Scientific Research Publishing

Open Journal of Urology, 2023, 13, 302-308
https://www.scirp.org/journal/oju
ISSN Online: 2160-5629
ISSN Print: 2160-5440

Urethrocystoscopy: Indications and Results in the Urology Department of the Ignace Deen National Hospital in Conakry

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How to cite this paper: Oury, D.T.M., Diawo, B.M., Daouda, K., Billo, S.M., Demba, C., Bissiriou, B.M., Oumar, B.A., Oumar, D.T., Alimou, D., Bobo, D.A. and Raphiou, B.O. (2023) Urethrocystoscopy: Indications and Results in the Urology Department of the Ignace Deen National Hospital in Conakry. *Open Journal of Urology*, **13**, 302-308.
https://doi.org/10.4236/oju.2023.138034

Received: July 1, 2023
Accepted: August 15, 2023
Published: August 18, 2023

Abstract

Introduction: Urethrocystoscopy is an examination of choice in the assessment of voiding disorders and especially macroscopic hematuria. The objective of this study was to analyze the indications and results of urethrocystoscopy in the urology department of the Ignace Deen National Hospital in Conakry. **Material and Methods:** We carried out a prospective descriptive study over 6 months, from 1st June to 30th November 2022, which included all patients who underwent urethrocystoscopy in the Urology Department of the Ignace Deen National Hospital in Conakry. We studied the following parameters: sex, age, indications and results of the examination, and complications. **Results:** 77 patients were included. The average age was 56.5 ± 19.5 years with extremes of [15 to 88 years]. The sex ratio was 2.9. Hematuria (50.7%) and lower urinary tract symptoms (32.4%) were the most frequent indications. Cystocystoscopy was normal in 14.3% of patients. Bladder tumors (29.9%) and prostatic hypertrophy (18.2%) were the most found lesions. **Conclusion:** Rigid urethrocystoscopy occupies an important place in the exploration of hematuria and lower urinary tract symptoms in our department. Bladder tumors and prostatic hypertrophy were the main lesions observed.

Keywords

Urethrocystoscopy, Hematuria, Bladder Tumour

1. Introduction

Urethrocystoscopy is an endoscopic exploration technique that allows visualiza-

tion of the interior of the urethra and bladder [1].

While rigid urethrocystoscopy often requires suitable anaesthesia in men, the advent of the flexible cystoscope or fiberscope has improved the tolerance of the examination. In the centers that have it, it is performed on an outpatient basis under local anaesthesia. This makes it an examination of choice in the assessment of lower urinary tract symptoms (LUTS) and especially macroscopic hematuria. It allows the etiological diagnosis of haematuria if the etiology is located in the lower urinary tract [2]. If the hematuria is from the upper urinary tract, she will locate the bleeding side. It occupies an important place in monitoring of bladder tumors [3].

Edwards *et al.* [4] reported on a cohort of 687 patients who underwent urethrocystoscopy in one year for haematuria. Moreover, Jalloh *et al.* [5] reported on a series of 800 urethrocystoscopies performed over five years at the Grand Yoff General Hospital in Dakar.

In Guinea, urological endoscopy is a recent practice in our department. We, therefore, conducted this study intending to analyse the indications and results of urethrocystoscopy in the Urology Department of the Ignace Deen National Hospital in Conakry.

2. Material and Methods

This was a prospective descriptive study conducted from June 1st to November 30, 2022, in the urology department of the Ignace Deen National Hospital in Conakry.

We included all patients for whom a urethrocystoscopy was performed during the study period and who freely agreed to participate in the study. Recruitment of patients was non-random; it was done according to the indications for urethrocystoscopy in the department and according to the patient's agreement. Urethrocystoscopies performed as part of JJ catheter removal were excluded from the study. All patients performed an ECBU to ensure the sterility of the urine before the examination. The examinations were performed using a cystoscope with ch20 or 22 sheaths, 30˚ or 70˚ optics, under video endoscopy control.

Data were collected using a questionnaire including socio-demographic variables (age and sex) and technical variables (indications, type of anaesthesia, results, associated procedures, complications).

The data were analysed using SPSS version 25 software. A descriptive analysis was performed, taking into account the type of variable. Quantitative data were described by the mean and standard deviation for those following a normal distribution, and by the median where appropriate. Qualitative variables were described using proportions.

3. Results

During the study period, 77 urethrocystoscopies were performed in the department, *i.e.* a monthly average of 12.9 cases.

The average age of the patients was 56.5 ± 19.5 years with extremes of [15 to 88 years]. Figure 1 shows the distribution of patients by age.

Male patients accounted for 74% of cases (n = 57). The sex ratio was 2.9.

The indications for urethrocystoscopy are summarized in Figure 2. They are dominated by macroscopic hematuria in 50.7% of cases.

