



Research Article

Panorama of Activities in a Urology and Andrology Department of a Tertiary Hospital in a Developing Country

Bilan des activités d'un service d'urologie et d'andrologie d'un hôpital tertiaire d'un pays en voie de développement

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HIGHLIGHTS OF THE STUDY

What is already known on this topic

There are many studies on urological emergencies in the literature, but there are hardly any articles recent on the activities of a urology and andrology department of Sub-Saharan Africa.

What question this study addressed

Cartography of diseases in the main urology and andrology department of Yaounde during the year 2022

What this study adds to our knowledge

Surgical operations constitute 87% of activities and in 78% of cases, it is elective surgery. Prostatic disease (cancer and adenoma), lower urinary tract congenital anomalies (peritoneovaginal canal persistence and cryptorchidism), varicocele, obstetric fistula reparation and urological emergencies (inguinal hernia and Fournier's gangrene) are the most common diseases.

How this is relevant to practice, policy or further research.

Prevention measures and training should target these diseases as a priority.

ABSTRACT

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Mots clés : Urologie et andrologie, tumeurs urologiques, pathologies pédiatriques, varicocèle, chirurgie de reconstruction.

Introduction. The Urology and Andrology Department of the Yaounde Central Hospital is the only one of its kind in Cameroon. There are hardly any articles on the activities of a Urology and Andrology service in the literature. The aim of this study was to review the activities carried out in the Urology and Andrology Department of the Yaounde Central Hospital. **Patients and Methods.** We conducted a descriptive and retrospective study in the Urology and Andrology Department of the Central Hospital of Yaounde over a period from January 1, 2012 to December 31, 2022. **Results.** We collected 4661 patient records. The average age of the patients was 42 years. The sex ratio was 15.2 in favour of men. Admissions to the department were dominated by urological tumours (44.66%) followed by paediatric pathologies, pathologies concerning sexual and reproductive health, and pathologies requiring reconstructive surgery. **Conclusion.** Urological pathologies are dominated in the Urology and Andrology Department of the Yaounde Central Hospital by tumour pathologies and especially prostate cancer. Surgical activity was the most common procedure.

RÉSUMÉ

Introduction. Le service d'Urologie et d'Andrologie de l'Hôpital Central de Yaoundé est le seul du genre au Cameroun. Il n'y a pratiquement pas d'articles sur les activités d'un service d'Urologie et d'Andrologie dans la littérature. Le but de ce travail était de dresser l'état des lieux des activités menées dans le service d'Urologie et d'Andrologie de l'Hôpital Central de Yaoundé. **Patients et Méthodes.** Nous avons mené une étude descriptive et rétrospective dans le service d'Urologie et d'Andrologie de l'Hôpital Central de Yaoundé sur une période allant du 01^{er} Janvier 2012 au 31 Décembre 2022. **Résultats.** Nous avons colligé 4661 dossiers de patients. L'âge moyen des patients étaient de 42 ans. Le sexe ratio était de 15,2 en faveur des hommes. Les admissions dans le service étaient dominées par les tumeurs urologiques soit 44,66% et surtout les pathologies prostatiques suivies des pathologies pédiatriques, les pathologies concernant la médecine sexuelle et reproductive et les pathologies nécessitant une chirurgie de reconstruction. **Conclusion.** Les pathologies urologiques sont dominées dans le service d'urologie et d'andrologie de l'hôpital central de Yaoundé par les pathologies tumorales et notamment le cancer de la prostate. L'activité chirurgicale était l'intervention la plus fréquente.

INTRODUCTION

The Urology and Andrology Department of the Yaounde Central Hospital is the only one of its kind in Cameroon, all the other "Urology Departments" are incorporated into a General Surgery Department. Urology, considered for a long time as a sub-specialty of General Surgery [1], has made enormous progress in recent years [2]. There are many studies on urological emergencies in the literature, but there are hardly any articles on the activities of a Urology and Andrology department. It is with the aim of drawing up an inventory of the activities carried out in the Urology and Andrology department of the Yaounde Central Hospital that this work was developed. To do this, we will determine the socio-demographic data (age, sex, origin), we will highlight the most common pathologies treated in the Urology Department and compare our results with the literature.

PATIENTS AND METHODS

We conducted a descriptive and retrospective study in the Urology and Andrology Department of the Central Hospital of Yaounde over a period from January 1, 2012 to December 31, 2022. The study population was all patients admitted to the Urology and Andrology Department of the Yaounde Central Hospital. Any patient admitted to the department for urological pathology with a complete record was included and any patient admitted to the department for a reason other than urological pathology was not included as well as incorrectly completed or incorrectly archived records. The variables studied were age, sex, origin and the main conditions encountered. We used the SPSS 20 software. We got a research permit from the Ethics Committee at the Central Hospital of Yaounde.

