Research Paper

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A Rare Case of Renal Agenesis With Ipsilateral Ectopic Dilated Ureter

Medical Science

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ABSTRACT

A seminal vesicle cyst associated with ipsilateral renal agenesis is a rare urological anomaly. Its rarity may be making their diagnosis difficult. The case of A 36 year old man is presented, who referred for recurrent hematospermia. Imaging developed diagnosis. The patient underwent successfully laparoscopic excision of ectopic ureter and seminal vesicle cyst.

Introduction

Although the presence of congenital seminal vesicle cyst is rare, in presence of ipsilateral renal agenesis and the same side ectopic ureter entering seminal vesicle cyst, this pathology is even rarer. They may remain silent until incidental detection during the evaluation and/or treatment of other pathologies detected in adulthood (1). Herein, we report the diagnosis, management, and embryologic origins of these anomalies in our patient.

Case report

A 36 –year-old man presented with chronic dull pelvic pain that had become increasingly worse and accompany recurrent hematospermia recent. He has not any gastrointestinal problem. He also noted mild lower urinary symptoms recently. His fertility was intact. General physical examination was normal, apart from the digital rectal exam that showed a large cystic mass arising from the prostate. Blood chemistry was in normal range. Ultrasound showed an irregular hypoechoic mass occupying the left side of the pelvis and absence of the ipsilateral kidney. TRUS showed a 7x6-6 cm cystic mass adjacent to the left seminal vesicle. Further evaluation using computed tomography scans revealed no left kidney with ipsilateral seminal vesicle cyst. Abdominal pelvic MRI confirmed diagnosis: a large cystic mass arising from left seminal vesicle. (Figures 1-2) Cystoscopy showed buldjing left ejaculatory duct at the veromentanom and intact bilateral hemitrigones withought left ureteral orifice. After full evaluation the patient was scaduled for transperitoneal laparoscopic excision of cyst. The patient was positioned in a supine and semitrendlenberg position. Transperitoneal access with open access was achieved. Three ports were used; a 10-mm trocar at umbilicus, a 5-mm in right pararectus museminalcle and a 5-mm trocar at left pararectus muscle.2

By an incision in the retrovesical peritoneum the large cystic mass was identified in the left side of pelvic large remnant ureter was identified and dissected cephalad after mobilizing the colon. There was not any renal mass. The left vas deferens was identified and dissected medially while it was entering in separately to the seminal vesicle so it was clipped and divided. After careful dissection, the lesion was incised. Chocolate like liquid was discharged .Specimen was removed from umbilical port. The operation time was 115 minutes, with minimal blood loss. The patient was discharged on the second postoperative day, and had no complaints during a routine follow-up visit

Discussion

About 200 cases of seminal vesicle cysts have been reported to date. The seminal vesicle cyst may be congenital or due to chronic inflammation or obstruction (2). Acquired cysts are often bilateral and are seen in an older age group after a history of chronic prostatitis or prostate surgery (3).

Accumulation of secretions in the gland owing to insufficient drainage, which is associated with atresia of the ejaculatory ducts, causes subsequent distention of the seminal vesicles, leading to formation of a cyst (3). Congenital cysts are usually unilateral with no predilection for side (4). In our patient, cyst had been produced unilateral, too. The cysts smaller than 5 cm may remain asymptomatic and are usually discovered incidentally .It is usually detected in the 3rd to 5th decade of life .But may be detected earlier with the increasing use of CT and magnetic resonance imaging (MRI) (5). Patients may be asymptomatic or may present with symptoms such as abdominal, perineal, and pelvic pain; ejaculatory pain; dysuria; frequency; hematuria; urinary tract infections; and symptoms of epididymitis and prostatitis (3,5) Other reported symptoms include infertility, hemospermia, and, rarely, enuresis (6). About this case, diagnosis of this problem was done with pelvic pain.The cyst may be large enough to protrude into the bladder as in this case or may even prolapse into the bladder neck. Cysts of the seminal vesicles greater than 12 cm have been termed "giant" cysts and often are present with symptoms of bladder and colonic obstruction because of mass effect (5). Less commonly, seminal vesicle cysts have been discovered in prepubertal boys examined for epididymitis and chronic urinary tract infections (7). In our patient, cyst was been large too that it had pressured to bladder and caused pelvic pain.The association of a seminal vesicle cyst with ipsilateral renal agenesis was first reported in 1914 by Zinner and subsequently came to be known as Zinner's syndrome (8). The association between seminal vesicle cysts and ipsilateral renal agenesis can be explained by their common embryologic origin. Approximately two thirds of seminal vesicle cysts are associated with ipsilateral renal agenesis. In 27% of cases, a ureteral bud remnant may also exist (4). Normal development of the kidney depends on induction by the ureteral bud and mesonephric duct (8).The embryogenesis of this condition is believed to occur between weeks 4 and 7 of gestation when the ureteral bud arises off the mesonephric duct. Usually, the ureteral bud must rise into the center of the metanephricblastema to form the kidney (8). Complete failure of the mesonephric duct will result in absence of the ipsilateral kidney, ureter, hemitrigone, and seminal vesicle. Failure of the ureteral bud to develop and meet the metanephricblastema will lead to ipsilateral renal agenesis or dysplasia; however, the seminal vesicle will develop normally. Maldevelopment of the distal mesonephric duct results in absence of the ureteral bud, and, therefore, ipsilateral renal agenesis or dysplasia in addition to atresia of the ejaculatory duct with subsequent obstruction of the seminal vesicles and formation of cysts (9). Ectopic ureters entering seminal vesicle cysts associated with ipsilateral renal agenesis are uncommon however; they have been reported and may be complicated by reflux and obstruction (10). The differential diagnosis of cystic pelvic masses in the male includes müllerian duct and ejaculatory duct cysts (6).

