

Paediatric Urological Emergencies at Abeche University Hospital

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Abstract

Introduction: Urological emergencies are common and varied, and may be life-threatening or affect the functional prognosis of the urogenital system. Their management requires specialist consultation. The aim of our study was to describe the epidemiological, clinical and therapeutic profile of urological emergencies at Abeche University Hospital. **Patients and Method:** This was a prospective, descriptive study conducted over a 15-month period from June 2022 to September 2023 at the Abéché University Hospital. Patients of both sexes, aged 0 to 15 years, who gave their consent and presented with a urological emergency were included. The variables studied were sociodemographic, clinical and therapeutic. **Results:** Urological emergencies accounted for 4.6% of paediatric surgical emergencies. The mean age of our patients was 6.8 years \pm 3.2, ranging from 43 days to 15 years. The sex ratio was 3.4. Acute urinary retention was the most common condition, accounting for 64.4% of cases. It was primarily caused by lower urinary tract stones (56.8%). Renal colic accounted for 15.65% of cases, followed by acute pyelonephritis (6.9%) and paraphimosis (4.34%). Urinary drainage was required in 64.34% of cases. The outcome was favourable in 90.2% of cases. **Conclusion:** Urological emergencies in children are common and varied. They are predominantly characterised by acute urinary retention caused by bladder stones.

Keywords

Urological Emergencies, CHU-A, Abeche, Chad

1. Introduction

Paediatric urological emergencies present a significant clinical challenge due to

children's physiological vulnerability and the various urological conditions that may arise as a result of congenital malformations, trauma, infections or iatrogenic causes [1] [2]. Urological emergencies are common and varied, and may be life-threatening or affect the functional prognosis of the urogenital tract. Rapid and appropriate management of these emergencies is crucial to prevent the development of complications [3].

The aim of our study was to describe the epidemiological, clinical and therapeutic profile of urological emergencies at Abéché University Hospital.

The management of urological emergencies requires specialist consultation once the emergency has been resolved [1].

2. Patients and Method

We conducted a prospective, descriptive study in the A&E department of Abéché University Hospital over a 15-month period from June 2022 to September 2023.

The study included children of both sexes, aged 0 to 15 years, who were admitted and treated for a urological emergency during this period and whose parents had given their consent. Medical and surgical emergencies other than urological ones, as well as transferred patients or those with incomplete records, were excluded from this study.

We examined socio-demographic, clinical, therapeutic and outcome parameters. Data were collected and analysed using SPSS 19.0 software. Calculations were performed using proportions and means, and statistical significance was set at $\alpha = 5\%$.

We have obtained research approval from the Dean's Office of our faculty and the Abéché University Hospital. For each patient, verbal consent was obtained from at least one of the child's parents.

3. Results

During the study, 115 patients were seen for a paediatric urological emergency out of a total of 2,501 medical and surgical emergencies, representing 4.6% (115/2,501).

The mean age was 6.8 years \pm 3.2, ranging from 43 days to 15 years. The male-to-female ratio was 3.4 (89 boys to 26 girls). Patients aged 0 to 5 years accounted for 58.26% of cases (**Table 1**).

Table 1. Distribution of patients by age.

Age	n	%
0 - 5	67	58.26
6 - 10	29	25.21
11 - 15	19	16.52
Total	115	100

Patients aged 0 to 5 years accounted for 58.26% of cases (**Table 1**). Patients from

urban areas accounted for 92.2% of cases, and 35.4% of patients were of school age. As for the method of admission, 83.7% had sought advice on their own initiative.

Urinary retention, characterised by an inability to urinate, was the most common condition, accounting for 64.34% of cases. It was caused by bladder stones in 56.8% of cases. Renal colic, characterised by lower back pain, accounted for 15.65% of admissions, followed by acute pyelonephritis in 6.9% of cases and paraphimosis in 4.34% (**Table 2**).

