Scientific Research Publishing

Open Journal of Urology, 2023, 13, 101-107
https://www.scirp.org/journal/oju
ISSN Online: 2160-5629
ISSN Print: 2160-5440

Male Urethral Stricture: Epidemiological, Clinical, and Therapeutic Aspects in Kara

Komi Hola Sikpa[1*], Gnimdou Botcho[2], Edoe Viyome Sewa[3], Sabi Rachid Sade[1], Essomindedou Leloua[3], Messan Semefa Agbedey[3], Essodina Padja[3], Kossiwa Rose Assou[1], Kodjo Tengue[3], Tchilabalo Matchonna Kpatcha[1]

[1]Kara Teaching Hospital, Kara, Togo
[2]Sokode Regional Hospital Center, Sokode, Togo
[3]Sylvanus Olympio Teaching Hospital, Lomé, Togo
Email: *docjno@gmail.com

How to cite this paper: Sikpa, K.H., Botcho, G., Sewa, E.V., Sade, S.R., Leloua, E., Agbedey, M.S., Padja, E., Assou, K.R., Tengue, K. and Kpatcha, T.M. (2023) Male Urethral Stricture: Epidemiological, Clinical, and Therapeutic Aspects in Kara. *Open Journal of Urology*, **13**, 101-107.
https://doi.org/10.4236/oju.2023.134013

Received: February 24, 2023
Accepted: April 16, 2023
Published: April 19, 2023

Abstract

Background: Urethral stricture is a pathology frequently encountered in urological practice. Management is often surgical, with possible recurrences. What about this pathology in Kara, a semi-urban city? **Objective:** Assess the management of male urethral stricture in Kara. **Patients and Methods:** This was a descriptive study with retrospective data collection. The study took place in the urology department of the teaching hospital of Kara, from December 2020 to December 2022. All cases of male urethral stricture, surgically treated at the teaching hospital of Kara, were listed. The inclusion criteria were as follows: any patient who had been treated surgically for male urethral stricture in the urology department of the teaching Hospital of Kara. The operating theater register and hospital records were used to collect the data. The diagnosis of urethral stricture had been made with retrograde urethrogram. A total of 24 patients were treated for male urethral stricture during the study period. The following variables were studied: age, reason for consultation, location, length, and etiology of the stricture; the type of treatment received: optical internal urethrotomy, or anastomotic urethroplasty, and the results. The result was considered good if, after removal of the urethral catheter, the patient regained his micturition without the need for dilatation; the result was considered average if, after removal of the urethral catheter, the patient needed one or more dilatation sessions to regain urination; the result was considered poor if, after removal of the catheter, the patient did not regain good micturition despite the urethral dilatation sessions. Microsoft excel and epi info 7 software were used for data processing. **Results:** The average age of our patients was 43.7 years ± 10.18 with extremes ranging from 27 to 70 years. The most represented age groups were that of 40 to 50 years, with

37.5% of cases; and that of 30 to 40 years with 33.3% of cases. The patients had consulted for urine retention in 66.6% of cases; the location of urethral stricture was bulbar in 45.8% of cases. The most found etiology was infectious in 58.3% of cases. Among our patients, 58.3% had received optical internal urethrotomy as treatment, while 41.6% of our patients had received anastomotic urethroplasty as treatment. Postoperatively, after removal of the urinary catheter, 87.5% of patients had benefited from one or repeated dilatation. In terms of results, we had a good result in 20.8% of patients; the result was average in 45.8% of patients, and poor in 33.3% of patients. The average duration of follow-up was 14.3 +/- 7.2 months (3-27). **Conclusion:** Male urethral stricture mainly affects young adults in Kara. Surgical management is done by optical internal urethrotomy and/or anastomotic urethroplasty.

Keywords

Male Urethral Stricture, Optical Internal Urethrotomy, Anastomotic Urethroplasty, Kara, Togo

1. Introduction

Urethral stricture is defined as an intrinsic and permanent decrease in the caliber of the urethra, creating a complete or incomplete obstacle to the flow of urine. In 2000 in France, we were talking about 1.5 million consultations for urethral stricture [1].

