

Unilateral Seminal Vesicle Agenesis Associated with Contralateral Hypoplasia of Seminal Vesicle: A Case Report

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ABSTRACT

A 42-year-old man with unilateral agenesis of seminal vesicle associated with contralateral hypoplasia of seminal vesicle is presented. The patient was referred for evaluation of infertility. Physical examination was normal. Semen analysis yielded azoospermia with low seminal volume of 1 mL. Transrectal ultrasonography (TRUS), Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) demonstrated absence of left seminal vesicle and hypoplastic right seminal vesicle. TRUS may be a good method for initial evaluation of these such anomalies. However, CT and MRI should be reserved for the cases whose TRUS results are not conclusive. Assisted reproductive techniques were recommended to the patient for children.

Key words: Seminal vesicle, agenesis, anomalie, infertility

ÖZET

Tek Taraflı Seminal Vezikül Agenezi İle Karşı Taraf Seminal Vezikül Hipoplazisi Birlikteliği: Bir Olgu Sunumu

Tek taraflı seminal vezikül yokluğu ile karşı taraf seminal vezikül hipoplazisi olan 42 yaşındaki bir erkek sunulmuştur. Hasta infertilite nedeniyle başvurdu. Fizik muayenesi normaldi. Semen analizi azoospermi ve 1ml'nin altında semen volümü olduğunu gösterdi. Transrektal Ultrasonografi (TRUS), Bilgisayarlı Tomografi (BT) ve Manyetik Rezonans Görüntüleme (MRI) ile sol seminal vezikül yokluğu ve sağ seminal vezikül hipoplazisi saptandı. TRUS bu tip anomalilerin ilk değerlendirmesinde iyi bir metod olabilir. Bununla birlikte, BT ve MRI, TRUS bulguları kesin değilse çekilmelidir. Hastaya çocuk sahibi olması için yardımcı üreme teknikleri önerildi.

Anahtar kelimeler: Seminal vezikül, agenez, anomalie, infertilite

Agenesis of seminal vesicles can be unilateral or bilateral. The incidence of unilateral agenesis of seminal vesicle is 0.6-1% (1). The seminal vesicles arise from outpouchings of the distal mesonephric ducts during the 7th week of gestation. Failure of proper development of the mesonephric duct can result in a variety of congenital anomalies of the kidneys, ureters, and seminal vesicles (2-4). Herein, we report a case with absence of unilateral seminal vesicle associated with contralateral hypoplasia of seminal vesicle.

CASE REPORT

A 42-year-old man was referred for evaluation of infertility. Physical examination was normal. Semen analysis yielded azoospermia with low seminal volume of 1mL, low PH of 6.5 and 15-20 leucocytes. Serum Testosterone (T), Follicle-Stimulating Hormone (FSH) and Luteinizing Hormone (LH) were normal. Semen fructose test was negative. Abdomino-Pelvic Ultrasonography showed normal kidney, ureter, and bladder. Transrectal ultrasonography (TRUS) demonstrated no left seminal vesicle and hypoplastic right seminal vesicle with ovoid cystic shape (2.0x0.8cm) (Figure 1). Axial image of Computed Tomography (CT) and T1-WI image of Magnetic Resonance Imaging (MRI) revealed absence of left seminal vesicle and hypoplastic right seminal vesicle with similar

signal intensity of muscle or bladder (Figure 2A, B).

DISCUSSION

The seminal vesicles are paired secretory glands just posterior to the bladder. Normal seminal vesicle dimensions are 3cm in length (± 0.5 cm), 1.5cm in width (± 0.4 cm). The shape of the seminal vesicle is variable; they may be round, tubular, or ovoid (4). The function of seminal vesicle is important for fertility. Parameters as sperm motility, sperm chromatin stability, and immuno-protection may be changed in case of its hypofunction (5).

Anomalies of the seminal vesicles can be categorized in to abnormalities of number (agenesis, fusion), canalization (cysts) and maturation (hypoplasia) (6). Seminal vesicle lesions are uncommon, but it may be detected more commonly with increased use of TRUS, CT or MRI, and it should be considered when evaluating males with pelvic masses. There are many causes of pelvic masses in males. Small cysts may occur in the prostate, ejaculatory duct, or cowper gland. Mullerian duct or utricule cysts are not uncommon, but are midline. Tumors may arise in bladder, prostate, urethra, or other pelvic structures including, rarely, the seminal vesicle. Abscesses may occur in a variety of locations (4,7,8).

