**SAS Journal of Surgery**
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

**Surgery**

# Post Appendectomy Iatrogenic Right Uretero-Cutaneous Fistula: A Case Report

Attolou S.G.R[1*], Laleye M.C[3], Fadonougbo C.P[2], Gbessi D.G[2], Dossou F.M[3]

[1]Centre Hospitalier Universitaire de Zone Suru-Lere
[2]Centre National Hospitalier Universitaire Hubert Koutoukou Maga de Cotonou
[3]Centre Hospitalier Universitaire Départemental de l'Ouémé et du Plateau

**DOI:** https://doi.org/10.36347/sasjs.2025.v11i11.003 | **Received:** 11.08.2025 | **Accepted:** 06.10.2025 | **Published:** 05.11.2025

***Corresponding author:** Attolou S.G.R
Centre Hospitalier Universitaire de Zone Suru-Lere

**Abstract** | **Case Report**

Postoperative ureterocutaneous fistula is a very rare complication. We report a case in which a patient developed urine leakage through the surgical wound of an appendectomy. A uroscanner revealed the pyeloureterocutaneous pathway of drainage from the right kidney. A right ureteroplasty was performed, using a double J ureteral stent. Post-operative management was uneventful, with cessation of urine leakage and resumption of normal route urine output. The follow-up uroscanner performed after removal of the ureteral stent was normal

**Keywords**: ureterocutaneous fistula, appendectomy, ureteroplasty.



## INTRODUCTION

Ureteral injuries are one of the most serious complications of any abdominal or pelvic surgery, whether due to gynecological, urological, or general surgical conditions [1]. Obstetric and gynecological surgery, vascular surgery, general surgical procedures, in particularly colorectal surgery, and urological procedures are commonly responsible for ureteral injuries [2]. The mechanisms of injury are essentially: ligation, transection, and ischemia due to impaired ureteral vascularization [3]. All these injuries can lead to stenosis or fistulas. Early intraoperative identification and appropriate correction reduce morbidity and eliminate mortality. However, most cases of ureteral injuries are recognized late [4]. We report a case of iatrogenic right ureterocutaneous fistula post-appendectomy, managed at the National University Hospital Center Hubert Koutoukou Maga in Cotonou.

## CASE REPORT

A13 years old male patient was referred by his surgeon for urine leakage through the surgical wound of an appendectomy. The patient's medical history and physical examination revealed urine leakage from the appendectomy wound on the third postoperative day. The appendectomy was performed for a phlegmonous and adherent appendix with difficult intraoperative dissection.

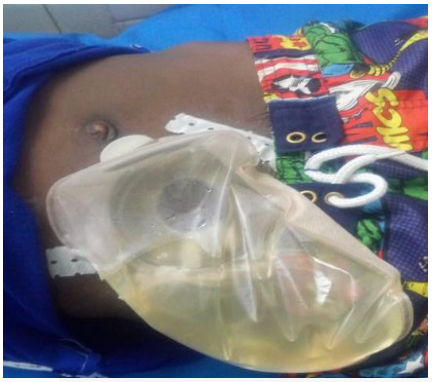

**Figure 1: placement of a pouch collecting urine**

An uroscanner revealed a pyelo-uretero-cutaneous drainage pathway of the right kidney.