The etiologies differ depending on whether one is in a developed country or not; thus, infectious causes are more frequent in low-income countries, while iatrogenic causes are most often found in rich countries [2]. Therapeutic management of urethral stricture is a challenge for any urologist. Despite a therapeutic arsenal composed of endoscopic techniques and open surgery, the urethra remains an enigma for urologists, especially in the sub-Saharan region. For a long time, anastomotic urethroplasty (AU) was the most widely used surgical technique in the management of male urethral stricture in sub-Saharan Africa [2]; but increasingly, with the advent of endoscopy in hospitals in sub-Saharan Africa, optical internal urethrotomy (OIU) is becoming an interesting therapeutic option. In Kara, no study had been carried out on the management of male urethral stricture. The aim of our study was to take stock of the management of male urethral stricture in Kara (Togo).

2. Patients and Methods

This was a descriptive study with retrospective data collection. The study took place in the urology department of the teaching hospital of Kara, from December 2020 to December 2022. All cases of male urethral stricture, surgically treated at the teaching hospital of Kara, were listed. The inclusion criteria were as follows: any patient who had been treated surgically for male urethral stricture in the

urology department of the teaching Hospital of Kara. The operating theater register and hospital records were used to collect the data. The diagnosis of urethral stricture had been made with retrograde urethrogram. A total of 24 patients were treated for male urethral stricture during the study period. The following variables were studied: age, reason for consultation, location, length, and etiology of the stricture; the type of treatment received: optical internal urethrotomy (OIU), or anastomotic urethroplasty (AU), and the results. The result was considered good if, after removal of the urethral catheter, the patient regained his micturition without the need for dilatation; the result was considered average if, after removal of the urethral catheter, the patient needed one or more dilatation sessions to regain urination; the result was considered poor, if after removal of the catheter, the patient did not regain good micturition despite the urethral dilatation sessions. Microsoft excel and epi info 7 software were used for data processing.

3. Results

The average age of our patients was 43.7 years ± 10.18 with extremes ranging from 27 to 70 years. The most represented age groups were that of 40 to 50 years, with 37.5% of cases or 9 patients; and that of 30 to 40 years with 33.3% of cases, *i.e.*, 8 patients (Figure 1). The patients had consulted for urine retention in 66.6% of cases (16); then dysuria and phlegmon of the external genital organs in respectively 29.1% of cases (7), and 4.1% of cases (1). The location of urethral stricture was bulbar in 45.8% of cases (11), and membranous in 33.3% of cases (8) (Figure 2). The most represented slice of stricture length was that of 2 to 3 cm (Figure 3). The most found etiology was infectious in 58.3% of cases (14), then traumatic, and iatrogenic in each 16.6% of cases (4); and finally idiopathic in 8.3% of cases (2). Among our patients, 58.3% (14) had received OIU as treatment, while 41.6% (10) of our patients had received AU as treatment. Among the patients treated with OIU, there were no per or postoperative complications; on the other hand, among those treated with AU, suppuration of the surgical wound was noted in one case, i.e. 4.1%, which evolved well after regular dressings;

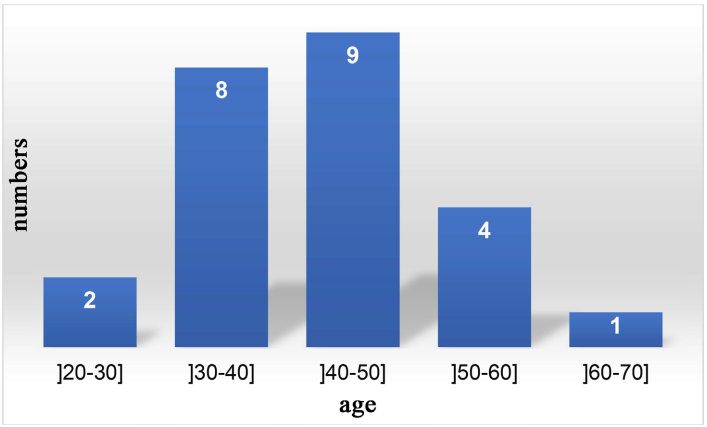

Figure 1. Distribution of patients according to age.

