

## Management of Major Non-Traumatic Urologic Emergencies: Experience from University Hospital of Cotonou

Josué Dejinnin Georges Avakoudjo<sup>1</sup>, Fouad Kolawalé Yde Soumanou<sup>1\*</sup>, Fidèle Valery Lossitode<sup>2</sup>, Fred Dètonджи Hodonou<sup>1</sup>, Isidore Kokou Gandaho<sup>3</sup> and Olivier Armand Dandjlessa<sup>2</sup>

<sup>1</sup>Department of Urology, University Hospital of Cotonou, Benin

<sup>2</sup>Department of Urology, Lokossa Hospital, Benin

<sup>3</sup>Department of Urology, University Hospital of Parakou, Benin

\*Corresponding author: Fouad Kolawalé Yde Soumanou, Department of Urology at University Hospital of Cotonou, Benin, Tel: 96880788/95406504; E-mail: soumfou@yahoo.fr

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### Abstract

**Objectives:** The aim of this study was to determine the prevalence and management of the main non traumatic urological emergencies in the teaching university hospital of Cotonou in Benin Republic.

**Methods:** In one year, we collected 76 cases. Patients under age 15 years old did not included in the study. Selected patients those who have supported by the Pediatric surgery department and all patients who have admitted for urological emergency in a traumatically context. The following items have studied: prevalence, age, sex, complaints, emergency type, etiologies, diagnostic means, emergency management, management result and delay of intervention. The data have processed on the Epi-Info version 3.5.1 2008.

**Results:** Non traumatic urological emergencies have accounted for 6% of surgical emergencies and 92.7% of urological emergencies. The delay of consultation was average 3 years. The most common emergency was urine complete retention in 57.9% of cases and the main cause was benign prostatic hypertrophy (BPH) in 66% of cases. The average age was 61 years old (range: 15-86 years old). The sex ratio was 5.3. The urethral catheterization was practiced in 36 cases (47.6%). The main etiology of UCR was BPH in 29 cases (66%). Others etiologies as such as urethral stenosis, prostatic cancer and Bladder lithiasis followed in respectively 6 cases (13.6%), 5 cases (11.4%) and 4 cases (9%). The emergency has lifted in all cases.

**Conclusion:** Management of non-traumatic urological emergencies has been quickly managed and if in doubt, exploratory surgery was needed.

**Keywords:** Prevalence; Management; Non traumatic urological; Emergency

### Introduction

Non traumatic urological emergencies include a number of urogenital disorders occurring apart from trauma and whose management cannot be delayed. Once the concept of trauma aside, the etiological field research is extended and clinician sometimes has put in an embarrassing situation. However, their management should be quick under penalty because some of these non-traumatic emergencies can lead patient death and or functional prognosis of organ in question.

Uis study has initiated to determine the prevalence and the management of the major no traumatic urological emergencies in the teaching university hospital at Cotonou in Benin Republic.

### Methods

Uis is a retrospective, descriptive study conducted within a year. All patients age was at least 15 years regardless of the sex have been included. We did not included in this study, patients under age 15 years

old who have supported by the Peadiatric surgery department and all patients who have admitted for urological emergency in a traumatical context. Ue following items have studied: prevalence, age, sex, the complaints, diagnostic means, emergency type, etiologies, emergency management and results of management. Ue data have processed on epi-info version 3.5.1.

### Results

#### Epidemiological aspect

Over six months, 1,227 patients had been admitted at teaching university hospital of Cotonou surgical emergencies including 82 cases of urological emergencies in which 76 cases of non-traumatic urological emergencies. Non traumatic urological emergencies have accounted for 6% of surgical emergencies and 92.7% of urological emergencies. Ue average age of patients was 61 years old (range: 15-86 years old). Age group (60-69) years old have been predominated in 36 cases (47.4%), followed by (20-39) years old in 26 cases (21.1%) and (40-59) years old in 15 cases (19.7%). Finally, we have found age groups  $\geq 15$  years old and (80-89) years old in 4 cases (5.3%) and 5 cases (6.6%) respectively. Men have predominated in 84.2% (n=64 cases) against 15.8% (n=12 cases) for women. Ue sex ratio was 5.

