CASE REPORT

MULLERIAN DUCT CYST WITH IPSILATERAL RENAL AGENESIS: MRI FINDINGS

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ABSTRACT

Müllerian duct cyst is an uncommon congenital anomaly in males. They are usually small, asymptomatic masses, located behind the upper half of the prostatic urethra. Here, we report the pelvic magnetic resonance imaging (MRI) findings of a patient with a giant Müllerian duct cyst with ipsilateral renal agenesis, incidentally detected from gastric symptoms.

Keywords: Müllerian duct cyst, Prostate, Magnetic resonance imaging

AYNI TARAFTA RENAL AGENEZİNİN EŞLİK ETTİĞİ MULLERIAN KANAL KİSTİ: MRG BULGULARI

ÖZET

Müllerian kanal kistleri erkeklerde seyrek olarak görülen konjenital anomalilerdendir. Genellikle küçük, asemptomatik kitlelerdir ve prostatik üretranın üst yarısının arkasından orijin alırlar. Bu olguda dev Müllerian kisti ve aynı tarafta renal agenezisi olan, insidental olarak tespit edilen olgunun MRG bulguları sunuldu.

Anahtar Kelimeler: Müllerian kanal kisti, Prostat, Manyetik rezonans görüntüleme

INTRODUCTION

Müllerian duct cyst is an uncommon congenital anomaly of males. The cysts usually present as small, midline, cystic masses, behind the upper half of the prostatic urethra. They are usually asymptomatic. Rarely a Müllerian duct cyst may be associated with renal agenesis[1]. Here, we report the pelvic MRI findings of a patient with a giant Müllerian duct cyst with renal agenesis, incidentally detected from gastric symptoms.

CASE REPORT

A 25-year-old man applied to an emergency room with complaints of gastric pain. He had no urinary symptoms or history of prostatitis. In an abdominal ultrasonography the right kidney could not be visualized at the normal localization. A 15x6x3.8 cm multiloculated cystic mass was incidentally detected in the pelvis. It was laterally located, extending superiorly to the level of the right iliac artery and vein and compressing the bladder

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anteriorly. Tc 99 m DTPA showed no uptake on right kidney. A pelvic MRI showed that the mass was hyperintense on T1 and T2 weighted images. It was located high above the base of the prostate. The right seminal vesicle was displaced superiorly by the multilobulated cystic mass. After IV contrast medium was given, the lesion did not show any contrast enhancement. There was no ectopic ureteral orifice or dilatation of the ejaculatory duct (Figure 1). The spermiogram showed an increase in the leucocyte count and a decrease in volume. Urine culture was normal. The overall diagnosis was Müllerian duct cyst with ipsilateral renal agenesis. As our patient had no symptoms, surgical resection was not recommended.