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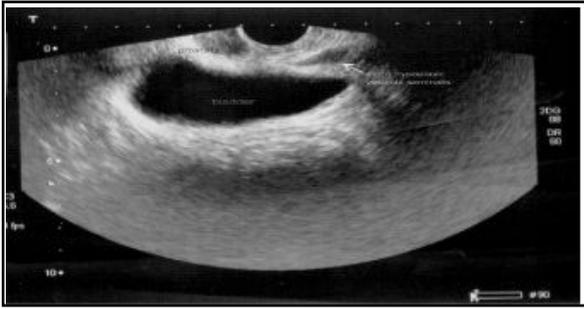


Figure 1: Transrectal ultrasonography (TRUS) shows no left seminal vesicle and right hypoplastic seminal vesicle with ovoid cystic shape (2.0x0.8cm).

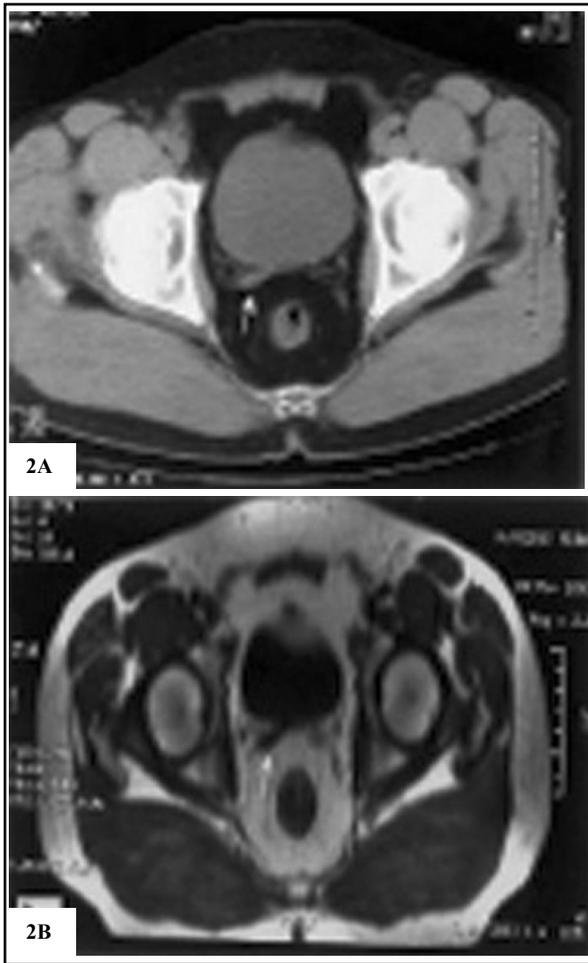


Figure 2 (A,B): CT and MRI demonstrates absence of left seminal vesicle and right hypoplastic seminal vesicle with similar signal intensity of muscle or bladder.

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Early imaging of the seminal vesicles was accomplished by seminal vesiculography. Although it is still regarded as the gold standart for visualizing the male reproductive tract, it is invasive and carries with a risk of damage to the vas deferens. Therefore, seminal vesiculography is generally used prior to definitive surgery for obstruction. Recently, TRUS has replaced seminal vesiculography as diagnostic technique of choice in the evaluation of male pelvic reproductive anatomy. TRUS is indicated in infertile patients with low volume azoospermia and low volume oligoasthenospermia as well in men with painful ejaculation or recurrent hematospermia. CT can very accurately show the intennal pelvic organs; thus absence of seminal vesicles or mass arising in them is easily detectable by CT (4,7,8). MRI has contributed to more precise imaging of the seminal vesicles. In MRI imaging, normal seminal vesicle signal intensity is similar to that of muscle or bladder on T1 weighted images. On T2 weighted MRI images, the seminal vesicles display high signal intensity that is greater than that of the surrounding fat. CT and MRI should be reserved for more complex situations and pre-surgical intervention (4,8). The application of TRUS has assumed a significant role in the imaging of seminal vesicles. TRUS is more readily available and economical according to CT and MRI (4,9). In the present case, TRUS was performed to the patient for initial evaluation, and it showed absence of left seminal vesicle and hypoplastic right seminal vesicle with ovoid cystic shape. CT and MRI were also demonstrated no left seminal vesicle and hypoplastic right seminal vesicle. Similarly the other reports, T1 weighted image of MRI showed the hypoplastic right seminal vesicle the same signal intensity as muscle or bladder.

Agenesis of seminal vesicle is unreconstructable and reguires no surgical or medical treatment. Microsurgical epididymal aspiration or testicular sperm extraction combined ICSI have provided a viable treatment strategy for the management of such cases (10). Similarly, Microsurgical epididymal aspiration or testicular sperm extraction combined ICSI was recommended to the patient.

In conclusion, absence of unilateral seminal vesicle associated with contralateral hypoplasia of seminal vesicle is a rare situation. The diagnostic work-up consists of TRUS, CT and MRI. TRUS may be good method for initial evaluation of these such anomalies. However, CT and MRI should be reserved for selected patients when the result of TRUS is not conclusive. In such cases, assisted reproductive techniques should be recommended to the patient for children.

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Kabul Tarihi:13.02.2008