Laparoscopic Repair of a Ureterosciatic Hernia with Urosepsis

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Hernias of pelvic floor are very rare, and herniations of ureter into sciatic foramen are extremely rare condition which is globally reported only by 32 cases. Clinical aspects of ureterosciatic hernias appeared variously according to the degree of hydronephrosis, inflammation and infection of kidney due to ureter obstruction. Herein, we report our experience of laparoscopic repair in a patient with ureterosciatic hernia combined urosepsis.

Keywords: laparoscopy; piriformis muscle; sciatic hernia; ureterosciatic hernia; urosepsis

INTRODUCTION

Sciatic hernias are the rarest entities among hernias of pelvic floor(1). Moreover, ureterosciatic hernias are very unusual lesions globally reported only by 32 cases; only 4 cases were reportedly repaired with laparoscopy[2-5]. Here we repot a successful case of laparoscopic repair of ureterosciatic hernias with urosepsis.

CASE REPORT

Preoperative management and work up

A 72-year-old female visited our hospital for right flank pain and fever lasting 2 days. She underwent contrast-enhanced CT at the another hospital and was referred to our hospital for further evaluation and treatment. According to the laboratory results, leukocytosis, elevated CRP and pyuria were found. Based on outside CT, right perinephric infiltration and hydronephrosis were observed and the distal ureter was herniated to sciatic foramen (**Figure 1a**). Thus, we diagnosed and hospitalized the patient with urosepsis caused by ureterosciatic hernia, and operated percutaneous nephrostomy, immediately.

After resolution of urosepsis, we decided to attempt correction of herniated ureter by retrograde approach. Retrograde pyelography showed the right ureter was leant toward the outside of right side, and observe ‘’curlicue sign’’, which was formed as the knuckle of herniated ureter (**Figure 1b**). And then, we tried to insertion of flexible guide wire through the herniation site, but failed. Thus, we planned laparoscopic approach.

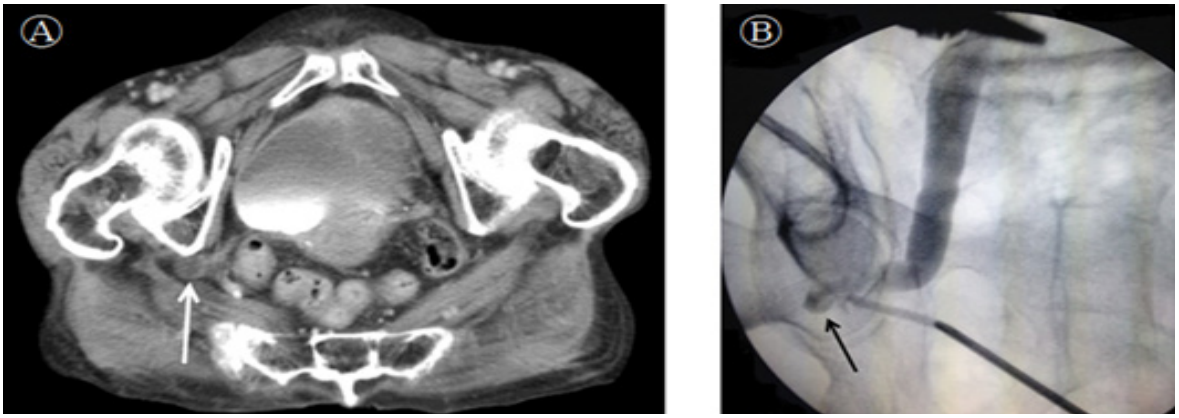

Figure 1. A. Computed tomography showed herniation of Rt. ureter into sciatic foramen (arrow).
B. Retrograde pyelography showed ‘’curlicue ureter’’ sign of ureterosciatic hernia (arrow).

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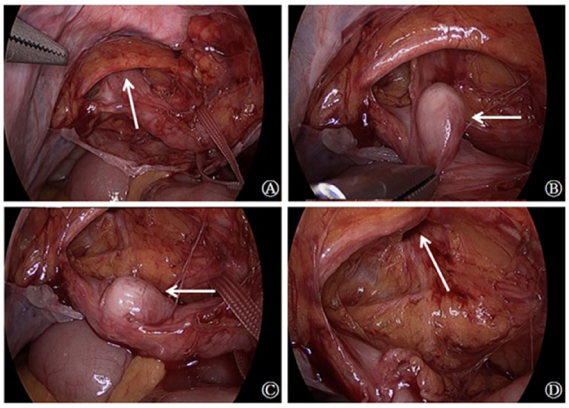

Figure 2. Images from laparoscopic repair of an ureterosciatic hernia. **A.** The ureter herniated into sciatic foramen (arrow); **B.** After dissected from the sciatic foramen (arrow); **C.** Immediately reduced the ''curlicue'' appearance (arrow); **D.** A small defect, sciatic foramen was identified (arrow).

Operation management

The patient was placed head down Rt. semi-lateral position and then 12mm trocar for a camera was inserted at the level of umbilicus. And then one 12mm port and one 5mm port were placed under direct vision. After finding the ureter, dissection was performed to downward and the ureter was found to be herniated to the right sciatic foramen. As the herniated ureter was dissected from the sciatic foramen, the herniated ureter was repaired and curlicue appearance was gradually reduced and disappeared (**Figure 2**). Then, the defect of right sciatic foramen was repaired with 3-0 PROLENE® by running sutures suturing the edges of the surrounding connective tissue, and the operation was completed without ureteral stent placement.

Postoperative follow-up

The patient did not have any complications. At the 3rd day after the operation, we performed the AGP and obstruction was not found at the site of herniated ureter (**Figure 3a**). Then, percutaneous nephrostomy was removed. At the 10th day after the operation, we performed the DIP, and found the improvement of hydronephrosis and ureteral kinking (**Figure 3b**).

Figure 3. A. Anterograde pyelography at postoperative day 3. There was no more obstruction on previous herniated site (arrow); **B.** Drip infusion pyelography (DIP) at postoperative day 10. Improved hydronephrosis and ureteral kinking.

DISCUSSION

As the piriformis muscle occupies most of the greater sciatic foramen, organ of this site within pelvis would be herniated due to weakness and atrophy of piriformis muscle[6]. Even though the sciatic hernias of various organs within pelvis were reported, ureterosciatic hernias are very unusual lesion globally reported only by 32 cases[2-5].

The clinical aspects of ureterosciatic hernias appeared variously according to the degree of hydronephrosis, inflammation and infection of kidney[7]. The ureterosciatic hernia can be diagnosed generally with excretory urography, the knuckle of herniated ureter was shown as typical ''curlicue sign''[8]. It can be also diagnosed through CT; the distal ureter was leant to the posterolateral ischial spine and it was herniated to the sciatic foramen[9].

Traditionally most of ureterosciatic hernias are repaired through open surgery. Since laparoscopic hernia repair was reported by Gee et al. in 1999, 4 cases of laparoscopic ureterosciatic hernia repair have been reported[4,6,7,10]. Laparoscopic repair of ureterosciatic hernia is relative simple procedure and it is a possible option for treatment. Unfortunately, long-term follow up has not been performed in our case, however there has been no report of complications or recurrence like as other previously reported cases.

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