

Research Article

Symptom of the Lower Urinary Track in Young People, an Inquisitive Etiology

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Abstract

Objective: Describing the profile of people with lower urinary track symptoms and their causes in patients received for an urethrocystoscopy at Amirou Boubacar Diallo Hospital, in Niamey.

Patients and methods: It's a descriptive and prospective study conducted in the urology department of Amirou Boubacar Diallo Hospital, in Niamey/Nigeria during six months, from 1st November 2021 to 30th April 2022, involving 154 patients.

The studied variables are: age, sex, indication of urethrocystoscopy and the results obtained.

Results : A group of 154 patients were gathered, among whom 123 men (79,87%) and 31 women (20,12%). The sex ratio was 3, 96. The respondents' age varies between 16 and 80 years, with an average of 42, 43 years of age. Of 154 patients received for urethrocystoscopy, 40,9% were less than 40 years old and 62,98% were directly sent for lower urinary track symptoms and 22,72% for hematuria. Urinary bilhaziasis (12,98%), cervical sclerosis (10,38%) urethral stenosis (9,74%) were the main results obtained after urethrocystoscopy.

Conclusion: Urethrocystoscopy is the foremost test in urology. Symptoms of the lower urinary track were the major indication; the proportion of bladder neck sclerosis mostly in young people, probably linked to an unwholesome lifestyle (excessive intake of stimulants, diet poor in fibers such as meat excessive intake, etc.) had particularly attracted our attention.

INTRODUCTION

Symptoms of lower urinary track remain the basis of consultation in urology [1]. Generally, they are due to elderly, mostly in obstructive forms [2]. Unfortunately, mostly young people are consulted for lower urinary track syndrome that may jeopardize their functional prognosis ant, thus, obliging the urologist to indicate an urethrocystoscopy in the frame of an etiological investigation [2].

In Niger, specifically in the urology department of Amirou Boubacar Diallo Hospital, in Niamey, an increasing number of mostly young people are received for urethrocystoscopy, whereas elsewhere, such as in Senegal, their proportion is lower, representing only 27,12% at Grand Yoff Hospital in Dakar, for instance [2,3].

The target of this investigation was to describe the profile

of people with lower urinary track symptoms and show their causes in patients received for an urethrocystoscopy at Amirou Boubacar Diallo Hospital, in Niamey.

PATIENTS AND METHODS

This is a descriptive and prospective study carried out in the urology department of Amirou Boubacar Diallo Hospital, in Niamey/Nigeria during six months, from 1st November 2021 to 30th April 2022, involving 154 patients.

Was concerned with our study, any person of more than 15 years of age, hospitalized of ambulatory, admitted for urethrocystoscopy during the period of our study, without distinction of sex.

Urethrocystoscopy was performed using a rigid 24-chamber cystoscope with 12 degrees optics connected to a STORZ brand

endoscopy column with saline irrigation serum. It was realized under local anesthesia with 2% viscous gel xylocaine. Sometimes, bladder fibroscopy with a flexible cystoscope was used in case of Hematuria or suspected bladder tumor.

RESULTS

In sum, 154 patients were gathered, among whom 123 men (79,87%) and 31 women (20,12%). The sex ratio was 3, 96. The respondents' age varied between 16 and 80 years, with an average of 42,43 years of age (Table 1).

The age group between 21-40 years of age was the most represented, followed by that between 61-80 years of age, respectively 35,06% and 33,11% (Table 2).

Among others, we have grouped recurrent urinary infections, non-ejaculation, urinary incontinence, etc.

Symptoms of lower urinary track (52,03%) in men and hematuria (29,03%) in women were the main indications of cystoscopy (Table 3).

