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Bilateral Ureteral Ligation During Hysterectomy: A Case Report

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Abstract **Case Report**

Bilateral ureteral ligation is a complication of pelvic surgery. It can affect the functional prognosis of both kidneys and even the vital prognosis. We report the case of a 49-year-old woman, multiparous, referred from the peripheral hospital of Meknes for management of anuria in connection with a suspected ureteral lesion after hysterectomy for an infected uterine cyst. Clinically, the patient had bilateral low back pain and a fever of 38.5. On laboratory examination, she had impaired renal function and a worsening infectious work-up. The diagnosis of iatrogenic bilateral ureteral ligation was suspected. The patient underwent an initial bilateral percutaneous nephrostomy, followed by bilateral double J stent elevation after confirmation of contrast medium passage following opacification of the nephrostomies. Postoperative recovery was straightforward, with normalization of renal function and improvement in the infectious workup.

Keywords: Ligature, ureters, hysterectomy.

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INTRODUCTION

The pelvic portion of the ureter is at risk of injury during pelvic surgery. Most often, these are iatrogenic lesions secondary to gynaecological and obstetric surgery [1]. The lesion is most often unilateral and may go unrecognized for a long time, but bilateral involvement rapidly jeopardizes functional and even vital prognosis [1, 2]. We report a case of bilateral ureteral ligation following hysterectomy for an infected uterine cyst.

OBSERVATION

This was a 49-year-old female patient with 3 parities and 3 living children. She was referred to the emergency department of the University hospital center HASSAN II de Fès for a suspected ureteral lesion following a hysterectomy for an infected uterine cyst performed in a peripheral hospital in Meknes.

On admission, the patient complained of bilateral lumbar fossa pain. On clinical examination, the patient was febrile at 38.5 and anuric. The lumbar fossae were tender. Examination of the hypogastrium revealed a recent Pfanenstiel incision.

On laboratory examination, renal function was impaired (creatininaemia =115mg/l and uraemia = 0.92 g/l), infection work-up was disturbed (CRP=253, WBC=8970), urine cytobacteriological examination was negative. Ultrasound: Normal-sized kidneys with bilateral ureteropyelo-caliceal dilatation and pyelo at 22 mm on the right and 16 mm on the left.

The diagnosis of bilateral ureteral ligation was evoked. The patient initially underwent triaxone-based antibiotic therapy and bilateral percutaneous nephrostomy drainage, with improvement in the infectious work-up (CRP=150, WBC=5120) and normalization of renal function (creatin=6mg/l, urea=0.13g/l). Initial opacification of both nephrostomies showed contrast medium passage on the left side and no passage on the right (Figure 1,2).

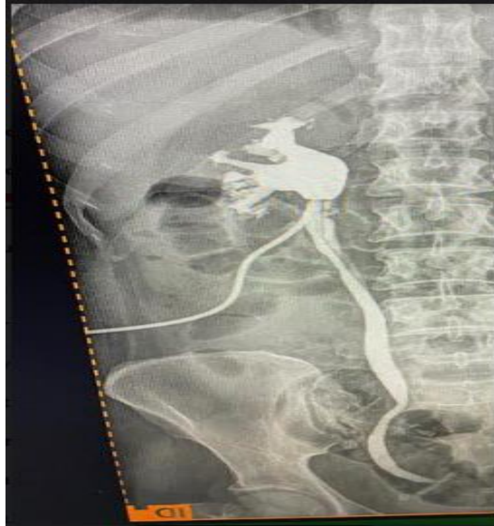

Figure 1: Opacification of the right nephrostomy showing no passage of contrast medium into the bladder.

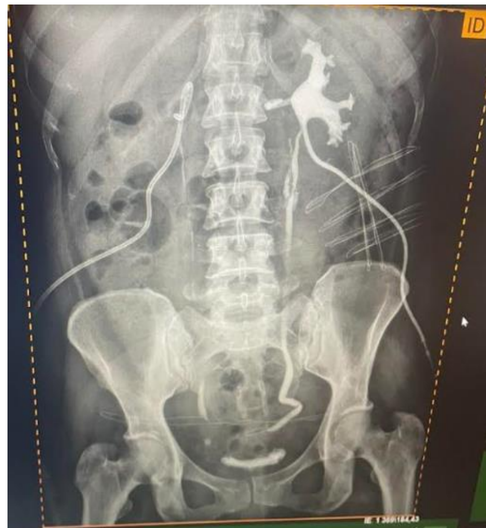

Figure 2: Opacification of the left nephrostomy showing passage of contrast medium into the bladder.