Anesthesia was either local with Xylocaine gel in 42 cases (54.5%) or general in 35 cases (45.5%). In all women, the mode of anaesthesia was local anaesthesia. In men, anaesthesia was local in 22 cases and general in 35 cases.

The lesions objectified at urethrocystoscopy were dominated by bladder tumors (29.9%). Bladder tumors were multifocal in 70% of cases (n = 16) and all had a sessile implantation base. Lesions of bladder schistosomiasis were found in 5 cases of haematuria. The urethrocystoscopy was normal in 12 cases (15.6%). In monitoring of no-muscle invasive bladder cancer (4 cases), we observed tumor recurrence in two cases. The lesions objectified in macroscopic hematuria and LUTS are presented in Table 1.

Additional procedures were performed in some cases; it was a bladder biopsy

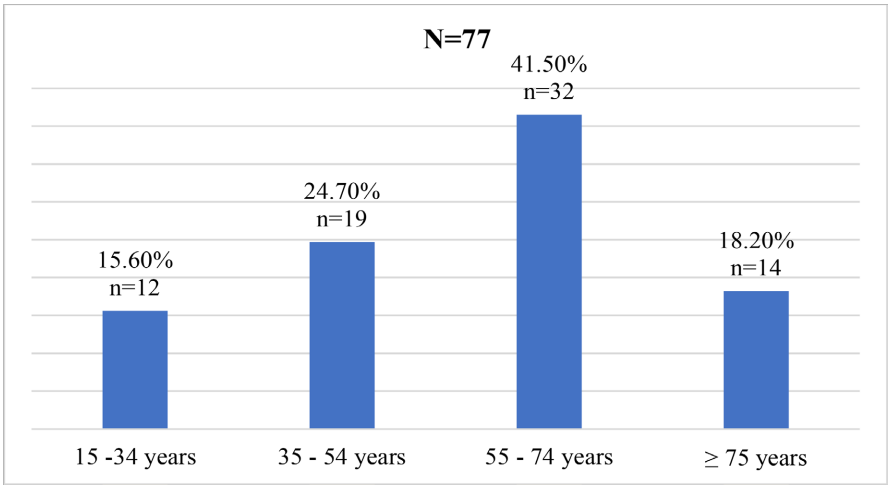

Figure 1. Distribution of patients by age.

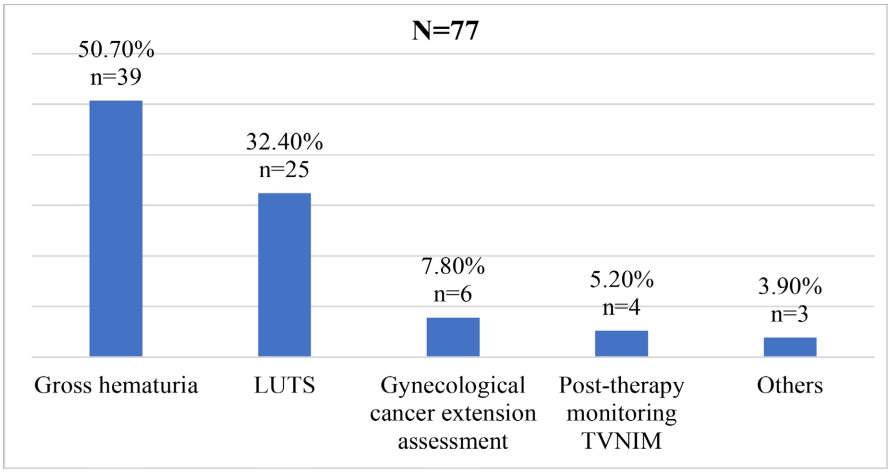

Figure 2. Distribution according to indications for urethrocystoscopy.

Table 1. Objectified lesions on urethrocystoscopy in haematuria and LUTS.

Indications	Objectified lesions	Effective (N = 77)
Macroscopic hematuria (n = 39)	Bladder tumors	23 (29.9%)
	bladder schistosomiasis	5 (6.5%)
	Prostatic hypertrophy	5 (6.5%)
	Cystitis	2 (2.6%)
	Normal	4 (5.2%)
LUTS (n = 25)	Prostatic hypertrophy	9 (11.7%)
	Urethral stricture	5 (6.5%)
	Bladder neck sclerosis	2 (2.6%)
	Bladder stones	1 (1.3%)
	Cystitis	1 (1.3%)
	Normal	7 (9.1%)

in 2 cases, an electrocoagulation in 2 cases, and a dilation of a narrowed meatus in 3 cases.

Regarding the complications, we recorded only one case of urethral misdirection in a man during a urethrocystoscopy.

