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Laparoscopic Repair of a Ureteral Hernia in the Greater Sciatic Foramen : A Case Report

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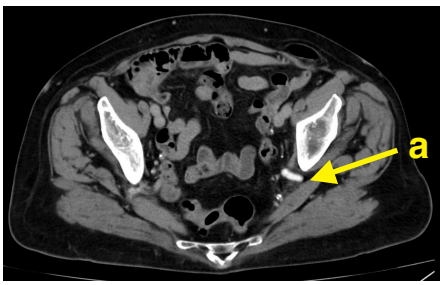
An unusual path with serious consequences

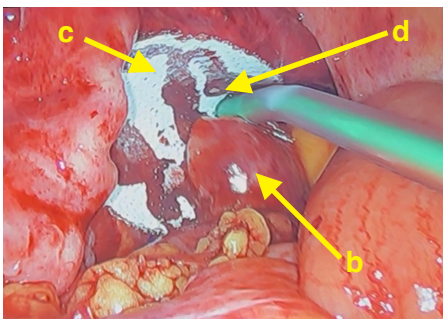
Introduction

Among pelvic floor hernias, sciatic hernias are the rarest and are defined by the passage of abdominal structures through the greater or lesser sciatic foramen. This report presents a rare case of ureteral sciatic hernia, focusing on diagnosis and management, and compares it with similar cases from the literature.

Material & Methods

An 88-year-old woman with atrial fibrillation, hypertension, polymyalgia rheumatica, and chronic kidney disease (stage IIIb) presented with left posterior hip pain. Clinical examination revealed left lumbar tenderness. Laboratory tests showed renal insufficiency (creatinine: 138 µmol/L) and microscopic hematuria.
Ultrasound revealed left renal pelvis dilatation (distal calyces: 11 mm) and a dilated lumbar ureter. CT urography confirmed left obstructive uropathy due to a ureteral entrapment in a sciatic foramen hernia (a). A JJ stent was placed to relieve the obstruction and facilitate ureteral identification. Post-stenting CT urography showed partial improvement. A subsequent laparoscopic procedure identified and reduced the hernia (b). The defect was closed with a continuous polybutester suture and reinforced with an intraperitoneal ePTFE patch (c) secured with n-butyl-2-cyanoacrylate (d).





Results

Three weeks post-operatively, the patient was asymptomatic. Follow-up CT urography showed resolution of the hernia, mild residual ureteral edema, and complete resolution of ureteral dilatation.

Discussion

Hernias of the greater sciatic foramen involving the ureter are exceedingly rare. Since 1946, 73 cases of herniation through the greater sciatic foramen have been reported, including 62 in adults and 11 in children. Among these, 33 involved the ureter. Other cases concerned various structures such as small bowel, tumors, colon, ovary, appendix, preperitoneal fat, and, in some instances, multiple organs (1).

The main etiological factors described include piriformis muscle atrophy and weight loss in elderly patients. The most commonly reported symptoms in the literature are unilateral pelvic pain, lower back pain, and unilateral gluteal swelling. This obstructive phenomenon can lead to ureteral dilation and hydronephrosis, potentially progressing to severe infection and even renal failure if left untreated (1,2).

Diagnosis is primarily based on imaging. Contrast-enhanced CT urography and intravenous urography (IVU, particularly in earlier reports) are “meaningful diagnostic methods,” emphasizing their complementarity in visualizing the obstruction (2). These modalities provide both anatomical and functional information about the ureter and its entrapment in the sciatic foramen.

A wide range of treatment strategies has been described in the literature, reflecting the rarity and variability of greater sciatic foramen hernias. These include manual transvaginal reduction (1), isolated placement of a ureteral stent (double J), open surgery via laparotomy—with or without mesh repair—and, more recently, the use of biological mesh, as reported by Baoshan in 2022 (2). The first laparoscopic repair was published by Gee (3) in 1999. Since then, only nine cases—including ours—have been managed using a laparoscopic approach, one of which was robot-assisted (4).

Minimally invasive approaches, particularly laparoscopy and robotic surgery, offer significant advantages : enhanced visualization of deep pelvic anatomy, atraumatic dissection, reduced postoperative morbidity, shorter hospital stays, and more precise closure of the sciatic foramen. In our case report, mesh fixation was performed with glue rather than sutures to reduce the risk of injury to the dense vascular and nerve structures in the area. As most reports are case studies, precise data on recurrence rates are lacking.

Conclusions

Sciatic herniation of the ureter is an exceptionally rare condition with nonspecific clinical symptoms, complicating diagnosis. Contrast-enhanced CT urography facilitates prompt and accurate identification of the herniated ureter and related complications. Therapeutic management depends on the herniated content and the presence of obstruction or hydronephrosis. Surgical repair, notably via a laparoscopic approach, is generally recommended due to its precision and minimally invasive nature.

References

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Conflicts of interest : The authors declare no conflict of interest

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