## Clinical aspect

Delay of consultation was average 3 years. Ue most common complaints were urine complete retention and hematuria. Uey represented respectively 44 cases (57.9%) and 12 cases (15.8%). Others symptoms such as kidney pain, acute testis pain, excretory anuria were respectively in 9 cases (11.8%), 6 cases (7.9%) and 3 cases (3.9%). Ue most common emergency types had been urine complete retention, hematuria and acute renal colic as shown in Table 1.

Emergency type	Number of cases	Percentage (%)
Urine complete retention	44	57.9
Hematuria	12	15.8
Acute renal colic	9	11.8
Excretory anuria	3	3.9
Acute orchitis	3	3.9
Priapism	2	2.6
Spermatic cord torsion	2	2.6
Fournier gangrene	1	1.3
<b>TOTAL</b>	<b>76</b>	<b>100</b>

Table 1: Ue distribution of the patients according emergency type.

## Uerapeutic aspect

Ue main management in emergency had been to place urethral catheter (Table 2 and Figures 1 and 2).



Figure 1: Patient with urine complete retention (bladder globe) due to Benign Hyperplasia prostate.



Figure 2: Patient with a stasis priapism.

Emergency type	Management	Number	(%)
UCR (urine complete retention)	Urethral catheterization	36	47.40%
	Cytocatheterization	11	7.00%
Acute renal colic	Only medical therapy	9	11.80%
Excretory anuria	Ureterostomy	1	1.30%
	Ureteral reimplantation+Ureteral catheterization	2	2.60%
Hematuria	Urethral catheterization+bladder wash transfusion	12	15.70%
Spermatic cord Torsion	Untwisting+bilateral orchidopexy	2	2.60%
Acute orchitis	Suspensory bandage+medical therapy	3	3.90%
Stasis priapism	Spongy caverno derivation according to Al-Ghorab	2	2.60%
Fournier's gangrene	Necrosectomy+antibiotic therapy+urethral catheterization+Reanimation	1	1.30%

Table 2: Urgencies types management.

Aler the liling of the emergency digital rectal examination followed by ultrasound imaging, total serum prostate specific antigen (PSA), level of creatinine or voiding urethrocytography were

requested by diagnosis suspected in patient. Ue main etiology of UCR was BPH in 29 cases (66%). Other etiologies as such as urethral stenosis, prostatic cancer and Bladder lithiasis followed in 6 cases

(13.6%), 5 cases (11.4%) and 4 cases (9%), respectively. Ue emergency has been managed in all cases and 58% of these cases had been out immediately in outpatient. Forty-two percent of cases had a long hospital stay in the urology department for tracking and monitoring support.

Ue delay of intervention was on average 1 year for BPH and urethral strictures but three months for bladder stones. As against some diseases such as gangrene of Fournier, torsion of the spermatic cord were supported in the time of their admission before reanimation for gangrene of Fournier case's because the patients with this disease had come to advanced stage. In patients suspected of prostate cancer after an elevated level total serum PSA and digital rectal examination suspect, anatomopathological screening after biopsy was performed to confirm or non-diagnosis. If the result was positive an evaluation of clinical stage was done. Ue Gleason score was in between 6-8.

