

REVIEW ARTICLE

Contribution of Rigid Urethrocystoscopy in the Diagnosis of Pathologies of the Lower Urinary Tract in Rural Areas at the Kara University Hospital Center

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Abstract

Purpose: The aim of this study was to evaluate the indications and outcomes of cystourethroscopy at Kara University Hospital over a 3-year period.

Patients and Methods: This was a descriptive, cross-sectional study conducted in the Urology Department of Kara University Hospital, including 70 patients undergoing cystourethroscopy. It covered a period from January 1, 2021, to July 28, 2024. The variables studied were: sex, age, indications for the examination, and lesions identified.

Results: The mean age of patients was 51.3 ± 13.6 (21-72 years). Hematuria was the most common indication (32.9%). Bladder tumors and urethral strictures were the most common (11.4%). No complications were noted.

Conclusion: Cystourethroscopy is an endoscopic examination of the lower urinary tract that allows for mapping of intracavitary bladder lesions. It remains indicated for hematuria and voiding disorders of the lower urinary tract.

Keywords: Cystourethroscopy, Hematuria, Bladder.

1. Introduction

Cystourethroscopy is an endoscopic examination, consisting of the exploration of the urethral canal and the bladder; it was popularized in developed countries at the beginning of the 20th century [1]. It constitutes the key to the diagnosis of bladder tumors often revealed by hematuria [1]. However, cystourethroscopy can also be used for therapeutic purposes, as in the case of intravesical injections of botulinum toxin type A in the treatment of refractory idiopathic overactive bladder [2]. It is increasingly performed on an outpatient

basis under local anesthesia [3]. The objective of our study was to evaluate the indications and results of cystourethroscopy at the Kara University Hospital.

2. Patients and Methods

This was a cross-sectional study conducted in the Urology Department of the Kara University Hospital Center, including 70 patients who underwent cystourethroscopy between January 2021 and July 2024. The Kara University Hospital Center is a level 1 hospital located in northern Togo. It constitutes the

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second-level referral center for public and private healthcare facilities in the region. All patients who underwent cystourethroscopy and whose report was archived were included. Patients whose medical records or reports were not archived were excluded from the study. The examination was performed using a rigid cystoscope equipped with a 30-degree optic under the guidance of a video-endoscopy column with saline irrigation. This examination was performed on an outpatient basis under local anesthesia. A urine cytobacteriological examination (UCBE) was

performed beforehand. The parameters studied were: age, sex, indications for the examination, lesions observed and additional procedures performed. Data analysis was carried out using Excel 2013 software.

3. Results

During our study period, 70 patients underwent cystourethroscopy. The mean age of patients was 51.3 years $\pm$ 13.6 (range, 21-72 years). The most common age group was 60-69 years (Figure 1).

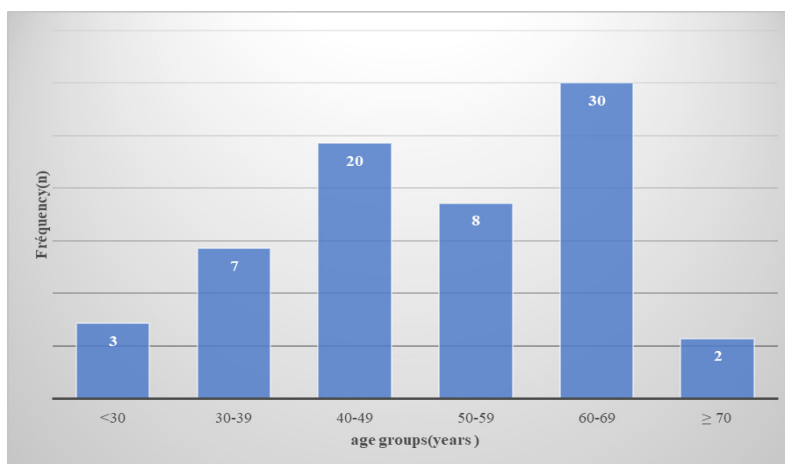


Figure 1. Distribution of patients by age group from January 2021 to July 2024

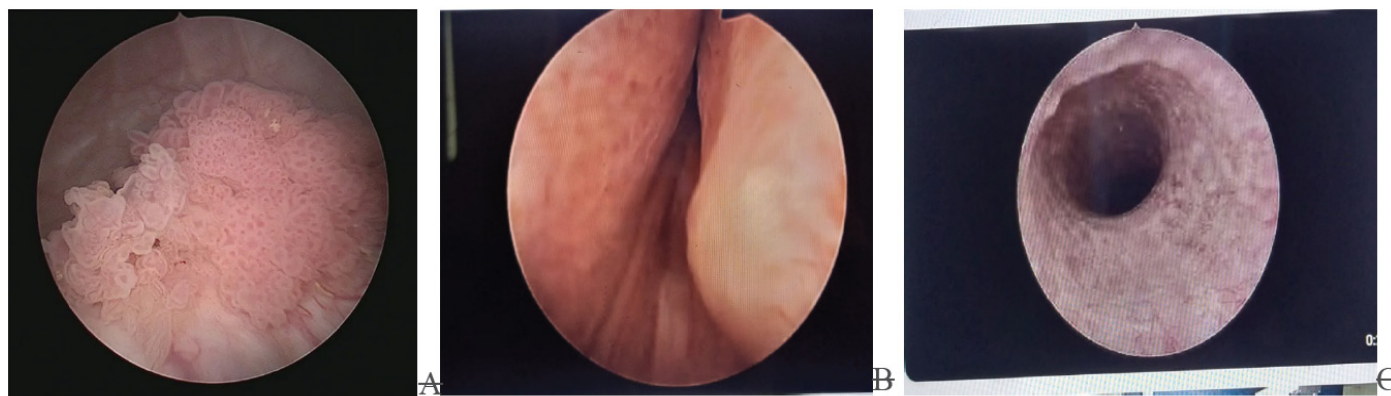


Figure 2. Lesions identified by cystoscopy, A: Bladder tumor, B: Prostatic hypertrophy C: Normal urethra

Hematuria was the most common indication for cystourethroscopy, followed by lower urinary tract disorders (Table I).

