

Research Article

Causes of Death in the Urology Department of the Libreville University Hospital Center

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Abstract

Introduction: There are many causes of death during hospitalization. Throughout this study, we will examine the main causes of death in the urology department at the Libreville university hospital center (CHUL). **Materials and Methods:** This is a retrospective, descriptive, single-center study conducted in the urology department of the CHUL from January 2020 to December 2025. All patients hospitalized in the urology department through the emergency room or outpatient consultation were included. The parameters studied were age, sex, medical and surgical history, pathology, treatment received, and length of hospital stay. Data were collected using a survey form based on patient hospitalization records and medical files. **Results:** A total of 1,265 patients were hospitalized during the study period, including 56 deaths, representing a mortality rate of 4.4%. The average age was 55.4 years. There was a predominance of males (49M/7F). Comorbidity factors dominated by high blood pressure and diabetes were found in 53.6% of patients. Cancer was the leading cause of hospitalization (69.6%), with prostate adenocarcinoma at the top of the list. In the majority of cases (58.9%), patients were admitted with a deterioration in their general condition. The average length of hospital stay was 16.4 days. **Conclusion:** Although there are many urological conditions, cancer, predominantly prostate cancer, remains the leading cause of death in the urology department of the Libreville University Hospital. Patients were often admitted in a state of general deterioration linked to a disease that was already at an advanced stage. An ongoing awareness and screening program should have an impact on this mortality rate in urology.

Keywords

Urology, Mortality, Urological Cancers, Urinary Tract Infections

1. Introduction

Studies of mortality in hospitals are very often general in nature, often simply comparing rates by department [1]. Studies specifically focused on urological surgery departments are rare. Existing publications on this subject generally focus on a given pathology [2-4]. That is why we

felt it was important to address this issue in a more general way. The aim of our work was therefore to study the causes of death in the urology department of the Libreville University Hospital and to identify the contributing factors, with the aim of reducing the mortality rate during hospitalization.

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2. Patients and Methods

We conducted a retrospective study collecting all deaths over a period from January 2020 to December 2025 in the urology department of the Libreville University Hospital Center (CHUL). Data were obtained from the medical records of patients admitted and who died in the department during the said period. We classified the records according to the following criteria: all patients hospitalized in the urology department during the study period who died there, regardless of gender or age, and all patients with complete medical records were included. Patients whose records were incomplete were excluded.

We studied the following parameters: age, sex, comorbidities, diagnosis on admission, clinical picture on admission, treatment administered, length of hospital stay, and cause of death. The data were collected using a standardized data collection form, entered into Excel 2010, and analyzed using the same software.

3. Results

During our study period, 1,265 patients were hospitalized, including 56 deaths, representing a mortality rate of 4.4%. We found 49 men and 7 women, representing a sex ratio of 7. The average age of patients who died was 55.4 (± 12 years). Forty-one point zero seven percent of patients had a history of hypertension (HTN) or diabetes (Table 1). 69.6% of patients had neoplasia, including 28 cases of prostate adenocarcinoma, 07 bladder tumors, 01 renal tumor, and 02 cervical cancers (which were treated in our department with JJ stent placement or unilateral and/or bilateral nephrostomy), representing 50%, 12.5%, 1.8%, and 3.6%, respectively. Infectious diseases accounted for 14.3% and included conditions such as Fournier's gangrene, prostatitis, and urinary tract infection. Non-infectious diseases accounted for 12.5% and included benign hypertrophy and urinary lithiasis. Upon admission to hospital, 58.9% of our patients were admitted with symptoms of general deterioration, altered consciousness, clinical anemia, clinical infection, and moderate overall dehydration. 17.9% presented with symptoms of generalized pain syndrome; 19.6% had macroscopic hematuria on admission. Only 10.7% presented with a surgical emergency (Fournier's gangrene, obstructive renal failure), thus requiring emergency surgery (JJ stent placement, nephrostomy, necrosectomy); One death following scheduled prostate adenomectomy (1.8%) was recorded. The average length of hospital stay was 10 days, ranging from 2 days to 5 months.