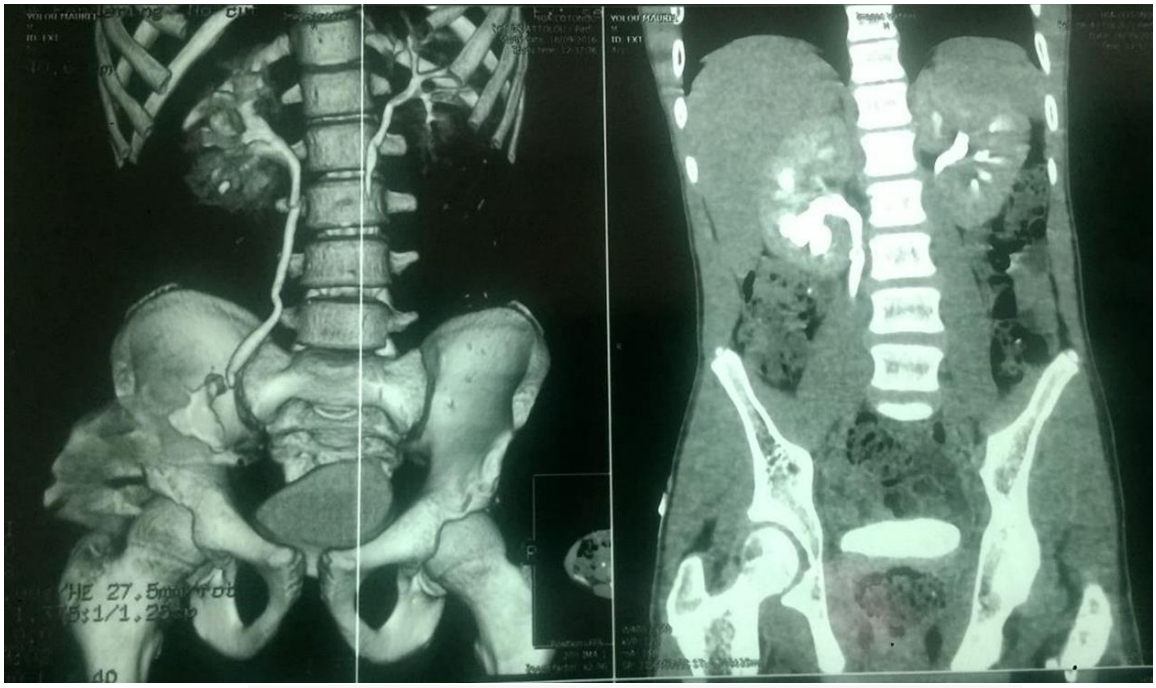

**Figure 2: highlighting of the pyelo-uretero-cutaneous tract by the uro scanner**

The diagnosis of a post-appendectomy ureterocutaneous fistula was made. Per-operatively, a transection injury of the right ureter was identified.

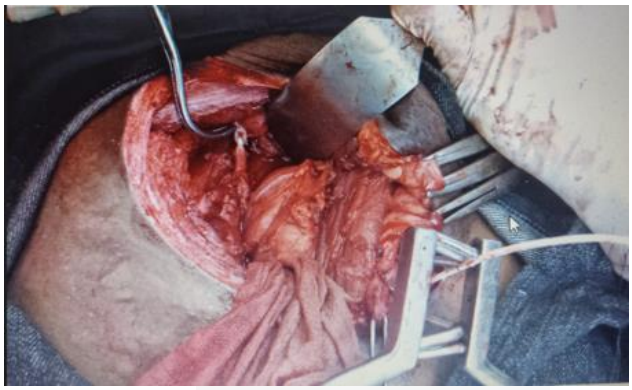

**Figure 3: Right ureter transection injury**

A right ureteroplasty with double J ureteral stent was performed. The postoperative outcome was uneventful, with cessation of urinary leakage through the surgical wound and resumption of normal urination. A follow-up uroscanner performed after ureteral stent removal was normal.

## DISCUSSION

The ureter is theoretically less exposed to external trauma due to its anatomical position. However, ureteral injuries are a potential complication of any abdominal or pelvic surgical procedure, with an incidence ranging from 0.5% to 10% [5]. Several authors report that ureteral injuries are most often iatrogenic, particularly during abdominal and pelvic surgeries. General and vascular surgeries account for 5% to 15% of potential ureteral injuries in the literature [1]. The mechanisms of iatrogenic ureteral injuries include ligation, stenosis, traction, partial or complete transection with possible tissue loss, contusion, mucosal breach, perforation, avulsion or ureteral ischemia. In our case, the ureteral injury was a partial transection following an appendectomy for a phlegmonous and adherent appendix located in the retrocecal region with a difficult dissection. The highly inflammatory environment, which made the dissection difficult and laborious, altering the anatomical relationship between the ureter and the cecum, could explain this injury to the right ureter. In most cases, ureteral injuries go unnoticed, and therefore the manifestation was urine leakage through the surgical wound, leading to significant morbidity (sepsis and loss of renal function).