The 2nd opacification, performed after 1 month, showed that contrast medium had passed into the bladder on both sides. The patient was admitted for a double-j catheter, it was inserted bilaterally and both nephrostomies removed. (Figure 3,4)

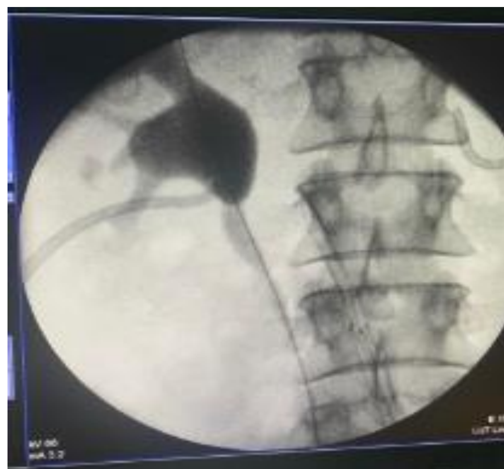

Figure 3: Retrograde passage of the hydrophilic terumotomy guide to the right kidney as evidence of obstruction removal.

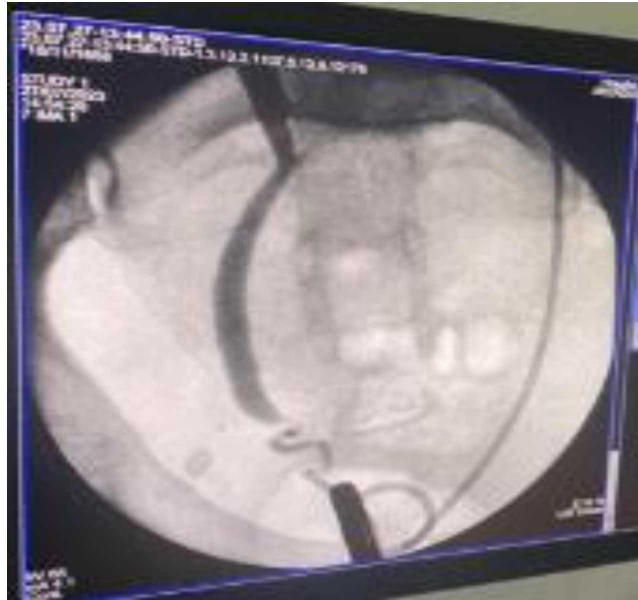

Figure 4: Thread-like passage of contrast medium during right-sided retrograde ureteropyelography.

The patient had the double-j stent removed after 6 weeks. Follow-up was straightforward.

Discussion

Injuries to the ureter during pelvic surgery in women are rare. The part of the ureter most affected is often the pelvic segment. Gynaecological and obstetric surgery are responsible for a high percentage of ureteral lesions compared with other types of surgery: urological, digestive and vascular [3]. Involvement of the ureter is the most feared lesion in hysterectomy, as in our study. The diagnosis of iatrogenic bilateral ureteral ligation was suspected in our patient in view of the appearance of anuria with febrile bilateral low back pain postoperatively after hysterectomy. In the best cases, the ureteral lesion is identified intraoperatively, enabling immediate repair. In the majority of cases, however, the complication is diagnosed hours or even days after surgery [4], using ultrasound and sometimes uroscan [5, 6], rarely performed intraoperatively [7]. Even if the attitude to be adopted differs, accidents occurring during laparoscopic surgery are essentially the same as those of open surgery [8]. Ultrasound can be used to detect renal dilatation. In our patient, an ultrasound scan showed bilateral ureteropyelo-caliceal dilatation, with pyelo at 22 mm on the right and 16 mm on the left.

In the literature, the management of ureteral lesions involves multiple techniques, including endourology (JJ catheter or percutaneous nephrostomy), uretero-vesical reimplantation with or without psoic bladder, and uretero-ureteral anastomosis [9].

Our patient was initially managed with a bilateral nephrostomy, followed by a bilateral double-j catheter and removal of both nephrostomies, with normalization of renal function and improvement in infection control. Post-operative follow-up was straightforward, with good clinical and biological improvement.

Conclusion

Bilateral ureteral ligation during pelvic surgery in women is very rare. It is often found during hysterectomy. A good knowledge of ureteral anatomy, careful surgical practice and close collaboration between gynaecologists and urologists can reduce the rate of complications.

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