Table 1: Repartition of patients according to age groups

Age group (Years)	Number N= 154	Frequency
≤ 20	9	5,84%
21- 40	54	35,06%
41-60	39	25,32%
61-80	51	33,11%
>80	1	0,64%

Table 2: Repartition of patients following indications of uretroscopy according to gender

Indication	Male	Female	Total Number (%) (N=154)
	Number (%) (N=123)	Number (%) (N=31)	
Hematuria	26 (21,13%)	9(29,03%)	35(22,72%)
Acute urinary retention	23 (18,69%)	2(6,45%)	25(16,23%)
Lower urinary track symptom (LUTS)	64 (52,03%)	8(25,80%)	72(46,75%)
Bladder mass	4(3,25%)	3(9,67%)	7(4,54%)
Control for bilharziosis	1(0,81%)	1(3,22%)	2(1,29%)
Chronic pelvic pain	2 (1,62%)	1(3,22%)	3(1,94%)
Others*	3(2,43%)	7(22,58%)	10(6,49%)

Table 3: Distribution with regard to uretroscystoscopy results according to gender

Uretrocystoscopic diagnosis	Male	Female	Total Number (%) N=154
	Number (%) N=123	Number (%) N=31	
Urinary bilharziosis	11 (8,94%)	9(29,03%)	20(12,98%)
Bladder tumor	4(3,25%)	5(16,12%)	9(5,84%)
Prostatic hypertrophy	10(8,12%)	0(0%)	10(6,49%)
Cervical sclerosis	16(13,00%)	0(0%)	16(10,38%)
Wrestling bladder	11(8,94%)	2(6,45%)	13(8,44%)
Uretrale stenosis	15(12,19%)	0(0%)	15(9,74%)
Bladder lithiasis	9(7,31%)	1(3,22%)	10(6,49%)
Cystitis	5(4,06%)	3(9,67%)	8(5,19%)
Prostatic compartment sclerosis	4(3,25%)	0(0%)	4(2,59%)
Cystocele	0(0%)	2(6,45%)	2(1,29%)
Normal uretroscystoscopy	38(30,89%)	9(29,03%)	47(30,51%)

Urinary bilharziosis (12,98%), cervical sclerosis (10,38%) and urethral stenosis (9,74%) have been the most frequently found pathologies on cystoscopy. However, the proportion of normal cystoscopies was non negligible (30,51%).

DISCUSSION

During our study period, we performed 154 urethroscopies in our department, which is seen to be huge if compared to other studies.

M. Jalloh, in Senegal, who achieved 655 in 5 years, what is slightly in comparison with ours with regard to time [2].

A. Ouattara et al., in Cotonou, performed 165 cystoscopies in a space of 3 years [4].

H.S Chahal, in India, performed 369 cystoscopies in 4 years [5]. This difference can be explained by the fact that Amirou Boubacar Diallo Hospital is the only public hospital in all Niger where endoscopy is now performed and, therefore, doing urethroscopy in ambulatory.

A. Greenstein et al, in Israel, on the contrary, had performed 1320 cystoscopies within a year in his study on the evaluation of pain during cystoscopy [6]. This difference may be associated to cultural and religious considerations in Niger, meaning that women, even some men, consult slightly in urology due to ethical reasons allied to culture.

Our respondents' age average was of 42,43 years, with a top between 21-40 years. In the study done by A. Uttara, in Benin, the average age was of 47,29 years \pm 16,80 [4]. In that of M.Jalloh, in Senegal, the average age was also 47,44 years and 27,94% of patients who were in the age group between 40-60 years [2]. It was so in the Indian study where the average age was respectively of 56.52 \pm 14.8 and 52.37 \pm 19.4 years for both group studies [5].

The widest indication of urethroscopies at Amirou Boubacar Diallo Hospital in Niamey, including the population of young adults, enlightens this difference of age average, which has permitted, however, to diagnose other low urinary track obstruction specific causes at this age like the cervical sclerosis (tight neck) yet not frequent in other regions (countries).

We have noted a male predominance with 79,87% of men versus 20,12% of women. On the other hand, in the study by A.Ouattara, the male sex constituted 54,5% [4], in that of H.S. Chahal, the male sex represented 63,6% [5]. And, in that of M.Jalloh in Senegal, men represented 61,7% [2].

In our series, the proportion of women seems to be low paralleled to those from elsewhere. This may be due to the conservative attitude of the Nigerian society and to the Muslim culture where women have hard to consult urologists who are most of them, men until now.

The major indication in our study included LUTS (lower urinary track symptom) (44,57%) followed by hematuria

(22,28%). In men, main indications were made of symptoms of low urinary track with 50%, followed by hematuria 20,76%, unlike for women where main indications comprised hematuria (27,77%) followed by symptoms of low urinary track (SLUT) with 25%.