The objectives of ureteral repair are to preserve renal function and restore anatomical continuity. There is a general consensus that when an accidental ureteral injury is detected during surgery, immediate repair is the treatment of choice [6]. However, when the diagnosis is delayed, the optimal timing for definitive treatment remains controversial. Some advocate for immediate repair, while others prefer delayed repair, often preceded by a period of upper urinary tract drainage [7]. Our approach has been immediate repair in the context of a delayed diagnosis, with a reduced hospitalization period of 3 days, comparable to the findings of Al-Awadi et al. [2], who reported an average hospitalization of 4.8 days after early repair and 10.1 days after delayed repair. The absence of infection and the patient's stable condition, which did not require initial nephrostomy, justified our approach. The end-to-end ureteral resection with anastomosis was another alternative for injuries of sufficient short length to avoid tension on the anastomosis. Prior placement of a double J stent to protect the anastomosis was preferred [8]. Ureteroplasty with double J stent placement for anastomotic protection was our chosen treatment, with a satisfactory outcome.

## CONCLUSION

Postoperative uretero-cutaneous fistula is one of the most common manifestations of ureteral injuries occurring during gynecological, general and digestive procedures. Although no systematic preventive measure has proven to be fully effective, observance of proper surgical practices and a precise knowledge of ureteral anatomy appear to be essential factors. The early recognition of ureteral injuries, both intraoperatively and postoperatively, as well as their appropriate management, could help prevent complications related to renal function and the patient's vital prognosis.

## REFERENCES


1. Preston JM. Lésion urétérale iatrogène : pièges médico-légaux courants. BJU Int. 2001 ; 86 : 313-317. Article Google Scholar
2. Al-Awadi K, Kehinde EO, Al-Hunayan A, Al-Khayat A. Lésions urétérales iatrogènes : incidence, facteurs étiologiques et effet d'une prise en charge précoce sur les résultats ultérieurs. Int Urol Néphrol. 2005 ; 37 : 235-41. Article PubMed Google Scholar
3. J. Klap , V. Phé , E. Chartier-Kastler , P. Mozer , M.-O. Bitker , M. Rouprêt. Étiologie et traitements des plaies iatrogènes de l'uretère : analyse de la littérature. Progrès en urologie. 2012 ; 22 : 913-919
4. Geavlete P, Georgescu D, Niţă G, Mirciulescu V, Cauni V. Complications de 2735 procédures d'urétéroscopie semi-rigide rétrograde : une expérience monocentrique. J Endourol. 2006 ; 20 : 179-85. Article PubMed Google Scholar
5. Carver BS, Bozeman CB, Venable DD. Lésion urétérale due à un traumatisme pénétrant. Sud Med J. 2004 ; 97 : 462–4 Article PubMed Google Scholar
6. Visco AG, Taber KH, Weidner AC, Barber MD, Myers ER. Rentabilité de la cystoscopie universelle pour identifier les lésions urétérales lors de l'hystérectomie. Obstet Gynecol. 2001 ; 97 : 685-92. Article CAS PubMed
7. Brandes S, Michael C, Noel A, Jackmcaninch. Diagnostic et prise en charge des lésions urétérales : une analyse fondée sur des preuves. BJU Int. 2004 ; 94 : 277-89. Article PubMed Google Scholar
8. L. Benoit, R. Spie, P. Favoulet, N. Cheynel, B. Kretz, S. Gouy, T Dubruille, J. Fraisse , J. Cuisenier, Prise en charge des lésions urétérales iatrogènes. Annales de Chirurgie Volume 130, Issue 8, September 2005, Pages 451-457