Table I. Indications for cystourethroscopy from January 2021 to July 2024 at the Kara University Hospital

	Fréquence	percentage (%)
Hématuria	23	32,9
Lower urinary tract disorder	28	40,0
Bilateral ureterohydronephrosis	12	17,1
Recurrent cystitis	4	5,7
Bladder thickening on CT scan	1	1,4
Pelvic mass	1	1,4
Follow-up for cervical cancer	1	1,4
Total	70	100

Urethrocystoscopy was normal in 20 cases. Bladder tumors were predominant (11.4%). The trigonal location of bladder tumors was the most objectified. In 5 patients, the extension assessment of a cervical tumor had objectified invasion of the bladder trigone.

In patients with lower urinary tract disorders; prostatic hypertrophy was objectified in 6 cases and urethral stenosis in 8 cases. A vesicouterine fistula had been objectified in 1 case (Table 2).

Table 2. Distribution of urethral and bladder site pathologies from January 2021 to July 2024 at the Kara University Hospital Center

	Fréquence	Percentage (%)
Normal bladder	20	28,6
Bladder tumor	8	11,4
Urethral stricture	8	11,4
Tumor regrowth (prostate)	7	10,0
Trigonal invasion by prostate cancer	6	8,6
Prostatic hypertrophy	6	8,6
Trigonal invasion by cervical tumor	5	7,1
Bilharzian granulation	3	4,3
Hyperemia of the bladder mucosa	2	2,9
Vesicouterine fistula	1	1,4
Cervical sclerosis	1	1,4
Trigonal polyploid lesions, chronic catheter use	1	1,4
Macrolithiasis of the bladder posterior urethral valve	1	1,4
Hyperemia of the penile urethral mucosa	1	1,4
Total	70	100

Additional urethral dilation was performed in one patient during cystoscopy. Four patients had spontaneously resolved hematuria following cystoscopy. No complications were noted.

4. Discussion

Urethrocystoscopy is a simple examination technique that can be performed on an outpatient basis in addition to a consultation. It is essential to urology in that it contributes to clinical diagnosis by allowing direct vision of endocavitary lesions of the urethra and bladder. It makes it possible to distinguish bilharzian-type lesions from tumor lesions in schistosomiasis endemic areas [2-3]. Over a period of 3 years, we reported 70 urethrocystoscopies with an annual average of 23.33 urethrocystoscopies performed. Our sample size was smaller than those reported by Takure and Jalloh, whose work was carried out over 5 years [2-3]. We noted a male predominance with a sex ratio of 1.6. Takure [2] reports a more pronounced predominance with a sex ratio of 4. Most patients were elderly with a mean age of 51.3 years. Hematuria was the most frequent indication for examination (32.9%). Jalloh and Takure report this same trend with 28.3 and 27.2% respectively [2-4]. This high rate of hematuria in our patients can be explained by an

increase in the incidence of bladder tumors linked in part to the persistence of bilharzian endemicity which constitutes a risk factor for the occurrence of a bladder tumor. Hematuria was the most frequent indication followed by lower urinary tract disorders. Takure et al report a predominance of dysuria (23%) followed by hematuria (22.3%) [4,5,6]. In women hematuria was also the main indication while Jalloh et al [6,7,8] report a preponderance of the assessment of cervical tumor extension. Bladder tumors represented 11.4% of the lesions identified, while Jalloh et al reported 18.2% in his series. The trigonal location of bladder tumors was the most objectified, however Kane et al [9,10] reported a preponderance of multifocal lesions. The most frequent symptom found in patients with a bladder tumor was hematuria. King reported this trend (70 to 80% of cases) [11]. Cystoscopy allows the monitoring of treatments such as endoscopic resection of bladder tumor most often associated with intravesical instillation of Bacillus Calmette-Guérin (BCG) or postoperative endovesical chemotherapy. None of these procedures were performed in our series; cystoscopy was for diagnostic purposes. Inflammatory lesions include several distinct entities ranging from simple acute cystitis to chronic cystopathies. In our study, we did not individualize these different types of

lesions due to the lack of histological proof. Jocham's study included 94% women in its patient population with interstitial cystitis, with a mean age of 53.5 years [13]. The diagnosis was made in 66.2% of cases by biopsy and pathological examination. Four patients had spontaneously resolved hematuria following cystoscopy. Ouattara et al reported a rate of (4.5%). No complications were noted [14]. Pescheloché et al, in their study of 209 cystoscopies, concluded that after cystoscopy in an asymptomatic patient, the incidence of adverse events was not higher in patients with a contaminated or positive urine culture. Its results do not support the usefulness of systematic monitoring of urinary sterility as well as antibiotic prophylaxis before any endourological procedure without tissue invasion in external consultation, except in the case of urinary tract abnormalities [15].

5. Conclusion

Urology has benefited from advances in endoscopy in recent decades. Cystourethroscopy is a simple examination technique that plays a role in the diagnostic and therapeutic approach to several urological pathologies. It allows for the diagnosis of pathologies of the lower urinary tract, i.e., the urethra and bladder, with a view to subsequent therapeutic intervention.

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