4. Discussion

The hospital mortality rate in our study was 4.4%. This rate is lower than that reported by Dekou et al (10.1%) [5]. It is relatively comparable to that of Sine et al [6] in Senegal,

which was 2.9%. This difference in mortality in urology hospitals in Western countries could be explained by the density of the Senegalese population and by the political and military situations faced by Côte d'Ivoire during the period covered by the study (2000-2007), as according to the authors, the socio-political crisis had disrupted the healthcare system in large cities. On the other hand, this result, compared to that of Takongmo et al. in Cameroon [7], who carried out the same study in a general surgery department, shows a similar mortality rate of 3.14%. The average age of our patients was 55.4 years, significantly lower than that found by Dekou et al [5] in Ivory Coast and Sine et al [6] in Senegal, which were 63.4 years and 63.6 years, respectively. This difference could be explained by the fact that prostate cancer is the leading cause of death in our series, with an average age of onset of 56.3 years [6]. We found 49 men and 7 women, giving a sex ratio of 7. This clear male predominance is found in the literature [8] and can be explained by the predominance of prostate disease. Comorbidity factors such as hypertension and diabetes were found in 41.07% of patients and renal failure in 7.14%. Ondongo Atipo in Congo [9] found similar figures, around 42%, with a predominance of hypertension, diabetes, and heart failure. In our series, the high mortality rate is due to neoplastic causes (69.6%), with a clear predominance of prostate adenocarcinoma (28 cases). Cewa et al [10] in Togo found 84%, further emphasizing the importance of awareness and screening campaigns for prostate cancer [8, 11]. Among non-infectious pathologies, benign prostatic hypertrophy was found in the majority of patients (8.9%). Fournier's gangrene and urinary tract infections (upper and lower) were found in equal proportions (8.9%) and were the most common infectious diseases. Sine [6] found approximately the same figures, with 11.3% of cases caused by infectious diseases, particularly Fournier's gangrene. We found deaths linked to non-urological conditions, notably leukemia and SARS-CoV-2, in patients known to the urology department but who did not at that time have a condition related to their urological history, admitted to the department due to a lack of beds available in the departments corresponding to their conditions. The majority of patients were in a severely altered general condition at the time of admission (58.9%). This explains why the cause of death was often cardiorespiratory arrest. This deterioration, correlated with a high mortality rate, was also found by Ondongo [9] in Brazzaville in the urology department, as well as by Paluku Mwalitsa JP [12] in the Democratic Republic of Congo in a similar study in an internal medicine department. Postoperative deaths following surgery accounted for only 12.5% of cases. This low mortality rate following urological surgery is also reported by Takongmo [7], who reports only 3.3% of deaths. This rate is higher than the mortality rate following abdominal surgery reported by Bwelle Motto et al. in Cameroon [13]. Out of seven patients, necrosectomy for Fournier's gangrene, followed by JJ placement, were the most common surgical procedures. Offobo et al. [14] found a

mortality rate of 4.8% in patients admitted for Fournier's gangrene, with diabetes as a comorbidity factor in all deceased subjects. The literature reports a mortality rate of approximately 16% for this condition [15, 16]. The average length of hospital stay was 16.4 days (1–150 days), which is similar to the 12.3 days reported by Sine [6]. Drabo et al [17] in Ouagadougou, in a similar study in an internal medicine department, also found an average length of hospital stay of 10 days.

Table 1. Medical history of deceased patients.

Medical history	Number	Percentage (%)
No history	26	46,4
hypertension arterial / Diabetes	23	41,07
kidney failure	04	7,14
Leukemia	01	1,8
human immunodeficiency virus (HIV)	01	1,8

Table 2. Distribution by type of pathology.

Pathology	Number	Percentage (%)
Cancer pathology	39	69,6
infectious disease	8	14,3
Non-infectious urological disorders	7	12,5
Non-urological pathologies	2	3,6

Table 3. Surgical procedures performed.

Surgical treatment	Number	Percentage (%)
Prostatic adenomectomy + bladderlithotomie	1	1,8
double J stent placement	2	3,6
Scrotal necrosectomy	3	5,3
Percutaneous nephrostomy	1	1,8

Abbreviations

CHULL	Libreville University Hospital Center
HIV	Human Immunodeficiency Virus
HTN	Hygh Blood Pressure

Conflicts of Interest

The authors declare no conflicts of interest.

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