# Urinary Diversion in Patients with Muscle-Invasive Bladder Cancer and Severe Ureteral Stricture

Radical cystectomy with pelvic lymphadenectomy is considered the standard of care for nonmetastatic muscle-invasive bladder cancer.[1,2] A variety of urinary reconstructions have been described during the urinary diversion. Small intestine or large bowel are used to perform a continent or incontinent pouch in state of bladder. But sometimes, ureters can be used directly for an ureterocutaneostomy. Each technique has its advantages and disadvantages, but the main objective of a diversion is the drainage of the kidneys, and after that, we must also see the appliance and the patient's ability to perform self-catheterization, if necessary. Regardless, surgical benefits should be balanced with possible complications, especially in the elderly.<sup>[3]</sup> One of the most feared complications is a fistula. In the use of intestinal in urinary diversion, there is also the elimination of mucus which can disturb urine drainage and promotes the formation of stones and metabolic disorder.[4,5]

The other means of diversion is the ureterocutaneostomy. To avoid stenosis, it requires the permanent placement of an endoureteric stent, which must be changed periodically, and a bilateral ostomy appliance, which is not very comfortable for the patient. Hence, Bricker transileal ureterocutaneostomy approach avoids this inside the permanent ureteral stent and the bilateral appliance. [6] In our practice, we see advanced bladder cancer and uterine cervical tumors infiltrating the bladder trigone, and we perform the Bricker most of the time. Disease extent and anatomical considerations, therefore, limit reconstructive options. Ileal conduits represent the fastest, easiest, least complication-prone, and most commonly performed urinary diversion. The patient, in this Bricker's procedure, has one urinary diversion and external stoma, and there is no risk of skin stenosis.

This article by Chiancone's *et al.*<sup>[7]</sup> describes a new surgical technique. This is another alternative when

the length of the ureter does not allow its use. The method of calculation, sampling, and tubulization of this pedicled skin graft has been well described and illustrated with explanatory figures. In their study, Chiancone emphasize that this patient already had an emergency nephrostomy for obstructive uropathy. The question is, did the ureteric stricture already exist at that time? Didn't this have an impact on the length of the ureter remaining usable? With a 36 months' follow-up, the author puts forward a satisfactory result with the absence of urinary leaks or fistula or anastomotic stenosis, while leaving Bracci ureteral splints in place.

This new technique still requires bilateral appliances. In addition to follow-up the bladder cancer, this urinary diversion would also require surveillance of the functionality of the skin graft: what about the risk of skin degeneration, the risk of stone encrustation, long-term stenosis, and the risk of infection related to commensal skin germ skin flora such as *Staphylococcus aureus* and *Streptococcus* spp.<sup>[8]</sup>

### **Authors' contributions**

Single author.

# Financial support and sponsorship Nil.

#### **Conflicts of interest**

There are no conflicts of interest.

## **Compliance with ethical principles**

Not applicable.

#### Harinirina Yoel H. Rantomalala<sup>1</sup>

<sup>1</sup>Department of Urology, College of Medicine, University of Antananarivo, Antananarivo, Madagascar

Address for correspondence: Prof. Harinirina Yoel H. Rantomalala,
Department of Urology, College of Medicine, University of
Antananarivo, Antananarivo, Madagascar.
E-mail: rantyoel@yahoo.fr

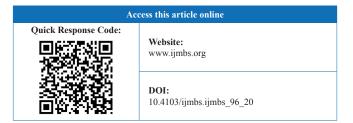
**Submitted:** 27-Jul-2020 **Revised:** 28-Jul-2020 **Accepted:** 07-Aug-2020 **Published:** 26-Sep-2020

#### **REFERENCES**

- Lee RK, Abol-Enein H, Artibani W, Bochner B, Dalbagni G, Daneshmand S, et al. Urinary diversion after radical cystectomy for bladder cancer: Options, patient selection, and outcomes. BJU Int 2014:113:11-23.
- Witjes JA, Bruins HM, Cathomas R, Compérat E, Cowan NC, Gakis G, et al. European Association of Urology Guidelines on muscle-invasive and metastatic bladder cancer: Summary of the 2020 Guidelines. Eur Urol 2020;S0302-2838(20)30230-X. [Doi: 10.1016/j. eururo. 2020.03.055].
- De Nunzio C, Cicione A, Izquierdo L, Lombardo R, Tema G, Lotrecchiano G, et al. Multicenter analysis of postoperative complications in octogenarians after radical cystectomy and ureterocutaneostomy: The role of the frailty index. Clin Genitourin Cancer 2019;17:402-7.
- 4. Vetterlein MW, Dahlem R, Engel O, Kolker M, Soave A, Riechardt S, et al. Perioperative morbidity after ureterocutaneostomy, conduit, and continent urinary diversion after radical cystectomy: A comparative assessment using the Comprehensive Complication Index® and the updated EAU Guidelines of standardized reporting. Eur Urol Open Sci 2020;19 Suppl 2:E2251.
- Mullins JK, Guzzo TJ, Ball MW, Pierorazio PM, Eifler J, Jarrett TW, et al. Ureteral stents placed at the time of urinary diversion decreases postoperative morbidity. Urol Int 2012;88:66-70.
- 6. Berger I, Wehrberger C, Ponholzer A, Wolfgang M, Martini T, Breinl E, et al. Impact of the use of bowel for urinary diversion on perioperative

- complications and 90-day mortality in patients aged 75 years or older. Urol Int 2015;94:394-400.
- Chiancone F, Fabiano M, Fedelini P. Urinary diversion in patients with muscle-invasive bladder cancer and severe ureteral stricture: A case report of a new surgical technique. Ibnosina J Med Biomed Sci 2020;12:223-6.
- 8. Okhunov Z, Duty B, Smith AD, Okeke Z. Management of urolithiasis in patients after urinary diversions. BJU Int 2011;108:330-6.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.



**How to cite this article:** Rantomalala HY. Urinary diversion in patients with muscle-invasive bladder cancer and severe ureteral stricture. Ibnosina J Med Biomed Sci 2020;12:145-6.

**Reviewers:** 

Not Applicable (Invited Commentary)

**Editors:** 

Elmahdi A Elkhammas (Columbus OH, USA)