



Trauma and reconstruction

The rare urological entity of ureterosciatic hernia: A case report of successful treatment after repeated recurrence

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ABSTRACT

Ureterosciatic hernia is a rare urological entity. We report a case of successful laparoscopic surgery for a ureterosciatic hernia that recurred repeatedly after conservative treatment. A 73-year-old woman complained of left abdominal pain. Computed tomography (CT) showed a left ureterosciatic hernia. After placement of the ureteral stent, the ureterosciatic hernia improved. The ureteral stent was removed after ureteral migration became normal. Four years and 8 months later, left ureterosciatic hernia recurred. Same treatment was performed; however, it recurred again. Therefore, laparoscopic surgery using a mesh was performed. The patient had no recurrence 9 months postoperatively.

1. Introduction

Ureterosciatic hernia is rare, and causes ureteral dilation and hydronephrosis, leading to urinary tract infections and renal failure. Treatment options include surgical and conservative treatments with ureteral stenting; however, no consensus has been reached. Surgical treatment includes ureteral anastomosis, uretero-bladder neanastomosis, and reinforcement of the sciatic foramen.

2. Case presentation

A 73-year-old woman presented with left-side abdominal pain. Computed tomography (CT) showed marked left hydronephrosis and dilation of the ureter. Coronal (Fig. 1) and sagittal (Fig. 2) view of CT showed that left ureter herniated into the greater sciatic foramen, 4 cm from the ureteral orifice. Ureteral stenting was performed and the herniating ureter was corrected. The left abdominal pain resolved after ureteral stenting. Three months later, the ureteral stent was removed and the patient experienced no recurrence. However, 4 years and 8 months later, the patient experienced left abdominal pain. CT showed a ureterosciatic hernia. The ureteral stent was replaced, and the ureterosciatic hernia improved. The ureteral stent was removed after 4 months, but ureterosciatic hernia recurred 5 months later. This was the second recurrence; therefore, we performed a laparoscopic repair of the

ureterosciatic hernia. The ureteral stent was left in place until the surgery.

The peritoneum just above the ureter was incised, and the ureter was dissected peripherally. No apparent hernia foramen was observed during the operation. However, the outer side of the ureter, slightly cephalad to the internal obturator muscle, was easily peeled off and sufficient space was formed. Therefore, we speculated that the ureter had fallen in this vicinity. Mesh material (Bird® Ventralite® ST) was trimmed into a rectangle, and inserted to the peeled area.

The patient was discharged from the hospital on postoperative Day 7 without complications. One month post-surgery, the ureteral stent was removed. Two months postoperatively, there was no left hydronephrosis in CT scan; and at 9 months postoperatively, the patient had no recurrence (Fig. 3).

3. Discussion

Ureterosciatic hernia is a rare condition in which the ureter prolapses from the foramen sciaticum. Prolapsed organs, other than the ureter, include the ovary, small intestine, colon, and bladder. Hydronephrosis and urinary tract infection are caused by obstruction of the ureter. Since it is more common in elderly women, it may be caused by a wide pelvic opening, pregnancy, constipation, childbirth, atrophy, and weakening of the pelvic floor muscles due to aging. In this entity, the ureter commonly

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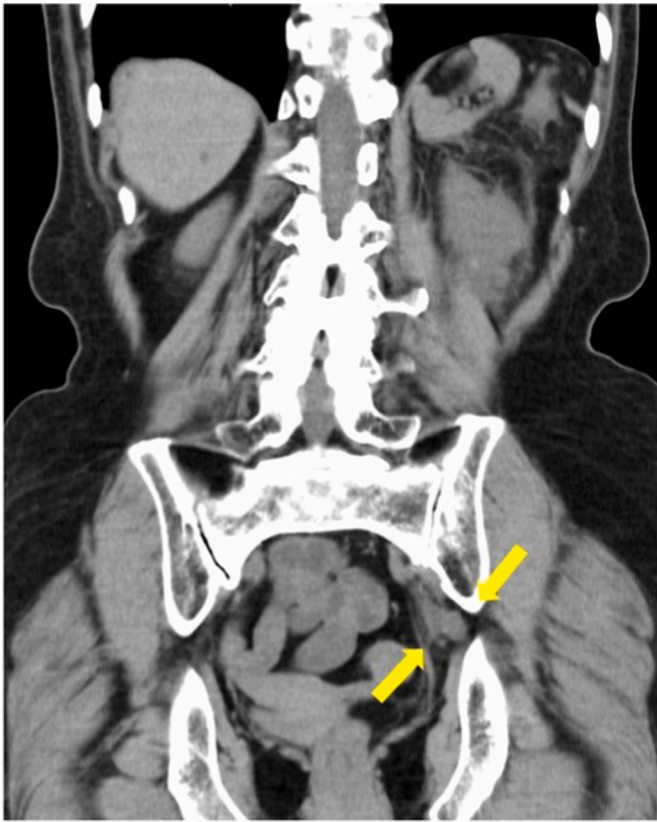