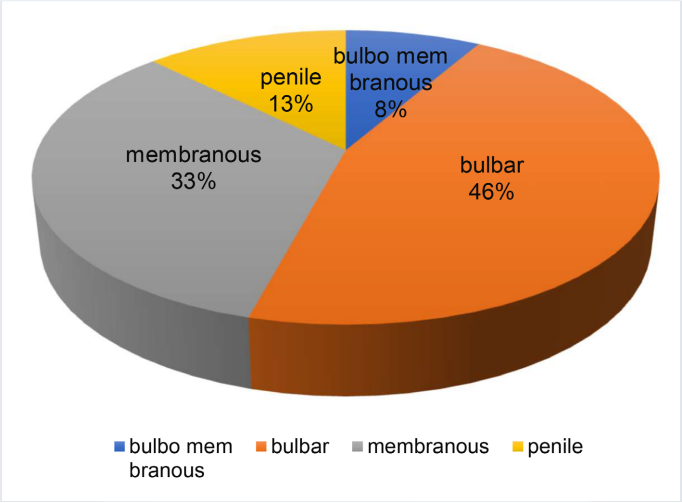

Figure 2. Distribution of patients according to the site of urethral stricture.

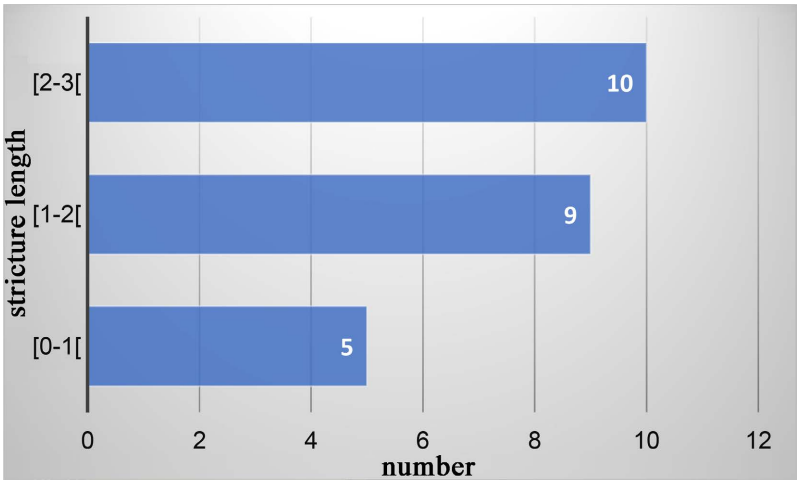

Figure 3. Distribution of patients according to the length of urethral stricture.

and acute orchiepidymitis in another case, 4.1%, which progressed well under antibiotics. Postoperatively, after removal of the urethral catheter, 87.5% of patients (21) had benefited from urethral dilatation. In terms of results, we had a good result in 20.8% of patients (5); the result was average in 45.8% of patients (11), and poor in 33.3% of patients (8). The average duration of follow-up was 14.3 +/- 7.2 months (3-27).

4. Discussion

The average age of our patients was 43.7 years ± 10.18. Guena [3] had found in his study an average age close to ours of approximately 43.8 years. In the literature, we find an average age between 25 and 50 years [3]. Ngaroua [4] meanwhile in Cameroon, had found an average age of 52 years. Urethral stricture seems to affect young adults much more. Some authors explain this by the fact that it is the most sexually active segment of the population, and the most professionally active, and therefore the most exposed to urethritis and trauma to the

pelvis [5]. In our study, the most represented age groups were that of 40 to 50 years, with 37.5% of cases; and that of 30 to 40 years with 33.3% of cases. The most common reason for consultation was urine retention in 66.6% of cases. Many patients do not come for consultation at the dysuria stage; some consult in clinics not far from their homes, where the nurse often puts inappropriate medication.

