Case Report

Congenital unilateral absence of vas deferens with contralateral testicular atrophy

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Abstract

We present a case report of a 25-year-old obese man complaining of primary infertility for 2 years. After a thorough examination and investigation were done, he had congenital unilateral absence of vas deferens with ipsilateral renal agenesis and a palpable vas deferens in the contralateral side with testicular atrophy. Semen analysis showed low semen volume (0.5 mL) with azoospermia. Hence, a scrotal exploration and a crossover transseptal vasoepididymostomy to relocate the vas deferens were done. After 6 months, the sperm concentration reached 5 × 10^6/mL with good motility (40%) and volume (1.5 mL).

Keywords: Congenital unilateral absence of vas deferens, infertility, semen analysis

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INTRODUCTION

Renal embryological development takes place at the 5th week of gestation. The ureteral bud branches out and penetrates the metanephric blastema. Many problems can arise from any insult threatening the metanephric ducts, such as abnormal development of kidneys, ureters, seminal vesicles, vas deferens, and epididymides.[1,2] Congenital unilateral absence of vas deferens (CUAVD) is estimated to occur in 1% of men.[3] It is the result of a developmental defect of the Wolffian duct. In total, 26% of patients with CUAVD present with unilateral renal agenesis.[4,5] Congenital absence of the vas deferens (CAVD) can be either unilateral (CUAVD) or bilateral (CBAVD), and it is responsible for 1% of male infertility. Most of these cases are bilateral (1%–6%), and only 0.4% of male infertility cases are unilateral. This case report signifies the clinical improvement after crossover vasoepididymostomy in a case infertility with CUAVD and contralateral testicular atrophy.

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CASE REPORT

We report a case of a 25-year-old man complaining of primary infertility for 2 years. He had a history of two failed attempts of intracytoplasmic sperm injection (ICSI) utilizing surgically retrieved sperms through testicular sperm aspiration. The patient was known to have asthma; otherwise, no significant medical history was reported. Examination revealed that he was obese with a body mass index of 41.29 kg/m^2. He had a normal-sized left testis (18 mL) but no vas deferens. He had an atrophied right testis (10 mL) with a palpable vas deferens.

Investigations

Renal ultrasound showed left renal agenesis. Semen analysis

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was performed, which showed low semen volume (0.5 mL) with azoospermia.

Course of management

To increase the sperm count, we planned scrotal exploration and a transseptal vasoepididymostomy[6] to relocate the vas deferens to the left testes with intraoperative sperm retrieval. During the scrotal exploration, the left testis was exposed, it was normal in size with no vas deferens, and the epididymis was hypoplastic. The left mini-microsurgical sperm retrieval was performed, and the specimen was sent to the *in vitro* fertilization laboratory; the specimen was positive for the presence of sperms. The right testis was then exposed, which was small in size with a small epididymis, and was detached (dissociated from the testis). The vas deferens was palpated and transacted at the area of the straight vas deferens. We pulled the vas through the right-sided tunica vaginalis, through the dartos intertesticular septum, and through the left tunica vaginalis as we opened the window using the diathermy.

The patient was then discharged home after 24 h in good and stable. He was prescribed augmentin 1 g tablet every 12 h orally for 7 days and acetaminophen 1 g orally every 6 h for the pain for 10 days. After 3 months, semen analysis showed a picture of cryptozoospermia and the sperms were utilized in a cycle of ICSI. After 6 months, the sperm concentration reached 5×10^6/mL with good motility (40%) and volume (1.5 mL). Twelve months later, the patient had his first child.

DISCUSSION

A 25-year-old Saudi married man complained of 2 years of primary infertility with an absent left vas deferens, left renal agenesis, and normal left testis. On the contrary, the presence of the right vas deferens and atrophied testis was noted. CUAVD is well described in the literature. CAVD association with cystic fibrosis transmembrane conductance regulator gene mutations has been reported, and many studies have focused on this association in recent years.[7] However, the absence of vas deferens on the one side with atrophied testis on the other side is extremely rare. Hence, we believe that this is the first case reported in the literature. This case report is important to shed light on the possibility of reintroducing the vas deferens to the contralateral testis.[8] A study was made on 150 patients showing that CUAVD is more frequently associated with renal agenesis (73.3%), compared to the bilateral form (11.8%).[9] After extensive search in literature, there were no documented cases of CUAVD with contralateral testicular atrophy without a history of previous surgery or intervention.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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