ANNALI ITALIANI DI CHIRURGIA

Digital Edition
e-publish on-line
ISSN 2239-253X
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Ann Ital Chir, Digital Edition 2019, 8
pii: S2239253X19030275 - Epub, July 25
free reading: www.annitalchir.com

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Groin hernia containing bladder diverticula. Report of two cases and review of the literature.

We report two cases of groin herniation of bladder diverticula with different clinical presentation and evolution; bladder diverticula are rarely involved in the pathogenesis of groin hernias. A differential diagnosis is to be made mainly with a common groin hernia. A correct anamnesis, a careful physical examination and a correct diagnostic pattern, including cystography, CT and US scans, are needed. Surgery is recommended when specific symptoms appear, or if an urothelial cancer grows within a diverticulum.

KEY WORDS: Diverticulum, Groin hernia, Uretheral cancer

Introduction

A portion of urinary bladder is involved in groin hernias in about 10% of cases [1]; anyway, bladder diverticula are rarely involved, being found from 0.36% to 1-3% of groin hernias [2,3]. Patients can complain of various symptoms, ranging from groin tumour to urologic impairment; a differential diagnosis is to be made mainly with a common groin hernia. Obesity with muscle relaxation, bladder dilation consequent to prostatic hypertrophy [4], or loss of bladder's tone due to a neurological damage [5] represent the main favouring factors for the occurrence of bladder diverticula. Complications such as bladder stones, infections, cancer development [6] within diverticula, or hydronephrosis, are even rarer.

We report two cases of groin herniation of bladder diverticula with different clinical presentation and evolution; CT scans evidencing the disease are shown as well.

Case Report

CASE N.1

A 66 y.o. man was admitted to our E.R. complaining of a one-month lasting pelvic pain, remarkably increased during the past days. The patient referred dysuria and pollakiuria as well; in particular, urination was completed by hand-compression upon the right groin mass, whose volume decreased following this manoeuvre. Physical examination revealed a groin mobile, not painful mass, whose compression stimulated urination, and an oedema of the right hemi-scrotum. The patient underwent a contrast CT scan of the pelvis, evidencing an herniation of the anterior wall of urinary bladder through the right groin channel (Fig. 1).
After surgical repair, symptoms immediately vanished; the patient was then followed-up for a period of several months, and no recurrencies were detected.

Pervenuto in Redazione Febbraio 2019. Accettato per la pubblicazione Aprile 2019
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Case n. 2

An 80 y.o. male patient was admitted to our E.R. complaining of gastric pain, abdominal pain in right iliac fossa and macro-haematuria. Previous episodes of haematuria, dysuria, pollakiuria, gastric pain, nausea, vomit and right testis pain were also referred, increasing in intensity and frequency during the past days. Physical examination evidenced a not-reducible right groin hernia, oedema of the right hemi-scrotum extended to the left one and to the penis. US and CT scans were performed. Coronal MPR projection with venous-phase contrast-enhancement (Fig. 2) showed a sub-total dislocation of the urinary bladder through the right groin channel reaching the scrotum on the same side. The right testis and spermatic funiculus appeared to be compressed and displaced. A pelvis CT scan (Fig. 3a) with venous-phase contrast-enhancement evidenced some urinary stones

Fig. 1: CT scan of the pelvis in axial projection, with arterial-phase contrast enhancement.

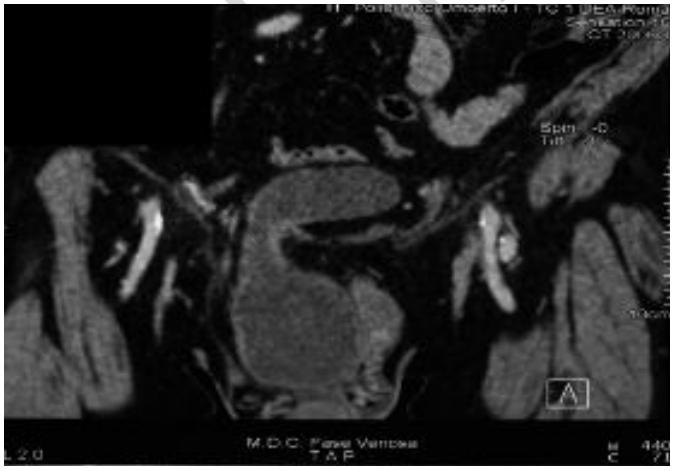

Fig. 2: CT scan: coronal MPR projection with venous-phase contrast-enhancement.

Fig. 3: A) CT scan: axial projection with venous-phase contrast-enhancement. B) US scan of herniated bladder diverticulum containing urinary stones.

inside the herniated portion of the bladder. These findings were well evidenced in US scans, also revealing a moderate pyelohectasia.

As an accessory finding in the upper abdomen CT scan, a solid mass of 4 cms of diameter was evidenced on the small gastric curve, protruding into the stomach lumen. This neoplasm, showing iso-dense structure if compared to muscular tissue, and moderately deforming the outer profile of the gastric wall, was classified as a gastric leiomyoma.

Urinary cultural exam was negative. The patient subsequently underwent a surgical resection of bladder diverticulum with groin hernioplasty. A gastroscopy with histologic exam was also performed, confirming the diagnosis of gastric leiomyoma.

Discussion

The incidence of urinary bladder diverticula increases in the elderly, reaching the 10% of population for people aged from 50 to 70 [5].

CT scan represents the main diagnostic exam for bladder diverticula herniated into the groin channel [8] and for eventual complications like hydronephrosis, urinary stones and strangulation [9]. A correct diagnosis allows to

solve yet the groin hernia and its cause, thus minimizing surgical complications.
Open or associated laparoscopic-endoscopic surgery still remain the procedures of choice for the management of bladder diverticula herniated into the groin channel and of related complications; interesting perspectives are to be expected from robotic-assisted laparoscopy [10].

Riassunto

I diverticoli della vescica sono raramente coinvolti nella genesi di un'ernia inguinale, dallo 0,36% all'1-3% dei casi. La diagnosi differenziale deve essere fatta principalmente con un'ernia inguinale comune. Sono necessari una anamnesi dettagliata, un esame obbiettivo accurato e un iter diagnostico corretto che comprende una cistografia e una TC multistrato. La chirurgia è la raccomandata quando compaiono sintomi specifici o se un tumore uroteliale cresce all'interno del diverticolo. Riportiamo due casi di erniazione inguinale di diverticoli della vescica con diversa presentazione clinica ed evoluzione.

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