The absence of an urologist in the area for a long time meant that health workers on the ground did not know where to refer patients with urethral stricture. We will not forget the patients who also consult traditional healers before turning to Western medicine. It is therefore at the stage of urine retention, or worse, of phlegmon of the external genitalia, that the patient consults urgently. In our study, 1 patient or 4.1% presented with phlegmon of the external genitalia. The location of the urethral stricture was bulbar in 45.8% of cases, and membranous in 33.3% of cases. Yameogo [6], and Musau [7] in their study found that strictures were most often located in the bulbar urethra in 46.4% of cases. There is a large concentration of peri-urethral glands in the bulbar urethra, which have a certain affinity for germs; this explains why there is a predominance of strictures at this location of the urethra; especially since in our study, there was a predominance of stricture of infectious origin. Other authors such as Dje [8] and Guirassy [9] have found the same predominance. Some authors, such as Guena [3], found in their study that most strictures were found in the membranous urethra in 81.8% of cases. In our study, 58.3% of patients had received OIU as treatment; while 41.6% of our patients had received as treatment, anastomotic urethroplasty. The result was good in 20.8% of patients, average in 45.8% of patients, and poor in 33.3% of patients. OIU is indicated as first-line treatment in short urethral strictures (<2 cm). The success rate is higher the shorter the stricture (<1 cm) [1]. Authors such as Mouss [10] and Al-Dabbagh [11] found 69.3% and 77% success rates respectively in their study. It should be noted that OIU is not really indicated in recurrent urethral strictures [1]. Long urethral strictures (≥2 cm), and recurrences of urethral stricture, are treated by urethroplasty [1]. In our study, anastomotic urethroplasty was used; it is reserved for strictures of 2 cm to 3 cm; beyond that, the anastomosis is made under tension, with a high risk of failure. Anastomotic urethroplasty also gives good results [2] [5]. It will be necessary for stricture of more than 3 cm, to think of a urethroplasty by flap. In our study, complications had not been found among the patients treated with OIU. It is a surgical technique that causes minimal complications; in the literature we can find severe bleeding, sepsis, extravasation of urine or irrigation fluid, epididymitis, urinary incontinence, injury to the urethra and the adjoining structures [12]. Oosterlinck had defined good and bad prognosis criteria for OIU: patients with a short stricture (<2 cm), bulbar location, negligible peri-urethral fibrosis, first urethrotomy have a good prognosis; those with a long stricture, multiple stricture, penile location, significant peri-urethral fibrosis, two urethrotomies already performed, have a poor prognosis [12]. In our study, one case of suppuration of the surgical wound, and one case of acute orchiepididymitis were

found in patients treated with AU. Complications such as urethrocutaneous fistula, loosening of sutures, urinary incontinence, erectile dysfunction are described in the literature [5]. The essential conditions for the success of AU are complete excision of the urethral fibrosis and adjacent tissues, wide suture, without tension in the healthy zone of the urethra [2]. The success rate for the management of urethral stricture in sub-Saharan Africa is around 70% to 80% [2] [6] [10]. It is a little difficult to compare our results with those of the literature. The criteria for defining success and failure are not always the same. Most authors define 2 groups: that of success and that of failure. We wanted to define 3 groups (good, average, and bad) since many of our patients, who could have been put in the failure group, still have acceptable urination after dilatation sessions. In addition, the results of the management were given independently of the surgical technique. It should also be noted that the duration of follow-up is not important for most of our patients. This study is a preliminary work on the management of urethral stricture in Kara since no study had yet been carried out. We are planning further studies, with a larger study population to give the results in relation to each surgical technique.

5. Conclusion

Male urethral stricture mainly affects young adults in Kara. Most of the urethral strictures were of infectious origin, with a more frequent bulbar localization. Urinary retention was the most frequent reason for consultation. Surgical management is done by OIU and/or AU.