Other possibilities include a hydronephrotic pelvic kidney; cysts of the prostate, ejaculatory duct, müllerian duct, or utricle; and tumors arising from the bladder, prostatic urethra, or retroperi-

toneal structures (9).

Several imaging techniques used in the evaluation and differentiation of pelvic cystic masses. Sonographic findings can confirm the cystic nature of the pelvic mass and determine the relative size and location (5). Computed tomography can accurately show renal anomalies and define pelvic anatomic characteristics. The multiplanar ability of MR imaging to define abdominal and pelvic anatomy and to differentiate cystic malformations of the pelvis make it the ideal imaging study, allowing prompt diagnosis.(3) If the condition is asymptomatic, observation without intervention is an acceptable option. In symptomatic patients' seminal vesiculectomy along with enbloc excision of the ipsilateralampullary cyst, ectopic ureter and dysplastic renal tissue is the preferred treatment option (10).

Seminal vesicle cyst with or without ipsilateral renal agenesis while is a rare entity but should be considering in any young patient with unusual urinary and infertility symptoms. Surgical excision of seminal vesicle cyst depends on the presence of clinical symptoms and size and location of the cyst. Transperitoneal laparoscopic surgery has appeared to be most suitable for surgical treatment of seminal vesicle cyst as it features the advantage of minimal invasiveness and direct access to the seminal vesicle area with an excellent image.

Acknowledgments

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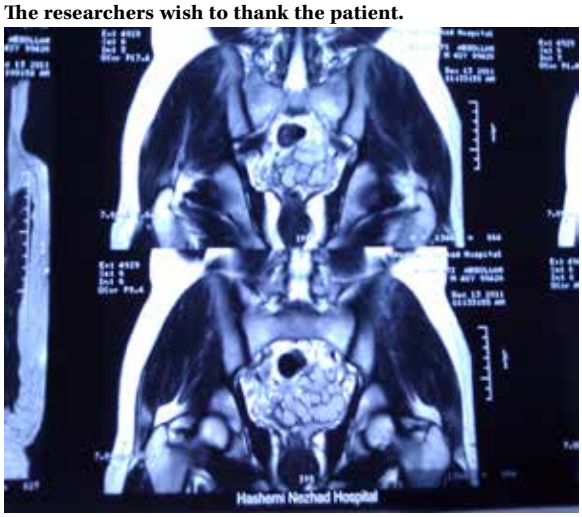

Figure 1: Coronal T2-weighted MRI image; Cystic mass with tubular structure left seminal vesicle

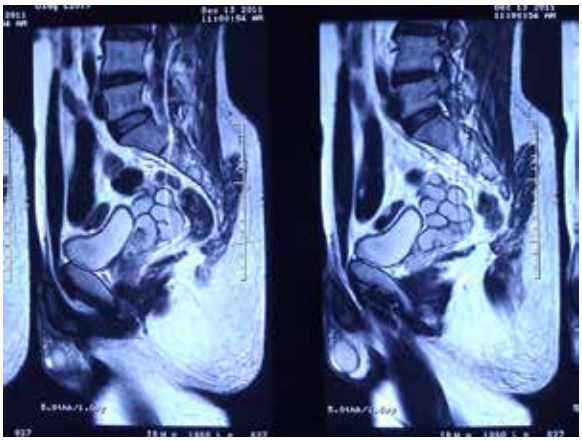

Figure 2: Enhanced sagittal T1-weighted MR image of pelvis; Large mass of seminal vesicle left almost entirely determined

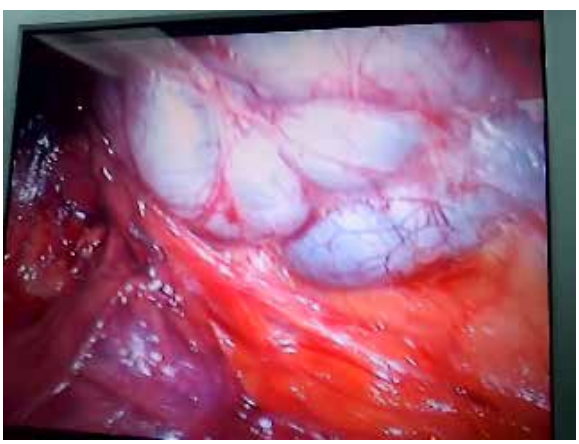

Figure 3: Seminal vesicle cysts left laparoscopic view after open the peritoneal in pelvic

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