CLINICAL CASE

Seminal vesicle cyst with ipsilateral renal agenesis treated with laparoscopic resection

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ABSTRACT

CASE PRESENTATION

Laparoscopic resection of a left seminal vesicle cystic lesion associated with ectopic ureter was performed. The surgical approach provided adequate exposure of the profound pelvic structures, a rapid convalescence period and a postoperative progress follow-up at one year free from complications.

Seminal vesicle cysts are associated with ipsilateral renal agenesis and dysplastic ureter or they are located ectopically. Congenital abnormalities of the seminal vesicles are rare and some are associated with upper urinary system malformation.

Keywords: Congenital abnormalities, Retroperitoneoscopy, Seminal vesicle cysts.

RESUMEN

PRESENTACIÓN DEL CASO

Mediante abordaje laparoscópico, se realiza resección de lesión quística de vesícula seminal izquierda asociado a desembocadura ectópica de uretero ipsilateral. El abordaje quirúrgico permitió una adecuada exposición de las estructuras pélvicas profundas, una rápida convalecencia, así como una evolución posoperatoria en seguimiento a un año con ausencia de complicaciones.

Los quistes de las vesículas seminales se asocian con agenesia renal ipsilateral y uréter displásico o de localización ectópica. Las anomalías congénitas de las vesículas seminales son raras, algunas de ellas asociadas, con malformaciones del sistema urinario superior.

Palabras clave: *anomalías congénitas, quistes de vesículas seminales.*

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INTRODUCTION

Isolated pathological conditions of the seminal vesicles are not common and in the past they were ignored in the majority of cases (1). With the advent of imaging studies such as transrectal ultrasound (TRUS), helical computerized tomography (CT) and magnetic resonance imaging (MRI), it has been possible to detect benign isolated lesions of the seminal vesicles, such as cysts, with greater frequency (1). Diagnosis of these alterations is principally established in the most active stage of sexual activity (2, 3). Seminal vesicle cysts may remain asymptomatic and be discovered incidentally or they can present with symptoms of urinary frequency, dysuria, epididymitis or chronic prostatitis, painful ejaculation and perineal discomfort (1, 2, 4).

Evaluation using imaging studies (ultrasonography, CT and/or MRI), is useful for establishing site, morphology and lesion content (2).

Therapeutic modality selection depends on symptomatology that is related to lesion size and location. When surgical treatment is necessary, it is complicated due to location of the seminal vesicles deep within the pelvis. It requires an extended dissection approach (1). Laparoscopic surgery is an alternative for the pathology of these structures in the genitourinary tract (1).

A case is presented of a patient with a cystic lesion of the left seminal vesicle associated with ipsilateral renal agenesis and surgically treated with laparoscopy with the technique described by Kavoussi (5).

CASE PRESENTATION

This is the case of a 22-year-old male presenting with symptoms of left epididymitis and chronic prostatitis, pain and increase in left scrotal volume as well as pain during ejaculation with a progression of 3 years. He had been treated with antibiotics, analgesics and anti-inflammatory medicine. Transrectal ultrasound was done which showed retrovesicle cystic lesion in the topography of the left seminal vesicle (Fig. 1). The ipsilateral kidney could not be identified with urinary tract ultrasound. CT images confirmed the presence of cystic structures in the topography of the left seminal vesicle (Fig.2) as well as a tubular structure that extended from the cystic structures to the intersecting region of the iliac vessels in relation to the dilated ureter and entered into those structures at the closed superior end (Fig. 3). The absence of ipsilateral kidney was also confirmed with CT. Both MRI and CT demonstrated the same findings (Fig. 4). Cystoscopy was done revealing the hemi-trigone. The patient underwent laparoscopic surgery under general anesthesia and endotracheal intubation. A Veress needle was used to introduce pneumoperitoneum through the umbilical scar. A 10mm trocar was placed

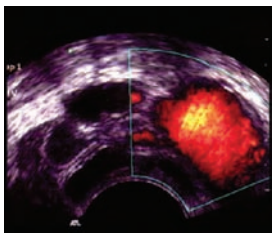

Figure 1. Transrectal ultrasound retrovesical with cystic lesion in the topography of the left seminal vesicle.

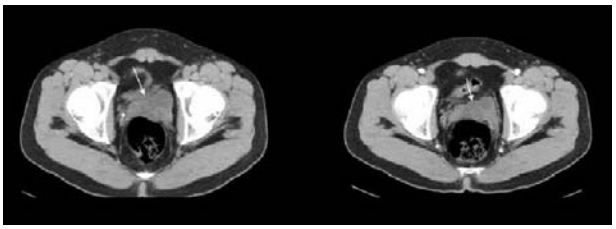

Figure 2. CT scan confirmed the presence of cystic structures in the topography of the left seminal vesicle

and a 0° lens videolaparoscope was introduced. Three additional portals (one 10mm and two 5mm) were placed. The sigmoid colon was freed, pushing it towards the middle line. An opening was made in the parietal peritoneum near the left-side internal inguinal ring. The deferent duct was located and dissected, clipped and cut. Deferent duct dissection continued until reaching the cystic lesion (Fig. 5). The lesion was separated from the bladder by blunt dissection and completely removed (Fig. 6). The closed ureter which went into the cystic lesion was dissected and the trajectory was followed to the lumbar retroperitoneum. Blake drainage was placed and left in the patient. The specimen was removed in an endobag through the 10mm trocar. Pneumoperitoneum and trocars were taken out. Abdominal incisions were sutured and the patient was released from the hospital 48 hours later. His progression was satisfactory.