Conflicts of Interest

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

References

[1] Madec, F.-X., Karsenty, G., Yiou, R., Robert, G., Huyghe, E., Boillot, B., *et al.* (2021) Quelle prise en charge pour les sténoses de l'urètre antérieur chez l'homme? *Progrès en Urologie*, **16**, 1055-1071. https://doi.org/10.1016/j.purol.2021.07.012

[2] Fall, B., Ze Ondo, C., Sow, Y., Sarr, A., Sine, B., Thiam, A., *et al.* (2018) Résultats de l'urétroplastie anastomotique pour rétrécissement de l'urètre masculin. *Progrès en Urologie*, **28**, 377-381. https://doi.org/10.1016/j.purol.2018.03.004

[3] Guena, M.N., Alapha, F.Z., Wandji, E.L., Zeh, O.F. and Fotsing, J.G. (2019) Epidemiologic, Clinical, and Radiological Aspects of Male Urethral Strictures at the Ngaoundere Regional Hospital. *Open Journal of Radiology*, **9**, 115-124. https://doi.org/10.4236/ojrad.2019.92011

[4] Ngaroua, N.J.E., Djibrilla, Y., Asmaou, O. and Mbo, A.J. (2017) Aspects epidemiologiques cliniques et prise en charge de stenose uretrale chez l'adulte dans un hopital de district de ngaoundere, cameroun. *The Pan African Medical Journal*, **26**, Article No. 193. https://doi.org/10.11604/pamj.2017.26.193.9669

[5] Sikpa, K.H., Kpatcha, T.M., Tengue, K.K., Sewa, E.V., Botcho, G., Soumanou, F., *et al.* (2016) L'urétroplastie par résection anastomose termino terminale pour rétréci-

ssement de l'urètre masculin au CHU Sylvanus Olympio de Lomé au Togo. *African Journal of Urology*, **22**, 273-278. https://doi.org/10.1016/j.afju.2016.05.007

[6] Yameogo, C.A., Ouattara, A., Kabore, F.A., Ky, B.D., Bougayin, A., Traore, O., *et al.* (2017) Male Anterior Urethral Stricture: Epidemiological Profile and Management at Ouagadougou University Teaching Hospital (Burkina Faso). *Open Journal of Urology*, **7**, 196-206. https://doi.org/10.4236/oju.2017.711023

[7] Musau, P. and Mteta, A. (2007) Uretrhal Strictures in a Tertiary Care Hospital in Tanzania. *East African Medical Journal*, **84**, 522-524.

[8] Dje, K., Coulibaly, A., Coulibaly, N. and Sangare, I.S. (1999) L'urétrotomie interne endoscopique dans le rétrécissement de l'urètre acquis du noir africain à propos de 140 cas. *Medecine d'Afrique noire*, **46**, 1.

[9] Guirrassy, S., Simakan, N.F. and Sow, K.B. (2001) L'urétrotomie interne endoscopique dans le traitement des sténoses de l'urètre masculin au service d'urologie du CHU Ignace Deen. *Annales d'Urologie*, **35**, 167-171. https://doi.org/10.1016/S0003-4401(01)00022-5

[10] Mouss, R.B.B., Opara, A.S.O., Atipo, A.M.O., Nianga, Y.I.D., Btchiv, F.C., Damba, J., *et al.* (2021) Endoscopic Internal Urethrotomy Outcomes in the Management of Male Urethral Strictures. *Open Journal of Urology*, **11**, 452-457. https://doi.org/10.4236/oju.2021.1112045

[11] Al-Dabbagh, A.A.-D. and Dahla, Z.F. (2018) The Role of Internal Optical Urethrotomy in the Treatment of Male Urethral Stricture. *Open Journal of Urology*, **8**, 327-335. https://doi.org/10.4236/oju.2018.812036

[12] Oosterlinck, W. and Lumen, N. (2006) Traitement endoscopique des sténoses de l'urètre. EMC (Elsevier SAS, Paris), Techniques Chirurgicales, Urologie, 41-322.