

Inguinal hernia with ureter in patient with single kidney

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Abstract: Inguinal hernias are a common disease in adults, but involvement of extraperitoneal structures is rare. This condition is usually asymptomatic and an incidental finding during the surgical correction of inguinal hernias, often resulting in iatrogenic damage. We present a rare case of left renal agenesis and right inguinal hernia, with the ureter being the only organ protruding as an inguinal hernia, diagnosed in the preoperative period.

Keywords: Renal agenesis; hernia; hydronephrosis; ureter

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Introduction

The presence of a ureter protruding as part of an inguinal hernia is rare (1). Only 64 cases were found in the literature, most of which are related to congenital abnormalities or to postoperative anatomical alterations (2). Usually, hernias contain intraperitoneal organs such as the greater omentum, small intestine, colon, and vermiform appendix. Herein we describe a rare case of left renal agenesis, gall bladder agenesis and right inguinal hernia, with the ureter being the only organ protruding as an inguinal hernia, diagnosed in the preoperative period.

Case presentation

A 65-year-old hypertensive male was admitted to a university hospital emergency room with sudden pain of the right lumbar region irradiating to the hypogastrium and associated with dysuria. On physical examination, the patient had a globular, peristaltic, tympanic abdomen that was painless to palpation and an indirect reducible inguinal hernia on the right. Biochemical exams found the creatinine level was 3.1 mg/dL.

An ultrasound of the abdomen identified right ureterohydronephrosis with the left kidney and gallbladder not being visualized. Computed tomography of the abdomen showed a right inguinal hernia involving the ipsilateral ureter as its sole structure, right ureterohydronephrosis and left renal agenesis (*Figure 1*).

A manual reduction of the inguinal hernia was achieved and a double J catheter was installed (*Figure 2*). During inguinal hernia repair using the Lichtenstein technique, the right ureter was confirmed in the hernia. The renal function and diuresis of the patient improved satisfactorily, and the lumbar pain disappeared.

Discussion

Inguinal hernias are a common disease in adults, but involvement of extraperitoneal structures is rare; only 64 cases of the involvement of the ureter as the only structure have been described in the literature (1).

This condition is usually asymptomatic and is generally an incidental finding during the surgical correction of inguinal hernias, often resulting in iatrogenic damage of the structure (3).

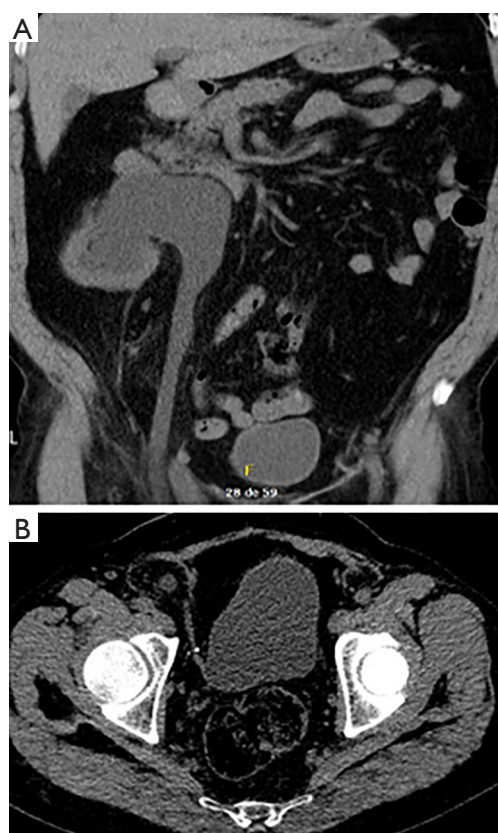


Figure 1 Computed tomography (CT) imaging of the abdomen in evaluation of patient with single kidney. (A) CT showing right ureterohydronephrosis and left renal agenesis; (B) CT showing right inguinal hernia containing the ipsilateral ureter as the only structure involved.

A tomographic review of published cases shows that patients with a ureter distending more than 1 cm in their middle third of the psoas muscle (L4 vertebra) are more likely to assume an anomalous position and occupy the inguinal canal (4). In this case, the ureter presented a distance of 4.1 cm from the psoas muscle at the level of the L4 vertebra, thus the risk of ureter herniation was high.

Inguinal hernias involving extraperitoneal structures are generally indirect (3). They may exist without the formation of a hernia sac and are related to a badly formed urinary tract (3). In the present report, contralateral renal and gallbladder agenesis underscore the importance of preoperative diagnosis before surgical correction.



Figure 2 Radiography showed double J catheter herniated.

Conclusions

Herein we describe a rare disease. Inguinal hernias should be treated with caution, since inadvertent ureter injury is common when it is not suspected that it is involved in the hernia and may cause serious complications, especially in patients with contralateral renal agenesis.

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None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Informed Consent: Written informed consent was obtained from the patient to publish this manuscript and any accompanying images.

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