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**Columns: CASE REPORT**

**Ectopic insertion of the ureter into the seminal vesicle**

El-Ghar MA *et al*. Ectopic ureteic insertion

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**Abstract**

We present a case of left ectopic ureter insertion into the left seminal vesicle which is a rare anomaly. Incidence of ectopic insertion of the ureter is more common in females and usually associated with incontinence leading to the diagnosis while in male it is present with infection. Ectopic ureter is defined as abnormal insertion of the ureter, in male occurring in posterior urethra approximately 50% of cases. Other sites include the seminal vesicle (approximately one-third), vas deferens, bladder neck, prostate and epididymis, while the urethra and vagina affected commonly in female. Management usually addressed to the upper tract only, if there is incontinence it requires removal of the ureteric stump. Our case is initially diagnosed by magnetic resonance imaging and the diagnosis confirmed by computed tomography (CT) guided seminal vesiculography as transrectal guidance for seminal vesiculography refused by the patient. CT guided seminal vesiculography is less painful and more tolerable than transrectal route.

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**Key words:** Seminal vesicle; Ectopic; Ureter; Magnetic resonance imaging; Computed tomography; Seminal vesiculography

**Core tip:** We present the role of the traditional technique of the computed tomography seminal vesiculography in the diagnosis of the rare anomaly of ectopic insertion of the ureter into the seminal vesicle in male patient.

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**INTRODUCTION**

Ectopic insertion of the ureter is defined as abnormal insertion of the ureter usually distal to the trigon into the urethra in male occurring in approximately 50% of cases[[1](http://www.uptodate.com/contents/ectopic-ureter/abstract/1)]. Other sites include the seminal vesicle (approximately one-third), vas deferens, bladder neck, prostate, and epididymis, urethra and vagina affected commonly in female. Ectopic insertion of the ureter in the genital tract is a rare anomaly. Its incidence as reported by Fraser about 1:130000. It is more common in females and usually associated with incontinence leading to the diagnosis while in male it is present with infection

**CASE REPORT**

We present a case of ectopic insertion of the left ureter into the seminal vesicle (SV). It is initially diagnosed by magnetic resonance imaging (MRI) and confirmed by computed tomography (CT) seminal vesiculography.

Twenty eight years male presented with terminal hematuria of one month duration with history of left simple nephrectomy 25 years ago and open heart surgery for ventricular septal defect 15 years ago. Clinical examination and laboratory investigations were free.

Pelvic ultrasound (US) showed a multilocular cystic lesion posterior to the bladder to the left (Figure 1). Ascending cystogram was free. MRI showed a tubular structure at the left representing ureteric stump of the nephrectomized left kidney inserted into the dilated left seminal vesicle (Figure 2A). The left seminal vesicle showed altered fluid content (Figure 2B). CT guided puncture of the dilated left SV was done with injection of contrast inside (Figure 3A). Imaging of the abdomen and pelvis after SV puncture showed opacification of the left SV, the left ureter stump and the left vas deference (Figure 3B).

**DISCUSSION**

There is association between the congenital anomalies of the seminal vesicle and the urinary tract anomalies due to their close embryologic relationship[2]. CT and MRI are used for accurate delineation of the ureter insertion while MRI is the modality of choice for seminal vesicles evaluation. The difficulties in the diagnosis of ectopic insertion of the ureter usually occurs when it is not dilated and its insertion could be identified, in this cases the CT or MRI with contrast are required to confirm the diagnosis

In case of ectopic ureter pelvic US can show the dilated SV as a cystic mass at the pelvis posterior to the bladder with dilated ipsilateral ureter also if there is associated kidney anomaly. Transrectal ultrasound (TRUS) allows better delineation of the cystic lesion wall and its relation to the adjacent structures[3,4]. TRUS can also used in puncture of the SV with contrast injection for further CT imaging.

Intravenous urography (IVU) may be of no value if the affected kidney is non-functioning. There may be smooth indentation of the bladder by the cystic lesion at IVU and Ascending cystogram[3,4]. In our case the seminal vesicle not enlarged enough to indent the bladder at the cystogram.

CT shows the cystic lesion with low fluid density posterior to the bladder with no post-contrast enhancement, it can also diagnose the associated renal anomalies[3-5].

MRI has superior soft tissue contrast that allows easily differentiation of the pelvic structures and the associated pelvic anomalies. At MRI the seminal vesicles appear as elongated cystic structures with thin septa. It displays low signal intensity (SI) at T1-weighted and high SI at T2-weighted MRI. The SI may be altered if the SV fluid contains high protein[3,4]. MRI with gadolinium can delineate the ureteric course in the normal functioning kidney in the excretory phase and also can diagnose the associated seminal vesicle abnormalities.

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**Figure 1** **Ultrasound of the pelvis shows multilocular cystic lesion posterior to the bladder to the left.** U: Uterus; UB: Urinary bladder.

A B

 

**Figure 2 Sagittal T2-weighted magnetic resonance imaging.** A: The left ureter stump with ectopic insertion into the dilated left seminal vesicle (SV); B: Altered fluid content at the dilated left seminal vesicle with relative low small intestine. UB: Urinary bladder.

A B

 

**Figure 3 Axial computed tonmography.** A: The pelvis with needle punctures of the left seminal vesicle; B: Contrast opacification of the seminal vesicle, vas deference and left ureter stump.