In the study carried out by Ndour N.S et al, hematuria constituted the main indication in both sex for 77% of circumstances [3]. This can be elucidated by the fact that his study used a population mainly rural with frequent exposure to schistosomiasis (bilharziosis).

In study by A. Paré about the management of macroscopic hematuria at the CNHU of Cotonou, the frequency of macroscopic hematuria represented 10,8% of the total consultation basis where, unfortunately, cystoscopy was indicated only for 2,9% of patients, at the time [7]. However, this study shows that hematuria remains among the leading causes for the indication of cystoscopy, even for admission to urology in Cotonou.

In M. Jalloh's series, carried out in Senegal, hematuria was the most frequent indication 20,13%, followed by urinary disorders of the lower urinary track 23,61%. In men, women, the extension of a tumor in the cervix was the most common indication, followed by hematuria [1]. This distribution is different from ours, especially in men for whom lower urinary track symptoms have constituted the main basis of admission for cystoscopy. The same is observed for women where the number of situations of low urinary track symptoms was almost equal to that of hematuria. This distribution is due to several causes, mainly cultural and religious where women have difficulty to consult male urologists, but, maybe, to the lifestyle, especially dietetic (excessive intake of stimulants such as tea and coffee; meat or other food poor in dietary fiber), leading to a tendency to polyuria and constipation that can cause vesico-sphincter dysnergia, responsible of the bladder neck disease and, therefore, of lower urinary track symptoms (LUTS) [8]. It has been demonstrated that caffeine or theine stimulate the secretion of dopamine or the latter acts on the central pathways, and peripherally on the DA receptors and, with adenylylase, contributes to the formation of cyclic AMP which has an activating effect on the bladder neck and urethra or an inhibitor effect on the detrusor or by post-ganglionic hyperpolarization on the interneuron transmits [8]; which explains the sclerosis of the bladder neck, even in young people who consume a lot of stimulants such as tea, coffee and meat excess.

The same is true with serotonin, the secretion of which is stimulated by coffee consumption or tea provokes sensitization of nociceptors at the central level, and at the peripheral level the contraction of the bladder dome and an increasing of the intrauterine pressure, responsible of lower uterine track symptoms [8].

Urinary schistosomiasis (16,83%), cervical sclerosis (13,86%) and urethral stenosis (12,87%) were the most found pathologies. In men, cervix sclerosis (17,28%) and urethral stenosis (16,04%) were the most frequent and in women it was schistosomiasis

(40%) and bladder tumors (20%) that are frequently found. In Senegal, prostatic hypertrophy (21%) and bladder tumor (19%) were mostly found in men, while in the women, the bladder tumor (23,8%) and cystopathy lesions (17%) were the most common [1]. In other studies such as those by Ahmed H. Cabr et al, bladder tumors were the most frequently found [9,10].

Lina Begdache from the University of Binghamton in the USA, wrote in "young people sensitive to meat consumption": the mood of young adults (18-29) depends on the concentration of two neurotransmitters, dopamine and serotonin, known to stimulate good humor. The frequent intake of meat and sport practicing allow the production of these substances [10,11]. Nevertheless, as described above, these substances have an activating effect on the cervix, the urethra, or an inhibiting effect on the detrusor, which leads to a frequent sclerosis of the bladder neck and, therefore, lower urinary track symptoms in this category of population accustomed to taking tea or coffee [8]. These symptoms can cause complete bladder retention of urine, responsible for repeated ureterovesical catheterization which can lead to urethral stenosis.

Moreover, the frequency of urinary bilharziosis and tumor, especially in women, is due to water deficiency in the Sahel and the primary role of women in these types of activity.

CONCLUSION

Lower urinary track symptoms as prerogative of elderly is now becoming a problem in young people. In our sequences, more than 40% of patients with lower urinary track symptoms were under 40 years of age, contrarily to the general distribution.

In addition, the proportion of cervical sclerosis (10,38%) seems to be important in our sequence unlike other studies.

Furthermore, the high frequency of the bladder neck sclerosis in young people and its probable connotation with lifestyle constitutes a new element in the context of this work.

Author's Contributions: All authors contributed equally from conception to submission.

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