4. Discussion

Urethrocystoscopy is an endoscopic exploration technique that contributes to the diagnosis of pathologies of the urethra, bladder and prostate. Nowadays, rigid cystoscopy is supplanted by fibroscopy in many countries. Fiberoptic endoscopy provides two main advantages over rigid cystoscopy: total vision of the bladder mucosa and ease of examination [6].

In Guinea, we do not yet have a fiberscope. But this does not constitute a major limitation to the practice of urethrocystoscopy in our department.

Over 6 months, we performed 77 rigid urethrocystoscopies in the department, *i.e.* a monthly average of 12.8 urethrocystoscopies. This rate is close to that of Jalloh [5] in Senegal, which reported 800 cases in 5 years, or 13.3 cases per month. It remains lower than the rates in series from developed countries where urethrocystoscopy is standard practice.

Most studies [7] [8] report a male predominance. This is also the case in our series where 74% of the patients were men, *i.e.* a sex ratio of 2.9. This observation is explained by the fact that urological pathologies are more frequent in men.

The average age of the patients was 56.5 years with extremes of [15 to 88 years]; 85% of the patients were over 35 years old. We do not have a pediatric cystoscope in the department, which explains the absence of children in our sample.

One of the main limitations of rigid urethrocystoscopy is its poor tolerance in

men. This sometimes requires performing it under general or loco-regional anaesthesia. In 45% of cases in men, we used general anaesthesia which ensures better comfort of the gesture, a necessary condition for better exploration of the lesions. In addition, it offers the possibility of returning home as soon as consciousness recovers. However, it should be noted that it increases the cost of the examination, and there is also an inherent risk in the practice of anaesthesia. Contrary to our study, some centers practice rigid urethrocystoscopy under local anaesthesia [5] [7].

The urethrocystoscopy is the choice exam in the assessment of macroscopic hematuria which was the main indication (50.7%) of the exam in our study. Jalloh [5] and Takure [8] also reported a predominance of haematuria in the indications for urethrocystoscopy with respectively 31.5% and 27.7% of cases in their studies.

Its sensitivity is 71% and its specificity is 72% in the diagnosis of bladder tumors [9]. It makes it possible to identify and map the tumor. Bladder tumors were the main lesions (29.9%) observed during cystoscopy in our study. In our country, haematuria is often trivialised by the population, which often leads to a delay in diagnosis. All the bladder tumours in this series were sessile and multifocal in 70% of cases, which means that they were probably tumours infiltrating the bladder muscle.

Cystoscopy can be used to monitor bladder tumours [5]. In this context, it made it possible to detect 2 cases of recurrence after treatment with BCG therapy for muscle invasive bladder cancer.

We linked hematuria in 5 cases to prostatic hypertrophy in front of the presence of a large median lobe with turgid veins visible on its surface. Jalloh [5] emphasizes that hematuria requires eliminating all other causes before linking it to benign prostatic hyperplasia.

Bilharziasis remains endemic in our country on three-quarters of the territory [10]. The appearance of schistosomiasis lesions on cystoscopy is suggestive [11]. Of the 5 cases of schistosomiasis lesions that we had identified, we performed a biopsy in 2 cases which found schistosomiasis eggs. In the 3 other cases, schistosomiasis was retained in front of the characteristic "sand underwater" lesions [12].

The second most common indication for urethrocystoscopy in our department was LUTS (32.4%), which contributed to the diagnosis of obstructive pathologies of the lower urinary tract, dominated by prostatic hypertrophy (9 cases) and urethral stenosis (5 cases). However, it should be noted that urethrocystoscopy does not provide information on the extent of urethral stenosis.

In the study by Sow [7], lower urinary tract symptoms were the first indication for cystoscopy.

The morbidity of fibroscopy was studied by Burke *et al.* [13], who reported pain during urination, pollakiuria and haematuria after the exam in 50%, 37% and 19% respectively, although these symptoms were transient in most patients, disappearing within 24 to 48 hours.

We recorded a case of urethral misdirection caused by a sudden movement of the patient while the rigid cystoscope was being advanced through the urethra under local anaesthesia. This led us to convert local anaesthesia to general anaesthesia. Morbidity after cystoscopy was not assessed in this study, as patients were not seen after the examination.

The small size of our sample is one of the limitations of this study. This preliminary work needs to be supplemented by other studies with larger series of patients to confirm these results. Another limitation of the study was the absence of a paediatric cystoscope, which meant that children could not be included. Finally, the study did not contribute to analysing the reliability of urethrocystoscopy in terms of sensitivity and specificity in its various indications.

5. Conclusion

Rigid urethrocystoscopy occupies an important place in the exploration of hematuria and symptoms of the lower urinary tract in our department. Bladder tumors and prostatic hypertrophy were the main lesions observed. The popularization of cystoscopy in our service goes through the multiplication of its indications and the improvement of the tolerance of the examination in men by the introduction of fibroscopy.

Conflicts of Interest

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

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