

Acute Urinary Retention in Men: Management and 3-Month Follow-Up (A Study of 98 Cases)

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Abstract

Context and Objectives: Acute urinary retention (AUR) is the acute and painful impossibility to urinate despite a pressing need. The aim of the study was to evaluate the management and future of patients admitted for RVCU at the Clinical University of Urology Andrology of the National Center Hospital University Hubert Koutoukou Maga of Cotonou.

Methods: This was a descriptive prospective study from May 2022 to May 2023. In total, 98 patients who presented an AUR were included and each followed over a period of 03 months; socio-demographic, clinical, paraclinical, therapeutic and outcome data were collected throughout the study.

Results: The mean age of the patients was 62.18 years with extremes of 19 years and 88 years. Lower urinary tract symptoms were noted in 84.69% of patients, averagely 21 days before retention. These patients represented 43.36% of urological admissions at the emergency department. Benign prostatic hyperplasia (BPH) was the etiology of AUR in 53.06% of cases followed by prostate cancer (25.51%). The urinary catheter was the means of drainage in 86.73% of cases followed by suprapubic catheterization in 8.16% of cases. The definitive treatment depended on the etiology thus after 03 months, 48.98% of patients who received alpha blocker treatment had no recurrence of AUR and surgical treatment was indicated and performed in 24.49%.

Conclusion: Acute urinary retention is the most frequent urological emergency. The male sex was the most affected, with benign prostatic hypertrophy as the main etiology. The initial and definitive treatment varied according to the etiology.

Keywords: Acute Retention; Outcome; BPH

Introduction

Acute urinary retention (AUR) is the acute and painful inability to urinate despite a strong urge [1,2]. It is one of the main urological emergencies, with a prevalence of 43.40% at CNHU-HKM in 2017 [3]. In men, the primary etiology is benign prostatic hyperplasia (50 to 70%) [4,5]. Other etiologies can be either obstructive or neurological. Emergency urethral catheterization often provides relief for

the patient [6]. However, the fear of recurrence lingers in the minds of patients, and medical professionals consider this episode to be ubiquitous.

Aim of the Study

The aim of the study was to evaluate the management and outcomes of patients admitted for AUR at the University Clinic of Urology and Andrology at the National University Hospital Center Hubert Koutoukou Maga in Cotonou.

Patients and Methods

This was a prospective descriptive study of the therapeutic pathway and progression of complete urinary retention in 98 patients admitted and followed for a period of 3 months each at the University Clinic of Urology and Andrology at the National University Hospital Center Hubert Koutoukou Maga in Cotonou, from May 2022 to May 2023. Sociodemographic, clinical, paraclinical, therapeutic, and progressive data were collected throughout the study. Data analysis was performed using Excel 2021 and Epi Info 7.4.2 software. Patient confidentiality and ethical considerations were respected throughout the study.

Results

A total of 98 patients were included in our study. Their mean age was 62.18 years, ranging from 19 to 88 years. Patients aged 65 to 79 years represented 52% of our series. They were admitted to the emergency department in 86.73% of cases. Other patients presented with AUR in other hospitalization departments. Patients received in the emergency department for CUR accounted for 43.36% of urological emergencies. The past history found in these patients was as follows.

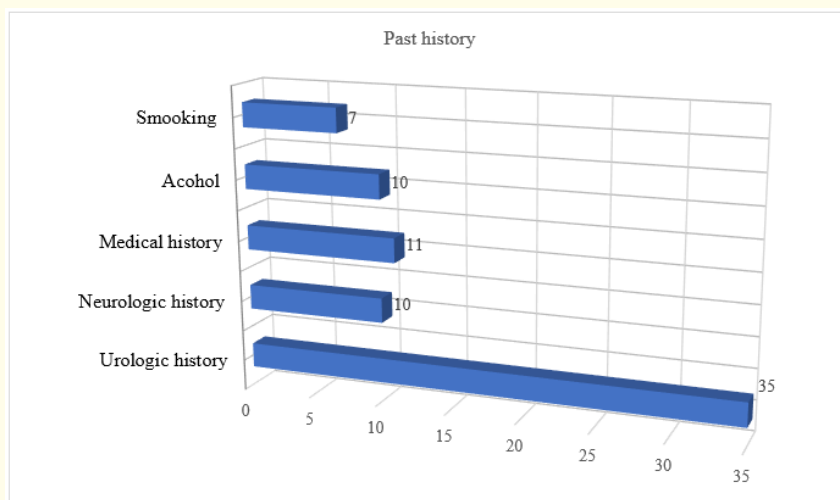


Figure 1: Distribution of patients according to past history.

Urological history consisted of previous episodes of retention in 19.38% of cases and benign prostatic hyperplasia (BPH) in 15.30% of cases. Lower urinary tract symptoms were observed in 84.69% of patients, on average 21 days before the onset of retention. They were on alpha-blockers (7.77%) and traditional phytotherapy (14.45%).

