CASE REPORT PEER REVIEWED | OPEN ACCESS

Management of giant seminal vesicle cyst together with ipsilateral urinary anomaly: A case report

Yunus Emre Goger, Mehmet Kilinc, Giray Sönmez, Serkan Ozkent, Emil Civazade

ABSTRACT

Introduction: Seminal vesicle cysts are rarely seen. They are usually asymptomatic but symptomatic when they all of large size. Ectopic ureteral opening is less common with seminal vesicle. Treatment of seminal vesicle cyst in symptometic patients is surgery. We describe a patient with a seminal vesicle cyst and associated renal agenesis. Case Report: A 27-year-old male presented to our clinic with lower urinary system complaints. Pelvic magnetic resonance imaging (MRI) scan revealed a massive cyst in the right seminal vesicle. Transrectal ultrasound, cystoscopy and ultrasound-guided cyst puncture were performed for differential diagnosis. The results were evaluated and the operation was performed. During the operation it was observed that uretar and rudimentary kidney were opening the cyst. Nephroureterectomy and cyst excision was done. Conclusion: Renal agenesis with seminal vesicle cyst is a rare disease. A few case reports are presented in literature but no algorithm is available. Pelvic MRI scan, cystoscopy and transrectal ultrasound should be performed for differential diagnosis in patients with seminal vesicle cysts. Surgical treatment is needed in symptomatic patients.

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INTRODUCTION

Renal agenesis is supposed to be the predominant cause of congenital solitary kidney; and it has a prevalence of 1:1300 [1]. An ectopic ureter entering into a cystic seminal vesicle is more rare [2–4]. The seminal vesicle in the embryonic development and the kidney embryogenesis originate from the mesonephric duct. Mesonephric duct malformations rarely affect the kidney, ureter and seminal vesicles together. The majority of patients are asymptomatic. Seminal vesicle cysts are usually present in second and third decades of life. There is no defined treatment for theirmanagement as they are rare. We describe the diagnosis and treatment of a 27-year-old male patient who complained to our clinic with a giant seminal vesicle cyst [5–8].

CASE REPORT

A 27-year-old, married male who has two children, was referred to our clinic for difficulty in urination, frequent urination and pain in pelvic area. Lack of right

kidney and multilocular cystic lesion with a diameter of 70x84 mm in the lateral pelvic area neighboring rectum was reported in USG and abdomen CT in the hospital from where he referred to us. Genitourinary system was normal on physical examination. Soft cystic mass with unclear borders was palpated on rectal exam. Urinary examination and culture were normal. Right kidney was not detected on the urinary system ultrasound. Left kidney and bladder were normal. Transrectal ultrasound and pelvic MRI scan was done. Cystic dilatations were observed in the right seminal vesicle in pelvic MRI scan and the biggest of them had a diameter of 70x60 mm (Figure 1). It was pressing on the bladder and rectum. Same results were confirmed in the transrectal ultrasound (Figure 1). Puncture was made inside the cyst. Dark brown liquid was aspirated. Plenty of spermium cells were observed in the fluid. Malignant cells were not detected cytology. Contrast material was given inside the cyst in transrectal ultrasound (TRUSG) and examined in fluoroscopy. No connection with the other seminal vesicle was observed. Retrograde contrast material exit from pelvic area to the abdomen and bladder was not observed. Cystoscopy was done for the patient. Cyst pressure was observed on right side wall of the bladder. Right side ureteric orifice was not observed. Open operation under general anesthesia was made since we could not completely explain pathogenesis. During the operation it was observed that ureter and rudimentary kidney opened to the cyst. Nephroureterectomy and cyst excision was done (Figure 2). Patient's drain was taken out on the third day since the patient did not have any postoperative complaints. The patient was discharged on the fifth day. The result of the pathology demonstrated lobular disorganization in the small kidney with primitive collecting ducts embedded in connective tissue and seminal vesicle.

DISCUSSION

Seminal vesicles and kidneys originate from mesonephric duct (Wolffian) during embryogenesis. An isolated failure of the urethral bud results in renal agenesis, but the remaining genital tract is unaffected. However, maldevelopment of the mesonephric duct in gestational week 12 affects the ipsilateral seminal vesicle and vas deferens as well as the ureter and kidney [8]. Depending on this effect it may be a rare ureter opening into the seminal vesicle with ipsilateral renal agenesis. Over time it causes cystic growth in the seminal vesicles.

Most of these cases are asymptomatic. Large cysts cause symptoms such as surrounding organ pressure, cause lower urinary tract symptom (LUTS), prostatitis, pelvic pain, ejaculation disorder and epididymitis [5, 6, 9, 10]. These patients are frequently misdiagnosed and thus treated with long-term antibiotic and NSAID's. Chronic non-recovering pelvic pain and LUTS symptoms were present in our patient. Most seminal vesicle cyst cases are diagnosed in adults in the third decades of life [7, 9–12]. Although the cause is not certain it may be caused by spermatozoa accumulation with inadequate drainage in vas deferens due to the increase in sexual activities or accumulation of urine produced in kidney inside the cyst regardless of its small amount. An ectopic ureter entering the seminal vesicle is a rare entity most commonly found on the left side which results in cystic dilatation of the seminal vesicle [13]. On the contrary, it was on the right side in our case.

In such patients, physical examination, ultrasound, TRUSG, abdominal CT scan and/or MRI scan are routinely suggested [14–16]. We preferred MRI scan as it is the best non-invasive method in demonstrating the seminal vesicle cyst and the surrounding structures [17].