## Discussion

In this study, non-traumatic urological emergencies had accounted 92.7% of urological emergencies. Zango et al. [1] and Fall et al. [2] have found 93.3% and 94.6% of cases, respectively. It is clear that the urological emergencies have accounted only by non-traumatic urological emergencies due to the scarcity of urogenital trauma. Ue average age of patients was 61 years old and the age group 61 to 79 years was the most represented. Uis result is much closed to those of Kambou et al. [3] (58.8 years old), Fall et al. [2] (59 years old) in the same age group. Uis age found in most African studies [2,3] was explained by the fact that urine complete retention is the main reason for consultation. Uis etiology has been dominated by prostatic tumor confined of the older man. In contrast, urine complete retention has been only 22% of cases of the urology complaints in France while the annual incidence has been 3.06 per thousand in England [4,5]. Uis difference could be explained by the high resources level of these countries where patients presented at an early stage of the disease in contrast which Africa, where resources level is low so that patients can consult but at the complication stage. Ue sex ratio in this study was 5.3. Uis result is significantly lower than Zango et al. [2] which was 8.8 and Fall et al. [3] who have found themselves 20.3, so Parra et al. [6] have found 837 men against 667 women and Ugare et al. [7] had found 39:1. Uis large difference is certainly due to the sample size which was very inferior to others because of this study period which had been very short (six months against 20, 24 months, respectively others studies). Although true urologic emergencies are extremely rare, they are a vital part of any emergency physician's (EP) knowledge base, as delays in treatment lead to permanent damage [8]. However, in this study the main complaint of non-traumatic urologic emergencies has been urine complete retention complete in 57.9% of cases in this study and its etiology has been prostatic tumor in 34 cases (77,4%). Uese results are similar to those of Ikuero et al. [9] who have found that the prostatic tumor is the first etiology in 64% of cases but Parra et al. [6] have found acute renal colic in 670 cases in both sex. Ugare et al. [7] have found that on hundred and fifty nine (0.23%), presented with urinary retention; 145 (91.2%) were acute, and 14 (8.8%) were chronic as soon as common causes prostatic diseases (BPH and cancer of the prostate) 77.0%, infections 75.8%, trauma 12.1%, and congenital 12.1%. Desgranchamps et al. [10] have found in their series of 2618 men analysed, that BPH was revealed by AUR (Acute urine retention) in 52.3% of men with precipitated AUR and 25.9% of men with spontaneous AUR. Urethral catheterization was the most used method in this study. Men with acute urinary retention from benign prostatic

hyperplasia have an increased chance of returning to normal voiding if alpha blockers are started at the time of catheter insertion. Suprapubic catheterization may be superior to urethral catheterization for short-term management and silver alloy-impregnated urethral catheters have been shown to reduce urinary tract infection [11]. Ue Reten-World survey is aimed at assessing current practice in the management of AUR in France, Asia, Latin America, North Africa and the Middle East. Interim results based on 3785 men with AUR associated with benign prostatic hyperplasia show that a urethral catheter is inserted in most cases (87%). Following this initial step, a TWOC (trial without catheter) after a median of 3 days' catheterization has become standard practice worldwide, with only a minority of men (6%) undergoing immediate surgery. Treatment with an alpha (1)-blocker before a TWOC improves the chances of success, regardless of the duration of catheterization [12]. Horgan et al. [13] recommended that the use of suprapubic catheters should become the preferred initial treatment for acute urinary retention. So, Fitzpatrick et al. [14] conclude that TWOC has become a standard practice worldwide for men with BPH and AUR. In most cases, an  $\alpha$  (1)-blocker is prescribed before TWOC and significantly increases the chance of success. Prolonged catheterization is associated with an increased morbidity. But Zhengyong et al. [15] have said that bladder training before urinary catheter removal did not increase the chance of TWOC success significantly in spontaneous AUR patients with BPH. Among the causes of hematuria Ng et al. [16] found principally benign prostatic hyperplasia (BPH) in 22.6% which is similar to the results of this study. In the renal failure, cystocatheterization has been made or a cystostomy bypass in the operative block. Ue other cases such as spermatic cord torsion, Fournier's gangrene have conducted in operative block immediately. Medical treatment had been instituted in emergency in cases where surgery had not indicated. It has noted that two cases of iatrogenic anuria by ligation of the ureters after hysterectomy which have taken in emergency for ureter reimplantation and diversion with ureteral catheter.

## Conclusion

Non traumatic urological emergencies are often complex requiring various management. However, their prevalence has been high in this study and they are usually a discovery circumstance of urologic pathology in the patient.

## Conflict of Interest

Ue authors declared that they have no conflict interest.

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