	Frequency (n = 83)	Percentage
Storage symptoms	59	71,08
Voiding symptoms	57	68,67
Post micturation symptoms	77	92,77

Table 1: Distribution of patient according to LUTS (before the episode of retention).

Post-voiding symptoms were noted in 92.77% of patients before the onset of the retention episode.

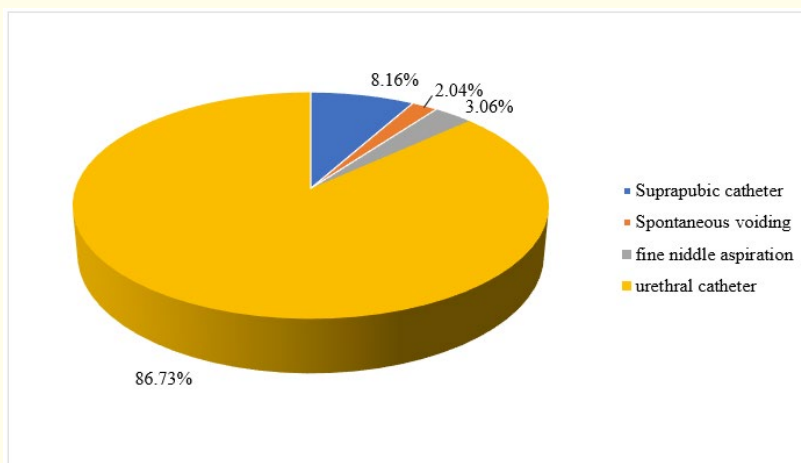


Figure 2: Distribution of patient according to the mode of drainage.

Urethral catheterization was the drainage method in 86.73% of cases, followed by suprapubic catheterization in 8.16% of cases. Spontaneous voiding was observed in 2.04% of patients. Simple suprapubic aspiration (with a 10 cc syringe) was performed in 3.06% of patients experiencing CUR after spinal anesthesia.

The drained urine appeared clear in 76.53% of cases, hematuric in 14.56%, and purulent in 6.12% of cases.

An alpha-blocker (alfuzosin) was administered to 77 patients, accounting for a percentage of 78.57. The hospitalization rate was 57.14%, with an average hospital stay duration of 6 days. Total PSA was measured in 57 patients (58.16%) with an average level of 81 ng/ml. The range was from 0.1 ng/ml to 2000 ng/ml. Out of the 80 patients who underwent urine culture (ECBU), 34 (42.50%) returned positive results, with *Escherichia coli* (64.70%) and *Klebsiella pneumoniae* (26.47%) being the identified pathogens.

Renal function was assessed in 77 patients, and it was impaired in 38.96% of the evaluated patients.

Benign prostatic hyperplasia (BPH) accounted for 53.06% of CUR etiologies, followed by prostate cancer (25.51%). The trial of withdrawal conducted in 74 patients was successful in 83.78% of cases, with an average time of 14 days ± 7.38.

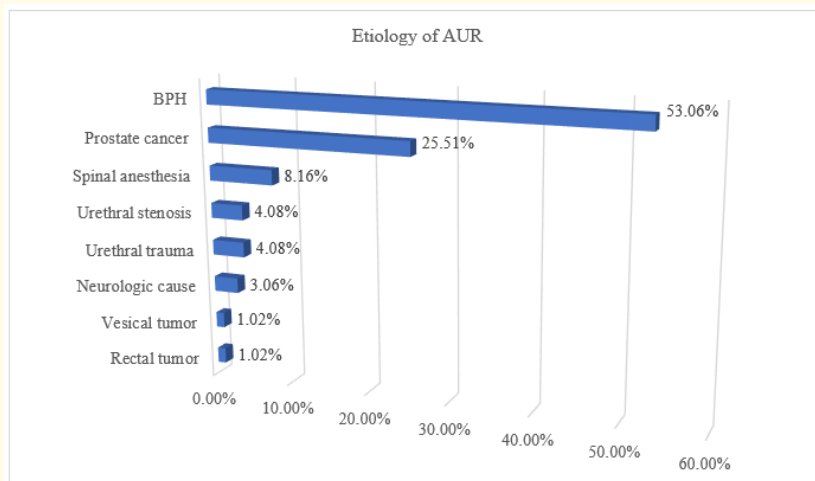


Figure 3: Distribution of patient according to the etiology of AUR.

After 3 months, 24.49% of patients had undergone surgical intervention.

	Frequency	Percentage
No recurrence with no medication*	8	8,16
No recurrence under medication	48	48,98
Recurrence under medication	11	11,22
Etiologic treatment	24	24,49
Lost to follow up	4	4,08
Death	3	3,06
Total	98	100

Table 2: Distribution of patients according to the outcome after 3 months.

*These are patients who experienced AUR after spinal anesthesia and did not require specific medication after the initial bladder emptying.

