the predominant histological type. Other forms, such as urothelial carcinoma and adenocarcinomas, are rare.

We must improve communication about this disease by encouraging people living near rivers and backwaters to undergo systematic deworming every six months, to improve watercourses, to use personal protective equipment before using certain risk factors (pesticides, hydrocarbon derivatives, dyes, etc.), and to educate patients to seek medical help at the first signs of the disease. For the relevant authorities, develop a national program to combat squamous cell carcinoma of the bladder.

Due to the lack of a nationwide cancer registry, estimating incidence and prevalence rates is difficult. It is also worth noting the inadequacy of the technical platform, particularly the absence of pathology and oncology departments in regional capitals.

Kidney Cancer

Worldwide, kidney cancer is the 12th most common cancer in men and the 15th most common cancer in women; 189,000 new cases are reported each year [1,2]. The incidence is high in North America, Western Europe, Scandinavian countries, and Australia; however, it is low in Asia and Africa, although some authors report a high incidence of clear cell carcinomas in African-American men [1,3,6].

In our study, this is the third urological cancer. 3 cases were operated on in 5 years with histological results: 1 case (0.43%) of squamous cell carcinoma and 2 cases (0.86%) of clear cell carcinoma.

CONCLUSION

Prostate and bladder cancers are frequently encountered in our work environment and are very often discovered late. Bladder cancer currently represents a real public health problem due to its increasingly younger age of onset, its reduced sensitivity to chemotherapy, and its high mortality rate. To better assess them and adapt our health policy, we must expand cancer registry coverage nationwide. Implement a national program to combat prostate and bladder cancer.

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