Table 2. Distribution of patients by urological emergency.

Nature of the emergency	n	%
Acute urinary retention	74	64.34
Renal colic	18	15.65
Acute pyelonephritis	8	6.9
Paraphimosis	5	4.34
Bladder trauma	5	4.34
Torsion of the spermatic cord	3	2.6
Priapism	2	1.7
Total	115	100

Fever was reported in 20.1% of cases, along with digestive disorders (3.7%), deterioration in general condition (1.7%) and oedema of the lower limbs (0.3%). A urinary tract ultrasound was performed in 93.5% of cases, and an uncontrasted abdominal scan in 25.3% of cases. A complete blood count and serum creatinine were performed in 95.6% and 45.9% of cases, respectively. A urine dipstick test was requested in all cases. Urinary drainage was performed in 64.34% (n = 74) of cases. Bladder catheterisation was the most frequently performed emergency procedure in 39.13% of cases (**Table 3**).

Table 3. Distribution of patients by emergency procedure.

Emergency urological procedures	n	%
Bladder catheterisation	45	39.13
Suprapubic catheterisation	29	25.21
Manual removal of a urethral stone	9	7.8
Re-fisting	5	4.34
Puncture of the corpora cavernosa	2	1.7

Treatment was surgical in 85.7% of cases and medical in 14.3% of cases. The outcome was favourable in 90.2% of cases, with complications in 8.7% and 1% lost to follow-up. In 67.82% of cases, patients were discharged with a referral to a urologist, whilst 32.18% were admitted to hospital.

4. Discussion

During the course of this study, a number of constraints and limitations were observed, and certain important information could not be collected:

- ✓ Medical history and dietary habits, which are important factors in lithogenesis, were not specified.
- ✓ Metabolic testing, which is essential for the aetiological investigation of urolithiasis, was not available;
- ✓ Inadequate maintenance of medical records within the department;
- ✓ Lack of follow-up after discharge.

Urological emergencies accounted for 4.6% of admissions. This finding highlights the significance of urological emergencies in paediatric settings. Indeed, the frequency of urological emergencies varies in the literature. It ranges from 2.57% to 4.22% in the series by N'Doye in Senegal and Olivier in N'Djamena, Chad, respectively [3] [4].

The mean age was 6.8 years \pm 3.2. The mean age of patients in our series is similar to that reported by Ndoye in Senegal, who cited 4.5 years [4]. The study revealed a predominance of male patients, accounting for 78.6%. This predominance is explained by a higher frequency of congenital urological malformations in boys, which cause lower urinary tract symptoms. The same finding is reported in the series by Ndoye and Olivier [3] [4].

With regard to the method of admission, 83.7% had sought treatment on their own initiative. This method of admission to A&E reflects the decision of parents to bring patients directly to the university hospital without going via level II or level I facilities. This finding is echoed by Parra Muntaner, who reports a figure of 74.07% [5]. Urinary retention was the most commonly reported emergency, accounting for 64.34% of cases.

This high incidence of urinary retention is linked to its various causes (posterior urethral valve, bladder stones, paraphimosis, etc.), followed by renal colic, which accounted for 15.65% of cases. Indeed, there is a parallel between urological emergencies in paediatric settings and in adults, where the clinical picture is dominated by urinary retention [6]-[9].

Urinary drainage was the most common urological procedure, with 39.13% involving transurethral bladder catheterisation and 25.21% involving suprapubic catheterisation. These procedures were proportionate to the nature of the emergencies. Diabaté in Senegal and Diallo in Guinea, who are polling at 51.51% and 55.25% respectively in a snap poll [10] [11].

The hospitalisation rate was 32.18%, and 67.82% were discharged with a referral for a urology consultation.

