

Case – Gigantic obstructive calculi in continent urinary diversion

Jonathan Fadel, Nadine Akoum, Michele Lodde, Paul Toren

Division of Urology, Department of Surgery, CHU de Québec – Université Laval, Quebec City, QC, Canada

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Introduction

Stone formation is a well-documented, long-term complication after continent urinary diversions, with a reported incidence varying from 30–50%.¹ Contributing factors include metabolic abnormalities, urinary stasis, persistent mucus production by the intestinal segment, presence of foreign bodies, recurrent infections, non-absorbable sutures, and poor compliance of patients with clean intermittent catheterization techniques.^{2,3}

Case report

A 54-year-old woman was transferred to our urology department for the management of a sepsis due to an infected voluminous stone in her Indiana pouch. Following a polytrauma caused by a motorcycle accident in 1987, she underwent a



Figure 1. Coronal view of abdomen and pelvis computed tomography scan.

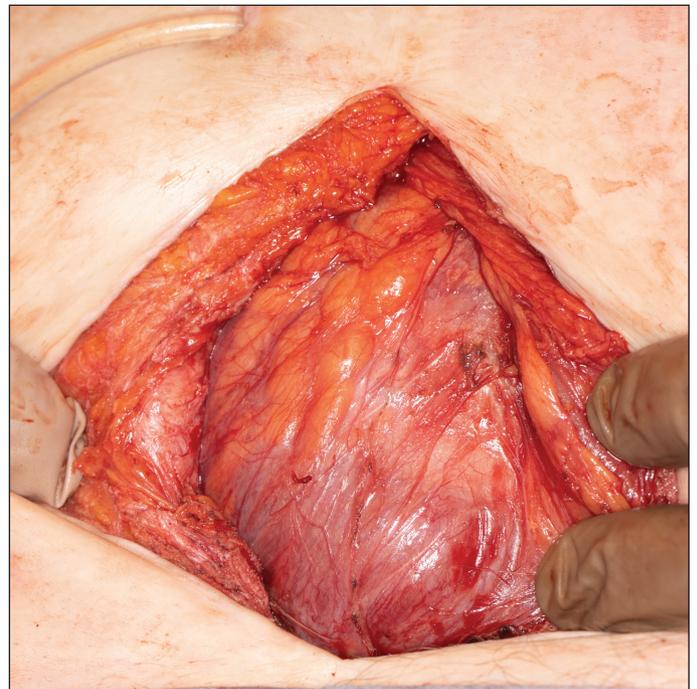


Figure 2. Intraumbilical midline incision to identify the Indiana pouch and dissection of the surrounding tissue.

caeco-ileocystoplasty with a Benckekroun modified valve. In 1990, this was removed, and an Indiana pouch was created. The patient had two stomal stenosis dilatations in 2002 and in 2008. The latter intervention was the last known followup before she was referred to our center.

She presented to the emergency room with malaise, abdominal pain, fever, and involuntary weight loss of 40 lb in two months. Computed tomography (CT) revealed a 13 cm calculus in the pouch reservoir (Figure 1) and bilateral hydronephrosis. The patient underwent an open cystolithotomy via an infraumbilical midline incision. The Indiana pouch was identified and carefully dissected from the surrounding tissue (Figure 2). Pouchotomy was performed, allowing removal of the stone in one piece. (Figures 3, 4).

Conclusions

Our case highlights the importance of a lifelong followup for patients with a continent urinary diversion.

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References

1. Khoury AE, Salomon M, Doche R, et al. Stone formation after augmentation cystoplasty: The role of intestinal mucus. *J Urol* 1997;158:1133-7. [https://doi.org/10.1016/S0022-5347\(01\)64404-5](https://doi.org/10.1016/S0022-5347(01)64404-5)
2. Lam PN, Te CC, Wong C, et al. Percutaneous cystolithotomy of large urinary-diversion calculi using a combination of laparoscopic and endourologic techniques. *J Endourol* 2007;21:155-7. <https://doi.org/10.1089/end.2006.0238>
3. Wilhelm K, Frankenschmidt A, Miernik A. Analgesia-free flexible ureteroscopic treatment and laser lithotripsy for removal of a large urinary stone: A case report. *J Med Case Rep* 2015;9:225. <https://doi.org/10.1186/s13256-015-0699-0>

Correspondence: Dr. Jonathan Fadel, Division of Urology, Department of Surgery, CHU de Québec – Université Laval, Quebec City, QC, Canada; jonathan.fadel.1@ulaval.ca



Figure 3. Pouchotomy performed to allow stone removal.



Figure 4. Macroscopic examination of the voluminous lithiasis showed a beige homogenous ovoid shape stone of 12.5x8.5x8 cm and weight of 949 g.