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Case study

Malignancy in a cryptorchid testis with renal agenesis

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ABSTRACT

Malignancy in undescended testis is well documented. We present a rare case—of seminoma in an adult male found in an intra abdominal testis—that is associated with ipsilateral renal agenesis and absence of ipsilateral seminal vesicle.

Keywords: Cryptorchidism, Testis, Seminoma

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BACKGROUND

A 38 year-old male presented with acute right iliac fossa (RIF) pain. There was no history of previous illness or visit to the hospital. Physical examination revealed right lower abdominal mass. Patient was referred for ultrasonography of the abdomen, which revealed the suspected mass. Surgical opinion was sought. There was absence of right testis. The patient was referred for further evaluation of the mass by CT scan and MRI.

IMAGING

Ultrasound showed a large retroperitoneal mass with heterogeneous echotexture and lobulated outlines in the right lower abdomen measuring about $12 \times 6 \times 10$ cms (Fig. 1). Calcifications were seen in the lesion. A crescentic fluid collection was seen around the lesion. Lesion was avascular on color Doppler studies. The right kidney was not visualized.

CT examination showed heterogenous attenuation pattern and flecks of calcification in the mass with minimum fluid around (Fig. 2). Patchy nonhomogenous enhancement was seen after IV contrast administration. The mass was displacing the caecum upwards and medially. Right kidney was not visualized (Fig. 3). Multiple lymph nodes were seen adjacent to the mass lesion. The scrotum showed single testicle on the left side.

On MRI, the mass was iso intense on T1WI and hyper intense on T2WI with strong enhancement of almost whole lesion and minimal nonenhancing areas likely due to necrosis. The mass was supplied by testicular artery (Fig. 4). There was absent right seminal vesicle. The diagnosis of seminoma in an undescended testis was suggested.

True cut and fine needle aspiration biopsy confirmed the diagnosis of seminoma. Patient underwent surgical removal of the mass.

Follow up CT examinations show no evidence of recurrence or metastasis for two years period.

DISCUSSION

Malignant changes in an undescended testis are well documented [1]. Cryptorchid testis is more prone to malignant transformation than the intra abdominal testis, 90% of which are seminomas [2]. There is a 4 to 7 fold increase in occurrence of malignancy in cryptorchid testes when compared with the 0.3 to 0.7% risk in the healthy population [7].

Cryptorchidism is seen in six percent of the full-term neonates and can be bilateral in 10% of the patients [3]. Because of its association with other urinary tract anomalies, cryptorchidism is thought to be a manifestation of a defect in genitourinary embryogenesis and is associated with anomalies like

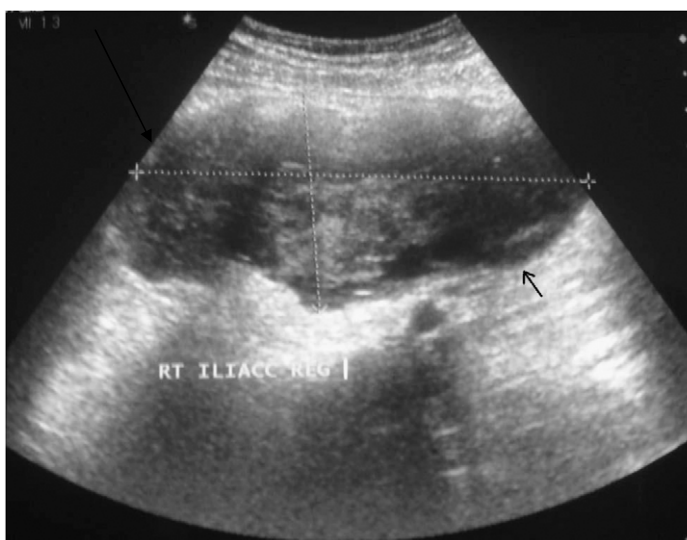


Figure 1. Ultrasound examination shows a large retroperitoneal mass (arrow) with heterogeneous echo texture and lobulated outlines in the right lower abdomen.



Figure 2. Axial CECT image demonstrating heterogeneous mass (arrow) in right lower abdomen.



Figure 3. Unenhanced axial CT scan showing empty right renal bed.

renal agenesis, ureteral duplications, hypospadias and seminal vesicle agenesis [4]. Renal agenesis is said to account for 30% of all urinary tract anomalies in association with undescended testis.

Cryptorchidism has a strong association with infertility and is prone for testicular torsion. Majority of the cryptorchid testis lies distal to the external inguinal ring but can be located anywhere along the path of descent from the abdominal cavity [4]. Testicular agenesis has been reported to be present in 15% to 63% of patients with non-palpable testis [5].

The distinction between agenesis and maldescent is essential. In any case, early orchipexy should be performed before 10 years in all patients with undescended testis. While orchipexy improves fertility, there is still the risk of developing testicular malignancy is still present [4]. There is an increased incidence of malignancy in the contralateral descended testis.

Exploratory laprotomy and pathology examination is diagnostic [6].

Imaging helps in identifying the undescended testis and characterizing the lesion. This in turn aids in preoperative assessment and identify any associated genitourinary anomalies [3], as in our case.

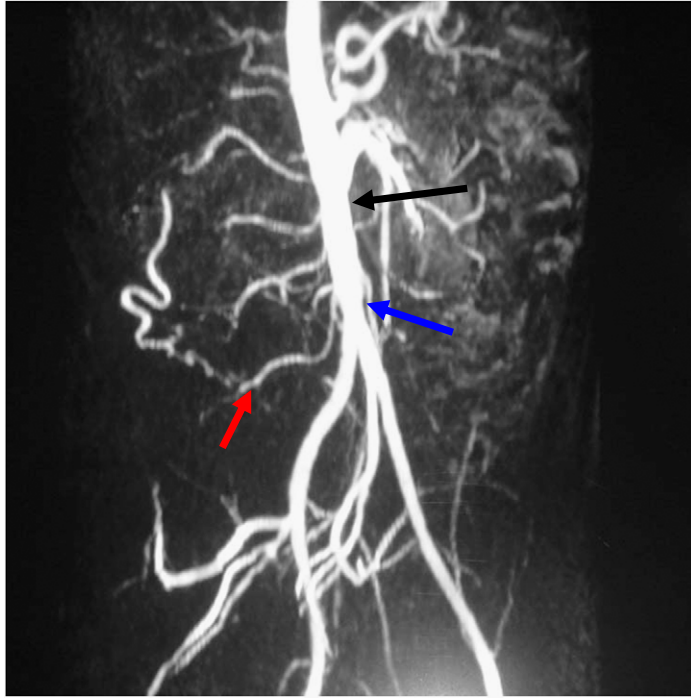


Figure 4. M R angiogram demonstrates right testicular artery (red arrow) supplying the mass. Also seen is left testicular artery (blue arrow) and abdominal aorta (black arrow).

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