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Letters to the Editor

Epididymal tissue in the dilated portion of a dysgenetic kidney with an ipsilateral seminal vesicle cyst and ectopic ureteral insertion

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Dear Editor:

I am Dr Xiao-Mei Ma, from the Department of Pathology in Changzheng Hospital at the Second Military Medical University, Shanghai, China. We present here a case report of a seminal vesicle cyst (SVC) in a young man with epididymal tissue in a dysgenetic kidney and ectopic ureteral insertion. SVCs are usually found in the second to fourth decades of life. SVCs can be congenital or acquired. Congenital SVCs seem to be invariably associated with renal dysplasia, hypoplasia, agenesis and duplication abnormalities in the same side, with the exception of two cases [1, 2].

We report here a case report of a 26-year-old man who was referred to our hospital owing to absence of the left kidney, identified by sonography during a health examination. Magnetic resonance imaging (MRI) and magnetic resonance urography (MRU) showed a cyst expanding from the kidney fossa to the seminal vesicle fossa instead of the left kidney, ureter and seminal vesicle (Figure 1). His right urinary tract was normal. A solid mass was present in the left side of the bladder, and the left ureteral orifice could not be seen with a cystoscope. Laboratory tests of the blood and urine were normal. Clinical examination showed that the patient had a normal pair of testes, epididymis and penis.

The surgeons performed a retroperitoneoscopy together with a small inclined inferior abdominal incision under general anaesthesia. At first, the patient was recumbent on his right arm. The cyst was resected in the postperitoneal region. There were three laparoscopic ports: a 12-mm trocar port at the left postaxillary line below the 12th rib, a 5-mm trocar port at the preaxillary line and 2 cm above the spina iliaca and a 10-mm trocar port at the preaxillary line below the arcus costarum. During the operation, the surgeons noticed that the cyst was just as shown by MRI and MRU. There were no vessels to the left kidney. The cyst was dissociated easily. The ectopic ureter opened in the seminal vesicle cyst, which was filled with chyliform fluid. At first, the surgeons suspected that the fluid was liquor puris, but it was later found to be semen with few sperm, which had poor vitality. Thereafter, the patient was moved to the Trendelenburg position. A small inclined inferior abdominal incision was made at the left lateral border of the rectus muscle. This cyst was resected completely.

The total operating time was 120 min, with an estimated blood loss of 100 mL. The patient was able

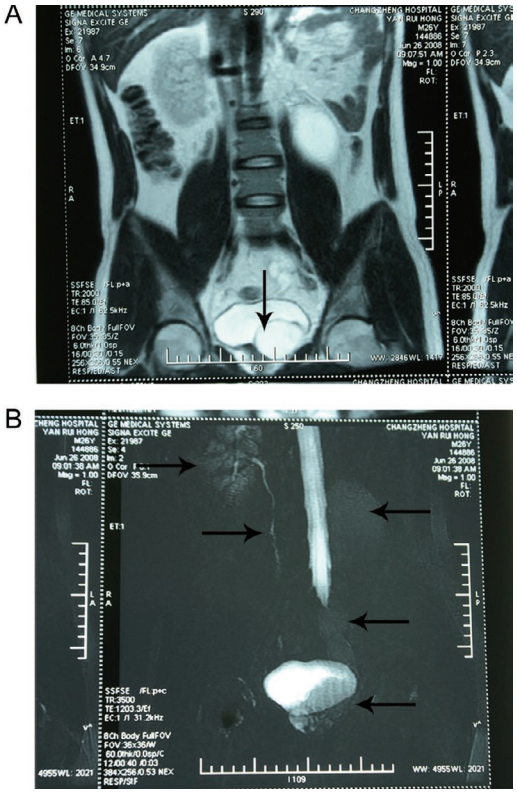

Figure 1. Magnetic resonance imaging (MRI) revealed that there was a cyst from the kidney fossa to the seminal vesicle fossa. (A): The seminal vesicle was cystic and compressed the bladder from outside (arrow pointing downward). The dilated ureter entered the expanded left seminal vesicle. (B): The right urinary tract was visible (arrows pointing right) under MRU, whereas the left one was absent. The left kidney was dysgenetic and cystic, and the left ureter was dilated (arrows pointing left).

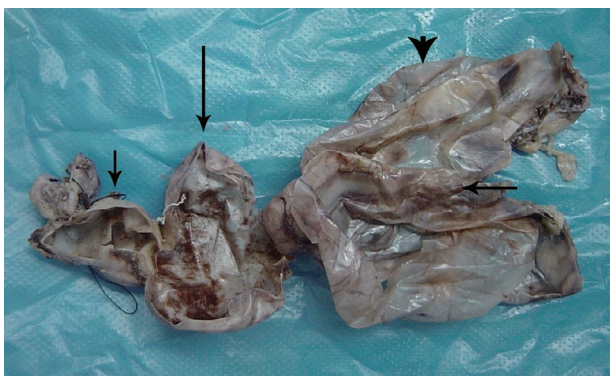

Figure 2. The specimen was a membranous cyst. One edge was the agenetic left kidney (arrowhead). Next to the agenetic left kidney was the dilated ureter (long arrow) and the seminal vesicle (short arrow). The image obtained by microscopy of the surgical specimen is shown by the arrow pointing left.