DISCUSSION

Congenital anomalies of the seminal vesicles are not common. Many of them are cystic malformations and some are associated with malformations of the upper urinary tract. Less than 100 cases had been reported in the literature up to the year 2000 (2). The common embryological origin of the urinary and genital tracts (mesenphros or Wolf ducts and ureteral yolk) can entail associated anomalies in the development of the two systems (2). Seminal vesicle cysts are usually under 5cm in size, in a retrovesical position, associated with

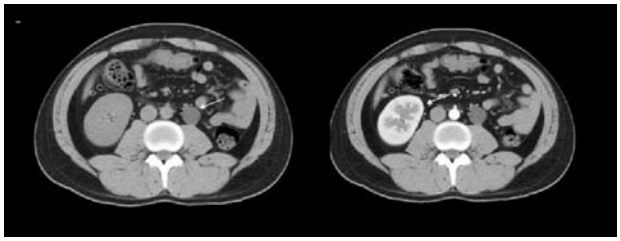

Figure 3. Tubular structure that extended from the cystic structures to the intersecting region of the iliac vessels in relation to the dilated ureter and entered into those structures at the blind superior end.

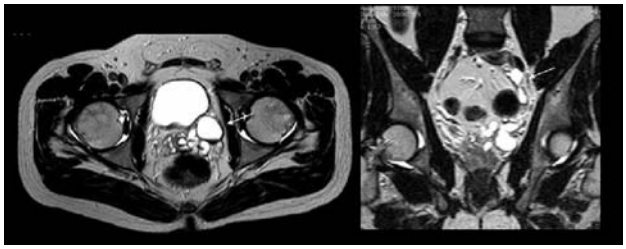

Figure 4. The absence of ipsilateral kidney was also confirmed with CT. Both MRI and CT demonstrated the same findings.

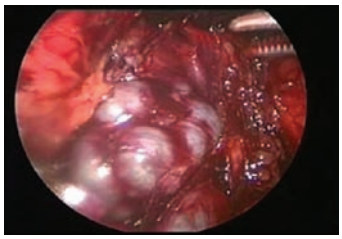

Figure 5. Deferent duct dissection continued until reaching the cystic lesion.

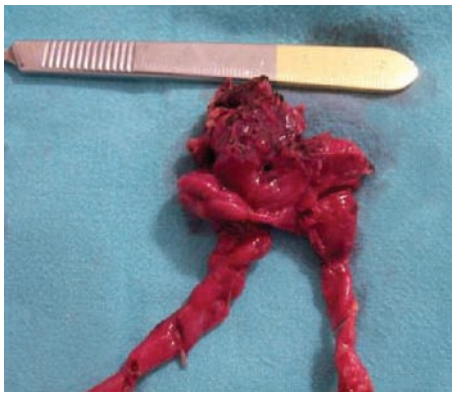

Figure 6. The lesion was separated from the bladder by blunt dissection and completely removed

ipsilateral renal agenesis, dysplastic ureter or ectopic localization that converge in the seminal vesicle, bladder neck or prostatic urethra (6-8).

Diagnosis of these alterations is established principally in the stage of greater sexual activity, when liquid is accumulated in the seminal vesicles as a result of incomplete drainage secondary to ejaculatory duct stenosis (2,3). This is when chronic prostatitis symptomatology presents (dysuria, frequent urination, painful ejaculation) and on some occasions, recurrent epididymitis. Factors justifying surgery are *1)* patients who have been treated with multiple antibiotics and who have incurred considerable monetary expense for a prolonged period of time and *2)* young patients presenting with infertility (3).

The advent of laparoscopic procedures has offered new possibilities in urological surgery. Even though pathology of the seminal vesicles requiring surgery is rare, it is an excellent indication for the laparoscopic approach (5). In fact, conventional surgery is clearly invasive given the deep positioning of the seminal vesicles.

Surgical approaches include transperitoneal, transvesical, paravesical, retrovesical and transoccigynal access (9). This last approach is direct, but painful, and the recuperation period is slow, especially in physically active patients (10). The laparoscopic approach involves a precise anatomical dissection of the seminal vesicles. This technique is significantly facilitated by the magnification (x15) of the laparoscope (5). Laparoscopic dissection is relatively simple for the surgeon who is familiar with the technique and the anatomy of the pelvis. It provides a safe approach to the seminal vesicles and excellent exposure of the structures deep within the pelvis. The deferent duct is a fundamental marker during dissection. The deferent duct ampulla and seminal vesicles are easily identifiable and dissected. Risk of damage to adjacent structures is significantly reduced if the dissection plane in the seminal vesicle region is strictly maintained. Care should be taken not to damage the structures of the neurovascular package while dissecting, stapling and cutting the thin artery extending from the tip of the seminal vesicle (1). Rapid convalescence is another advantage of laparoscopic surgery. Pain is minimal, a bladder catheter is not required, the patient can ingest food immediately after surgery and can be released from the hospital 24 to 48 hours after the procedure. After 7 days, the patient can resume physical activity. Potential risks involved in the laparoscopic approach include complications

associated with transperitoneal laparoscopic procedure (1).

The treatment of choice is surgical when lesions manifest significant urinary symptomatology. Open surgery has been the approach used in the majority of published cases. Laparoscopic surgery offers a new alternative for the excision of these lesions and is safe and effective in the hands of the experienced surgeon (1, 5). Needle puncture of the cystic lesion for therapeutic drainage is not advisable due to the high rate of recurrence or infection (2).

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