RESULTS

We collected 4956 records of patients admitted to the Urology and Andrology Department of the Yaounde Central Hospital. 295 records were removed from the study according to our baseline criteria, giving a sample of 4661 patient records.

The mean age of the patients was 42 years old. The majority of patients in the adult age group were between 60 and 69 years. The sex ratio was 15.2 in favour of men. The patients were mainly from the centre and the west Cameroon.

Tumour pathology topped the list of conditions encountered (44.6%) with an average age of 57 years. Tumour pathology was dominated by prostate cancer (23.51%), followed by benign prostate hyperplasia (18.11%) and bladder cancer (1.63%). Kidney tumours came in 4th place (0.32%) but third place by cancer. Adrenal tumour comes in the fourth place by cancer (**Table I**).

Table I. Distribution according to tumour pathology

Pathologies	Percentage of tumours	Overall percentage
Prostate cancer	52,7	23,51
Benign prostatic hyperplasia	40,6	18,11
Bladder cancer	3,66	1,64
Kidney tumour	1	0,44
Spermatic cord cyst	1	0,44
Adrenal tumour	0,35	0,16
Kidney cyst	0,3	0,1
Cancer of the penis	0,15	0,07
Testicular cancer	0,09	0,05
Urethral cancer	0,09	0,05
Cancer of the upper excretory tract	0,06	0,03

In second place came paediatric pathologies (19.86%). At the top of the list of paediatric pathologies, we had a persistence of peritoneo-vaginal canal (37.15% of all paediatric pathologies and 7.38% of all cases) followed by cryptorchidism (33.7%), and circumcision accidents (11.45%). Circumcision (3.56%), oscillating testicles (1.73%) and valves of the posterior urethra (1,3%) were least common.

Pathologies related to sexual and reproductive health came in third place (10.27%). The first pathology was varicocele (9.7%). There were 0.51% cases of priapism. Lapeyronie's disease represented 0.63% of the pathologies included in sexual and reproductive health and 0.06% of all cases.

In fourth position comes reconstruction surgery where we find first of all obstetrical fistula which alone is the subject of UNFPA care through a succession of surgical campaigns where we count about 500 cases taken care of in one year at the Yaounde Central Hospital, followed by urethral stenosis (69.9% of conditions requiring reconstruction surgery and 3.09% of all conditions), pyelo-ureteral junction syndrome (20.39% of conditions requiring reconstruction surgery and 0.9% of all conditions) and cystocele (9.71% of conditions requiring reconstruction surgery and 0.43% of all conditions)

Urological emergencies constitute 8.68% of urological pathology. Inguinal hernia comes first with 28.39% of all urological emergencies (2.47% of all cases), followed by Fournier's gangrene (27.65% of all urological emergencies and 2.4% of all cases) and acute retention of urine (13.83% with and 1.2% of all cases). Cases such as trauma, especially of the urethra, testis and kidney, as well as urological complications of pelvic trauma, account for 1.37% of cases. Bilateral ligation of the ureters represented 3.95% of urological emergencies and 0.34% of all cases.

Infectious pathology was found in sixth place (4.33%) and acute prostatitis dominated infectious pathology (47.52% of all recorded infectious diseases) with 2.06% of cases. Pyelonephritis, prostatic abscess and scrotal elephantiasis was found with the same percentage (0.26%) after pyonephrosis (0.51%), scrotal infections (0.51%) and orchio-epididymitis (0.43%). Peri-urethral phlegmon comes in last position with 1% of all recorded infectious diseases (0.04% of cases).



Lithiasis accounted for 3.86% of admissions, dominated by ureteral lithiasis (44.44% of urolithiasis pathologies and 1.72% of all conditions), followed by renal lithiasis (26.68%), bladder lithiasis (22.22%), pyelic lithiasis (4.44%) and urethral lithiasis (2.22%).

The table 2 resume the distribution according to the pathologies identified in the department.

(Table II).

Pathologies	Percentage
Tumours	44,6
Paediatric pathologies	19,86
Pathologies concerning sexual and reproductive health	10,27
Pathologies requiring reconstructive surgery (+obstetric fistula campaigns)	4,42
Urological emergencies	8, 68
Infectious pathology	4,33
Lithiasis	3,86

The percentage of most frequent pathologies was 96.08%. The other rare pathologies encountered were urinary neurogenic bladder, congenital urinary incontinence, sclerosis of the bladder neck, bladder diverticulum, vesico-sigmoid fistula, and sclerosis of the prostatic compartment.

Concretely, in terms of surgery, after prostatic pathologies, varicocele comes in second place, followed by surgical pathologies of the child (persistence of the peritoneo-vaginal canal and cryptorchidism). As a result, surgical activity is more important in the Urology and Andrology Department of the Yaounde Central Hospital. Surgery constituted 87.01% of the activities carried out in the Urology and Andrology Department of the Yaounde Central Hospital, particularly elective surgery (77.9%).