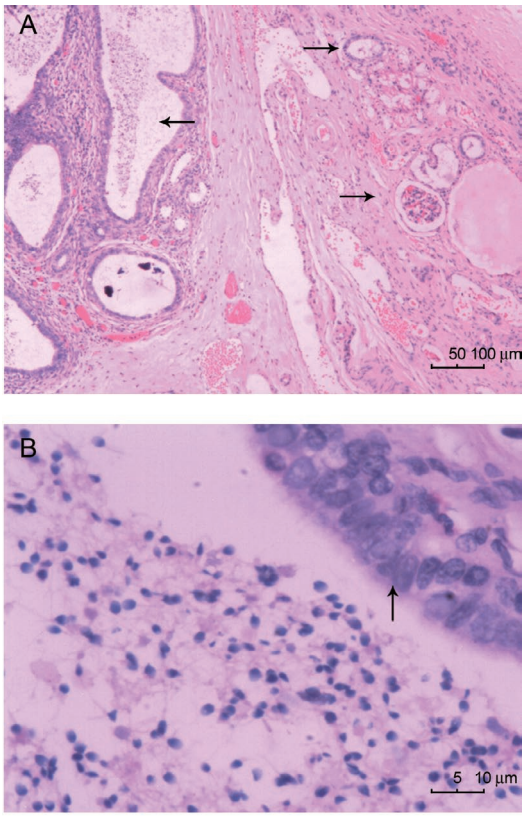

Figure 3. (A): A glomerulus and renal tubules (arrows pointing right), as well as expanded epididymal ducts filled with abnormal sperm (arrow pointing left), were in the wall of the agenetic kidney (hematoxylin and eosin, original magnification, × 40). (B): The cells covering the epididymis had cilia (arrow pointing upward) (hematoxylin and eosin, original magnification, × 400).

to eat and walk within 24 h after the operation.

Macroscopically, the specimen was a membranous cyst filled with turbid fluid (Figure 2). It was 21.0 cm long and 1.5–6.0 cm in diameter.

Microscopically, there were glomerulus, renal tubules and expanded epididymal ducts filled with abnormal sperm in the dysgenetic kidney (Figure 3). The dilated ureter was lined by urothelial epithelium. The seminal vesicle cyst wall consisted of a muscular layer lined by urothelial epithelium. Thus, the pathological diagnosis was epididymal tissue in the dilated portion of the dysgenetic kidney with an ipsilateral seminal vesicle cyst and ectopic ureteral insertion.

The patient recovered quickly and fathered a child who was born 2 years later.

In this case, the patient had no history of infection. The left ureteral orifice was not in the bladder, but was inserted into the SVC. We found glomerulus and renal tubules in the specimen using microscopy. Those findings confirmed that the SVC of the patient was not acquired, but congenital, and that the left kidney was dysplastic. Until now, there have been only 27 papers about SVCs with renal dysplasia of a kidney bud [3] in the PubMed literature. There was a report of ectopic prostate glands and urothelial epithelium in a seminal vesicle cyst [4]. This is the only case in the literature with epididymal tissue in the dysplastic kidney. The dysplastic kidney in our patient was a cystic with a thin wall. The cyst described in this case was probably the largest one out of all of the published cases.

Seminal vesicle cysts accompanying renal dysplasia may be related to the dysregulation of the embryonic development of the distal mesonephric duct, which develops into the genitourinary system in humans. Thus, urinary malformations are associated with two-thirds of all the SVC cases, consisting mostly of ectopic ureteral insertion and ipsilateral renal dysgenesis/agenesis, and the epididymis developing from the mesonephric duct may partly reside in the kidney, as in this case.

Sometimes there is a mass in the bladder because the SVC is compressing it from the outside. Surgeons usually misdiagnose such a mass as a tumour. There have indeed been reports of SVC associated with carcinoma of the bladder [5].

After years of sexual activity, secretions reach the maximum level and are drained into the SVC, the ureter and the agenetic/dysgenetic kidney, which cause the cyst to fill with seminal fluid. The sperms are inactive or immature. Thus, the patients are usually infertile. Surgery is always a successful treatment for this condition, especially for patients with symptoms [6].

There is a great danger of recurrence or infection in conventional treatment methods. Radical resection is effective. Laparoscopy together with small incision through a transperitoneal approach has gained acceptance because of the absolute advantages of lower postoperative pain, lower morbidity, shorter hospital stay and shorter convalescence. The use of laparoscopy for the management of a large seminal vesicle cyst with ipsilateral renal agenesis has been previously reported. Han *et al*. [7] reported a patient with a stone within the SVC; this patient was treated successfully with laparoscopic surgery. Taken together with our case, these reports indicate that the laparoscopic surgery may be the first choice for SVC patients who must have surgical treatment. However, the rarity of this condition makes extensive study of such cases impossible.

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