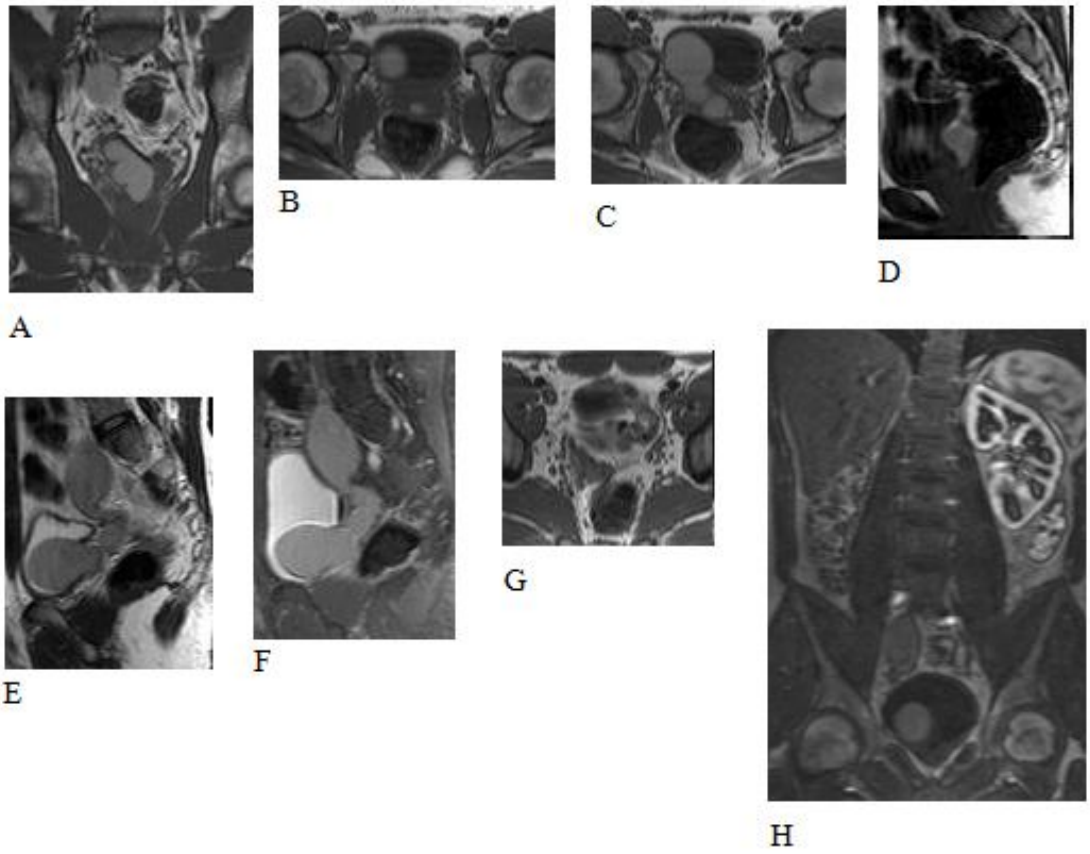

Figure 1 Pelvic MRI shows a multiloculated, tubular, complex cystic mass in the right pelvis compressing the bladder posteriorly. It originated from the midline, high above the base of the prostate. It was hyperintense on T1 (A-D) and T2 (E) weighted images indicating mucinous material or hemorrhage. The cyst did not show any contrast enhancement (F). The right seminal vesicle was displaced by the mass superiorly (G). The right kidney was agenetic and the left kidney was hypertrophic seen on postcontrast fat saturated T1 weighted image (H).

DISCUSSION

Müllerian duct cyst results from focal failure of regression and focal saccular dilatation of the Müllerian duct, which is a midline cystic prostatic structure that neither communicates with the posterior urethra nor contains any sperm[2]. They are uncommonly associated with renal agenesis, but external genitalia are normal[3]. They are usually asymptomatic but may present in early adulthood with urinary retention, urinary tract infection, or symptoms of ejaculatory duct obstruction such as hemospermia. The peak clinical incidence of Müllerian duct cysts is in the age range of 20-40 years. Few cases are reported in infancy[4].

Midline prostatic cysts are utricular and Müllerian duct cysts located behind the upper half of the prostatic urethra. Utricular cysts are the most common congenital cysts, occurring as a result of dilatation of the prostatic utricle. Most utricular cysts are diagnosed in childhood because of association with hypospadias, pseudohermaphroditism, and cryptorchidism. An utricular cyst rises from the verumontanum and communicates with the posterior urethra, a feature that helps distinguish it from a Müllerian duct cyst radiologically. In contrast, Müllerian duct cysts are connected to the verumontanum by a stalk but do not communicate with the posterior urethra. They extend above the prostate if large[4]. Carcinoma is a rare potential complication[3]. Diverticulosis of the ampulla of the vas deferens, seminal vesicle cysts, ectopic ureteroceles, and abscesses are cystic lesions seen on the lateral pelvis. If these cysts reach big sizes, they displace the bladder anteriorly and the colon posteriorly and cause symptoms[5]. In our case, the giant cyst was located high above the base of the prostate. The configuration of the cyst was tubular, growing toward the right pelvis and extending superiorly and the patient did not have symptoms of bowel or bladder obstruction. It was hyperintense on T1 and T2 weighted MR images showing mucinous or bloody fluid. The right seminal vesicle was displaced by the mass.

In the differential diagnosis of our case, we diagnosed seminal vesicle cysts and prostatic cysts due to lateral location and utricle cyst due to midline location. Seminal vesicle cysts are unilateral and commonly protrude into the bladder. They are also associated with ipsilateral renal agenesis. Congenital prostatic cysts lie in the lateral lobe. They are rare and often associated with other anomalies[4]. In our case, the cyst originated from the midline, and the upper half of the prostate, clearly seen in coronal and sagittal MR images. In contrast, an utricular cyst rises from the verumontanum and communicates with the posterior urethra, a feature that helps distinguish it from a Müllerian duct cyst radiologically[4].

Sonography, in particular transrectal sonography, is an excellent tool for the evaluation of müllerian duct cyst. In our case, because our patient had no symptoms and surgical resection was not recommended, transrectal ultrasonography was not performed. Transabdominal sonogram demonstrated the cystic mass clearly, but its origin could not be defined. MRI has been reported to be useful in the diagnosis of Müllerian duct cyst by showing signal characterization of the mucus or hemorrhagic cystic component[6]. On MRI the usual appearance of a Müllerian duct cyst is low T1 weighted and high T2 weighted signal intensity. However, they may show increased T1-weighted and T2-weighted signal intensity reflecting increased concentration of mucinous material or hemorrhage.

Surgical excision of a Müllerian duct cyst depends on the size and location of the cyst and the presence of clinical symptoms. Almost 60% of adults diagnosed with a Müllerian duct cyst did not experience any cyst-related symptoms or ejaculatory-fertility impairment, so treatment was only recommended in symptomatic or infertile patients[7].

In conclusion, Müllerian duct cyst associated with ipsilateral renal agenesis is a rare urological anomaly. MRI accurately defines anatomic relationship when one is planning to excise a Müllerian duct cyst due to

multiplanar imaging capacity, superior soft tissue contrast, and lack of ionizing radiation. Interestingly in our case, the giant Müllerian duct cyst was a complicated cystic mass, extending to the right pelvis, compressing the bladder minimally.

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