Discussion

Acute urinary retention (AUR) is a urological emergency [2,5,7,8]. Patients in our series represented 43.36% of admissions for urological emergencies at CNHU-HKM. Tengue., *et al.* found a prevalence of 64% in a study on the management of urological emergencies in Togo [9]. Indeed, CNHU-HKM constitutes the last level of the healthcare pyramid in Benin; thus, urinary retention is better managed in peripheral centers. Nevertheless, all studies agree, and Boussier R., *et al.* ranked CUR as the second most common urological emergency in France [8]. Universal healthcare coverage in Western countries allows patients easy access to primary healthcare services.

The pathology often has a gradual onset and appears in the elderly population as a natural history. Thus, the average age of 62 years found in our study presents it as a disease of the second half of life. The World Health Organization (WHO) predicted a 20% increase in cases of Lower Urinary Tract Symptoms (LUTS) and lower urinary tract obstruction in Africa by 2018, mainly due to the projected increase in the elderly population [10]. Studies by GAS., *et al.* Ugare., *et al.* had respective averages of 71 years and 53 years [11,12].

Benign prostatic hyperplasia (BPH) was already diagnosed in 15.30% of patients, and previous episodes of retention were present in 19.38%. Urinary retention is the most pronounced manifestation of LUTS, and thus, 84.69% of patients reported experiencing other LUTS before the retention episode. The modern hospital is not the first choice for patients in Africa. Unless patients rush to traditional treatments, they endure discomfort until it becomes overwhelming. According to the history, most patients presented in retention after several weeks or months of LUTS, which they considered unimportant. Previously, authors [10,11] documented similar results and attributed this to ignorance, poverty, lack of healthcare infrastructure, and qualified personnel in most developing societies. We believe these observations to be accurate and suggest a need for health education using traditional and modern media.

Elsewhere, as reported by Zhao, *et al.* 65% of patients were already known and followed for urological conditions [13]. Indeed, in developed countries, patients consult at the onset of dysuria, while in Africa, they often consult at the stage of complications (acute urinary retention), due to socio-economic and cultural reasons [14]. AUR thus constitutes the main circumstance for discovering prostate tumors. These results are comparable to those of Diabaté, *et al.* in Senegal, and Tfeil, *et al.* in Mauritania, where prostate tumors were the main etiology of AUR in 77% and 66.5% of cases, respectively. In our study, we noted BPH (53.06%) as the leading cause of AUR and Prostate Cancer (25.51%) in the second place, thus positioning prostate disease as a significant public health concern affecting men over 50 years of age. Comprehensive studies focus on retention of prostatic origin [4,18]. However, our study noted a notable involvement (8.16%) of regional anesthesia products. Similar cases have been described in the literature as issues related to dosing and interpersonal variations in sensitivity to anesthetics.

It is a therapeutic emergency that requires drainage. Urethral catheterization was the first-line method (86.73%) in our study. In a sample of 611 men, GAS, *et al.* noted the use of urethral catheterization in 96% of cases [12]. Furthermore, an absolute contraindication to catheterization was urethral trauma, even iatrogenic, in which case suprapubic catheterization was indicated.

Our hospitalization rate (57.14%) was, however, higher than the average. In the study by GAS, *et al.* only 29% were hospitalized, with the vast majority treated as outpatients [12]. This is explained by the fact that patients come to CNHU-HKM, which is the primary referral center in Benin, often with complications that require a level of care beyond peripheral facilities or necessitate immediate hospitalization.

Only after relieving the patient can additional tests be undertaken. The completion of these tests by patients was not systematic, as this depends on their socio-economic status and financial resources. The total PSA measured at a distance from the episode of AUR was quite high, usually linked to the underlying pathology (prostate cancer) [15,16]. Urine culture was positive in 42.5% of patients, and urine colonization by *E. coli* was prevalent. This raises questions about hygiene during catheterizations and the promoting effect of urinary infections in the occurrence of AUR [1,17].

An alpha-blocker (alfuzosin) was the initial treatment for 78.57% of our patients. This practice is described as enhancing, increasing the chances of successful withdrawal [7,11,19,20]. The first withdrawal attempts were made on average after 14 days of catheterization. Introducing an alpha-blocker before the withdrawal trial doubles the chances of success [21]. Thus, this trial conducted in 74 of our patients was successful in 83.78% of cases.

The advantage of alpha-blockers before the withdrawal trial was established by a Cochrane meta-analysis of five randomized trials, four of which involved alfuzosin. This confirms an old concept, initially suggested by Caine, *et al.* in 1976 [22], that AUR is the result of sudden sympathetic stimulation causing an acute increase in smooth muscle tone in the lower urinary tract. By relaxing smooth muscle tone, α 1-blockers would promote a return to normal urination [21].

After 3 months, 48.98% of patients who received alpha-blocker treatment did not experience recurrence of AUR. Ultimately, surgical treatment was indicated and performed in 24.49% of cases.

Conclusion

Acute urinary retention is the most common urological emergency. Benign prostatic hyperplasia was the primary etiology, followed by prostate cancer. The initial and definitive treatment varied depending on the etiology.

Author's Contributions

All authors contributed equally from conception to submission.

Conflicts of Interest

No conflicts have been declared by the authors. Haut du formulaire

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