There were no mesenteric cysts in MRI and a right seminal vesicle related loculated structure, was observed. But it was impossible to make an evaluation in dysplastic

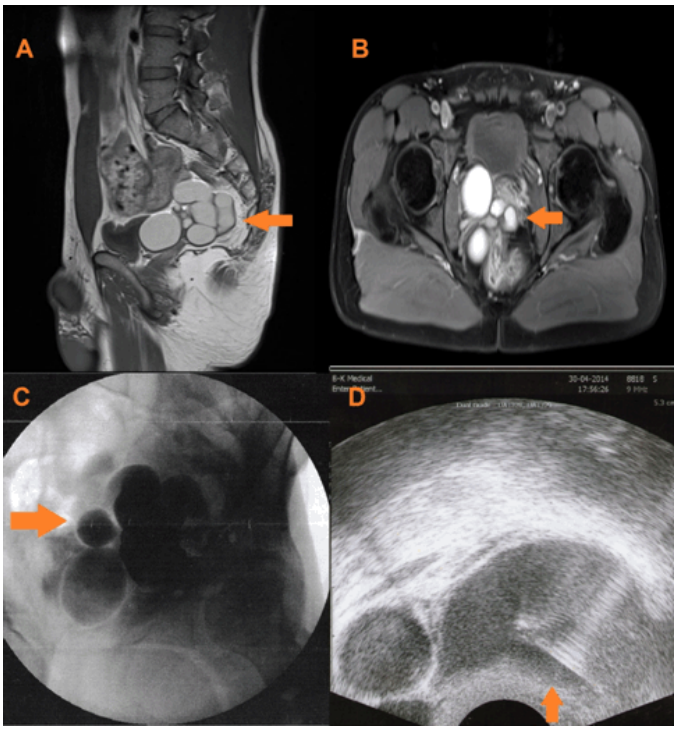

Figure 1: (A, B) Right seminal vesicle cyst on MRI scan (oblique and transvers sections), (C) Transrectal ultrasound guide has given contrast agent into the cyst (retrograde cystography), (D) Cyst with a needle puncture through TRUSG.

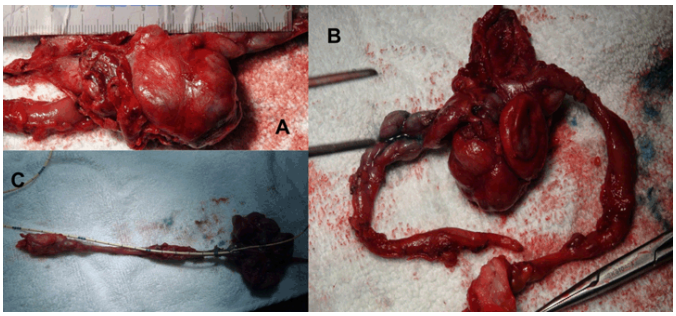

Figure 2: (A–C) Right seminal vesicle cyst and renal dysplasia with an ectopic ureter opening into the seminal vesicle.

kidney on MRI scan. Then cystoscopy was done of the patient. Cystoscopy must be done in these patients for diagnosis. Thus, the presence of ureter orifice, cyst pressure on bladder, presence of hemitrigone atrophy may affect the treatment modality [18].

Then we did TRUSG for the patient. Transrectal ultrasound is important for both the diagnosis and treatment. It can be done easily by minimally invasive procedures. Using TRUSG we evaluated the cyst content in our case and giving contrast material at the same time, we evaluated the relation between the cyst content with any structure in abdomen or bladder. Also, evaluating the presence of sperm, abscess, microbial and cytological evaluation in the cyst is required for diagnosis and treatment.

The cyst content can be aspirated completely using TRUSG. However, TRUSG-evoked cysts are usually at increased risk of recurrence and infection. Therefore, it is not a long-term effective treatment method [5, 9, 10, 19]. In our case, we decided that aspirating the large cyst in the patient with TRUSG would increase the risk of infection and recurrence and treatment would be inadequate. We decided that surgical treatment was more appropriate.

In literature, surgical interventions include open exploration with vesiculectomy, transrectal or transperineal aspiration of the cyst or transurethral unroofing of the cyst, laparoscopic approach and robotic approach [5, 7, 9, 10, 19, 20]. Treatment should only be considered on the basis of the presence of symptoms. Open surgery was the final choice since the case was asymptomatic, giant cysts were present and etiological cause could not be completely explained through examination. Operation cystectomy and partial seminal vesiculectomy were made. During the operation, cyst related ureter and rudimentary kidney were observed and excision was made. There were no postoperative complications and the patient was discharged on the fifth day.

CONCLUSION

To the best of our knowledge a case of renal dysplasia with the ipsilateral ectopic ureter mimicking seminal vesicle cyst has not been reported so far. Cystic pelvic malformations in males may result from too cranial sprouting of the ureteral bud, with delayed absorption and ectopic opening of the distal end of the ureter. A clinical algorithm consists of the history and physical examination. Primary stage transrectal ultrasound should definitely be examined and cyst content and seminal vesicle and prostate relation should be investigated. Magnetic resonance imaging scan allowed us to define precisely the anatomy of the malformation. It may be considered an excellent diagnostic tool for evaluating patients with malformation of the seminal vesicles. Although open surgery is recommended in giant cysts, we believe that laparoscopic and robotic surgery will be the primary treatment option with the development of technology and experience.

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Author Contributions

Yunus Emre Göger – Substantial contributions to conception and design, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Mehmet Kilinc – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Mehmet Giray Sonmez – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Serkan Ozkent – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Emil Civazade – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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