Fig. 1. Coronal view of computed tomography (CT) showed that left ureter herniated into the greater sciatic foramen, indicated by the yellow arrow. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

herniates in the supra-piriformis compartment of the greater sciatic foramen.¹ They can be secondary to a partial loss of pelvic fascia, atrophy of the piriformis, adhesions, congenital deformity, or a combination of either.²

Ureterosciatic hernia does not have an established treatment. Conservative treatment includes the placement of a ureteral stent. Gee et al. reported the first laparoscopic repair, in which a mesh was placed near the piriformis muscle.³ Tsuzaka et al. reported laparoscopic suturing of the connective tissue around the sciatic foramen and closure of the hernia foramen without using a mesh.⁴ Kakimoto et al. reviewed 30 cases of ureterosciatic hernia reported since 1999.⁵ As initial treatment, 21, 6, 1, and 2 patients underwent stenting, surgical treatment, manual reshaping, and follow-up, respectively. Seven of the 21 patients who underwent stent implantation reported additional surgical treatment. However, no cases of recurrence have been reported with surgical treatment.

In our patient, pain improved after ureteral stenting and removal of the ureteral stent. However, the disease recurred twice. As this patient had no major underlying disease and was relatively young, ureteral stent replacement was not desirable; therefore, we decided to treat the patient surgically. Regarding preoperative ureteral stenting, preoperative ureteral stenting hinders the visualization of the hernia pit. In the present case, no apparent hernia pores were observed; however, a space that appeared to be a hernia pore was observed. Anatomically, placing a mesh in front of the internal obturator muscle may be sufficient to prevent herniation of the ureter into sciatic foramen. Preoperative placement of a ureteral stent may prevent urinary tract infections and facilitate a safe surgical approach. Since there is no established surgical technique for this disease, further review of cases is warranted.

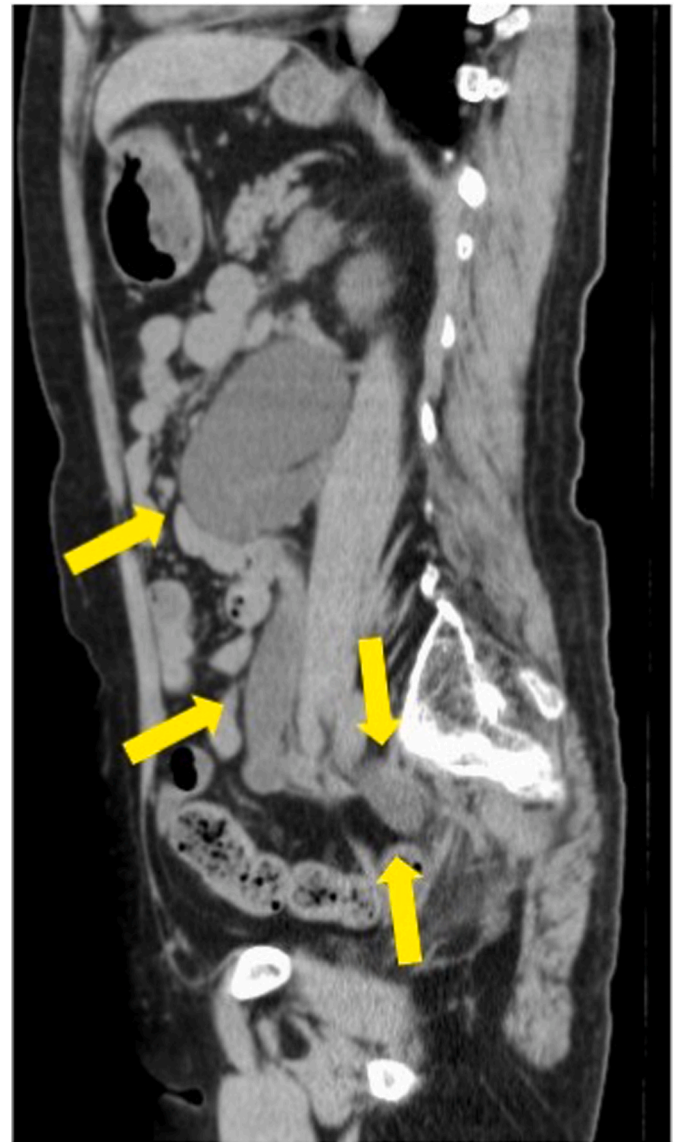


Fig. 2. Sagittal view of CT showed that left ureter was dilated markedly and herniated into the greater sciatic foramen, indicated by the yellow arrow. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

4. Conclusion

We report a case of laparoscopic repair of a ureterosciatic hernia using a mesh; the hernia recurred repeatedly after conservative treatment. Conservative treatment has limited efficacy, and surgery should be considered in some cases.

Funding

None.

Consent

Written informed consent was obtained from the patient.

Declaration of Generative AI and AI-assisted technologies in the writing process

Authors disclose that no use of generative AI and AI-assisted



Fig. 3. CT showed the left ureter is in normal position, indicated by the yellow arrow. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

technologies have been used in the writing process.

Declaration of competing interest

The authors declare no conflicts of interest.

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