DISCUSSION

We collected 4661 records of patients admitted to the Urology and Andrology Department of the Yaounde Central Hospital. This figure is much higher than that collected by Guemouz et al [2] who collected 1632 patients. This difference can be explained by the length of the study period, which is longer in ours. However, it is lower than that found by Guindo et al [3]. This difference could be explained by the fact that Guindo took into account consultations.

The average age of the patients was 42 years, but the majority of the patients in the adult age group were between 60 and 69 years. This relatively young average age may be explained by the fact that we had a large paediatric population and a young population for non-tumour diseases.

The sex ratio was 15.2 in favour of men. Guemouz [2] et al had made the same observation. This could be explained by the fact that in Urology, in addition to the urinary tract, we also treat pathologies that affect the male genital organs.

Tumour pathology was the most common pathology encountered (44.6%). Cancerous pathology was dominated by prostate cancer (23.51%), followed by bladder cancer (1.63%). In the study by Guemouz and al

[2] in Morocco and Salah et al [4] in Algeria, bladder cancer was the first cancer followed by prostate cancer. This result is in agreement with the literature which suggests a higher percentage of bladder tumours in the Maghreb, whereas in sub-Saharan Africa prostate cancer dominates [5]. Sow et al [6], in a study carried out in 2006 over a period from 1987 to 2006, found benign prostatic hyperplasia to be the leading tumour pathology. This difference can be explained by the increase in life expectancy in our context and genetic mutations. A study by Angwafo et al in 1994 [7] mentioned that prostate cancer is common among blacks in Cameroon and that its incidence is increasing every year.

Paediatric pathologies come second (19.86%). At the top of the list of paediatric conditions is hydrocele in children (7.38%) followed by cryptorchidism (6.7%) and circumcision accidents (2.27%). This result is similar to that of Fouda et al [8] who found that hydrocele and cryptorchidism were the most frequently managed conditions despite Covid-19. However, hypospadias came third in the work of Fouda et al. This difference may be explained by the difference in sample size and by the fact that Fouda et al conducted their study during the Covid-19 period when hospital attendance had decreased.

Pathologies related to sexual and reproductive health came third (10.27%). The first pathology was varicocele (9.7%). There were 0.51% cases of priapism. Varicocele is the most frequent cause of infertility in our context [9] and in the literature [10]. This could justify the frequency of hospital admissions of patients with varicocele. Owon et al [11] found a percentage of 1.7% of admissions to the emergency room of the Yaounde Central Hospital for priapism. This difference can be explained by the fact that some patients from the surgical emergency department did not arrive at the urology and andrology department.

In terms of reconstructive surgery, obstetric fistula is covered by UNFPA through a series of free surgery campaigns. Urethral stenosis (3.09%) and pyeloureteral junction syndrome (1.11%, including 0.9% in the adult population) come second and third respectively. Obstetric fistula is a real public health problem [12]. The Yaounde Central Hospital has hosted many campaigns to cure obstetric fistulas. As for urethral stenosis, the results obtained are largely inferior to those obtained by Guemouz [2] and Guindo et al [3] who found respectively 10.23% and 6.2% of cases in their series. These differences may be related to the difference in sample size. As for the pyeloureteral junction syndrome, the results obtained are not very different from those obtained by Guemouz et al [2] who had a percentage of 1.71%. This shows the need to systematically introduce an ultrasound scan of the urinary tract after the paediatric consultation, failing to improve the antenatal diagnosis.

Urological emergencies represent 9.2% of urological pathology. Urological emergencies found in the department are those that required follow-up after resolution of the emergency. However Owon et al [11] found that 87.3% of patients were hospitalised over almost the same period (2012 to 2019). Therefore, not all patients from the surgical emergency department arrive at the urology and andrology department.

Infectious pathology constituted 4.29% of the population studied. This figure is close to that of Guemouz et al [2] who had a frequency of 3.49%. Infection of the male genital organs predominated in this study. These included acute prostatitis, scrotal infections and orchi-epididymitis. This may be related to the young population.

Lithiasis represented 3.86% of admissions, dominated by ureteral lithiasis (1.72%). In the study by Guemouz [2], urolithiasis came out on top. This could be explained by the fact that urolithiasis is not very common in black Africa; this rarity is even more marked in the Bantu population according to Zoung Kanyi et al [14]. We can also explain it by the fact that our technical platform for the management of this pathology is not up to date compared to private structures and some public structures. Surgery constituted 87.01% of the activities carried out in the urology and andrology department of the Yaoundé Central Hospital. This result is similar to that obtained by Guemouz et al [2], namely 86.96%.

CONCLUSION

Thus, the pathologies are dominated by tumour pathologies followed by paediatric pathologies and pathologies concerning sexual and reproductive health. Our department, like the urology departments, has a satisfactory activity; however, an improvement of the technical platform would allow us to have a more efficient surgical activity.

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