5. Conclusion

Paediatric urological emergencies are common and varied. Urinary retention is the most common presentation. The most frequent causes are stones, particularly bladder stones. Boys are most commonly affected. Management involves both

medical and surgical approaches.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Merrot, T., Chaumoitre, K., Robert, A., Alessandrini, P. and Panuel, M. (2009) La bourse aiguë de l'enfant: Corrélations radiocliniques. *Progrès en Urologie*, **19**, 176-185. <https://doi.org/10.1016/j.purol.2008.11.003>
- [2] Fall, B., Diao, B., Fall, P.A., Diallo, Y., Sow, Y., Ondongo, A.A.M., *et al.* (2008) Les urgences urologiques en milieu hospitalier universitaire à Dakar: Aspects épidémiologiques, cliniques et thérapeutiques. *Progrès en Urologie*, **18**, 650-653. <https://doi.org/10.1016/j.purol.2008.04.004>
- [3] Ngaringuem, O., Ali Mahamat, M., Abakar Djibrine, M.N. and Gondjé, A. (2019) Épidémiologie des urgences urologiques en chirurgie pédiatrique à l'hôpital de la Méré et de l'enfant de N'djamena. *Revue scientifique du TCHAD—Série B*, 32-33.
- [4] NDoye, N.A., NDour, O., Faye, A.L.F., Sarr, A., Fall, M., Ngom, G. and Ndoye, M. (2015) Les urgences urologiques en chirurgie pédiatrique: À propos de 40 cas. *Mali Médical*, **2**, 33-35.
- [5] Moutaner, L.P., Lopez Pacios, J.C., Pineiro Fernandez, M.C., Sanchez Merino, J.M., Menendez, J.M., De la Puente, C.A., *et al.* (2001) Urology Disease Emergency: Clinico-Epidemiologic Analysis at a District Hospital. *Archivos Españoles de Urología*, **54**, 411-415.
- [6] Tfeil, Y.O., Elmoctar, C.A.O., Ca, M.O. and Jdoud, C.O. (2010) Les urgences urologiques au centre hospitalier national de Nouakchott: Aspects épidémiologiques, cliniques et thérapeutiques. *Basic and Clinical Andrology*, **20**, 144-147. <https://doi.org/10.1007/s12610-010-0077-4>
- [7] Owon'Abessolo, P.F., Mayopa, C.F., Mekme, J., Fouda, J.C., Biyouma, M.D.C., Dongmo, G., *et al.* (2020) Urgences urologiques: Aspects épidémiologiques, cliniques et thérapeutiques à l'hôpital central de Yaoundé. *Health Sciences and Disease*, **21**, 52-55.
- [8] Ouattara, A., *et al.* (2019) Les urgences urologiques à l'hôpital universitaire de Bobo-Dioulasso (Burkina Faso): Aspects épidémiologiques, et prise en charge à propos de 303 cas. *Journal de la Recherche Scientifique de l'Université de Lomé*, **21**, 236-244.
- [9] Mahamat, M.A., Diarra, A., Kassogué, A., Eyongeta, D., Valentin, V., Allah-Syengar, N., *et al.* (2020) Renal Colic: Epidemiological, Clinical Etiological and Therapeutic Aspects at the Urology Department of the National Reference General Hospital of N'djamena (Chad). *Open Journal of Urology*, **10**, 25-33. <https://doi.org/10.4236/oju.2020.102004>
- [10] Diabaté, I., Ondo, C.Z., Sow, I., Ba, A. and MBou, C. (2015) Les urgences urologiques au centre hospitalier de Louga, Sénégal: Aspects épidémiologiques et évaluation de la prise en charge. *African Journal of Urology*, **21**, 181-186. <https://doi.org/10.1016/j.afju.2015.04.004>
- [11] Bobo Diallo, A., Bah, I., Diallo, T.M.O., Bah, O.R., Amougou, B., Bah, M.D., *et al.* (2010) Le profil des urgences urologiques au CHU de Conakry, Guinée. *Progrès en Urologie*, **20**, 214-218. <https://doi.org/10.1016/j.purol.2009.10.008>