

Supernumerary testis: Imaging appearance of a rare entity

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ABSTRACT

Supernumerary testis is a rare congenital anomaly of the testis arising from abnormal division in the genital ridge during the embryogenesis of testis. We describe a case of polyorchidism detected incidentally in a 52-year-old with renal failure.

Key words: Polyorchidism, supernumerary testis, triorchidism

INTRODUCTION

Supernumerary testis is a rare congenital anomaly of the testis with triorchidism being the most common form of polyorchidism reported in literature. Since it can mimic an extratesticular pathology, knowledge about the condition and accurate imaging diagnosis and characterisation is important to decide the optimal line of management and avoid unnecessary surgery.

CASE REPORT

A 52-year-old gentleman, suffering from chronic kidney disease presented to our hospital with the complaint of abdominal distension. During the course of clinical examination, a painless extratesticular solid lump was detected. The patient was aware of this lump since childhood but had not sought medical advice since it was small, painless and not growing. Scrotal sonography revealed presence of two testis like structures in the left hemiscrotum and a normal testis on the right side [Figure 1]. Each of the left testes was smaller than the right sided normal testis

and showed normal echotexture and vascularity. The rete testis of one of these testes was prominent [Figure 1]. Each of these left sided testis had an independent epididymis and a common vas deferens draining both the testes. Gross scrotal wall edema was also present, secondary to chronic kidney disease along with gross ascites, which was responsible for abdominal distension.

Magnetic resonance imaging (MRI) of the scrotum confirmed the presence of two testis-like structures in the left half of scrotum with signal intensities identical to the right testis [Figure 2]. Both these structures showed a surrounding tunica albuginea, existence of independent epididymis and a common vas deferens in agreement with the ultrasound findings. Presence of prominent rete testis in one of the testicle and scrotal wall edema was confirmed.

After confirmation of the diagnosis of supernumerary testis without evidence of any complication, no treatment was offered.

DISCUSSION

Polyorchidism is a rare anomaly of the testis characterized by presence of a supernumerary testis which may be located in the scrotum (60-70%), inguinal canal (25%) or retroperitoneum.^[1] Triorchidism is its most common manifestation but cases of four testes (four cases) and five testes (one case) have also been described.^[2,3] The possible differentials of a scrotal lump include inguinal hernia, encysted hydrocoele, varicocele, epididymal cyst, testicular neoplasm etc.

The postulated theories of embryogenesis include (i) early transverse division of the genital ridge resulting in simultaneous development of two testicles in the scrotal

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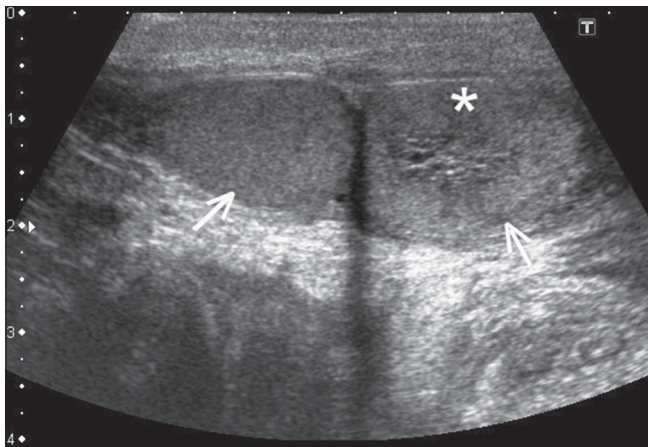


Figure 1: Ultrasound image of the scrotum showing presence of two testes (arrows) in the left half of scrotum and prominent rete testis in the supernumerary testis (*)

Table 1: Leung’s classification of polyorchidism

Type	Anatomical feature
I	Supernumerary testis lacking epididymis and vas deferens (lacks reproductive potential)
II	Supernumerary testis shares the epididymis and vas of the other testis
III	Supernumerary testis has its own epididymis but shares the vas deferens with the other testis
IV	Complete duplication of testes, epididymis and vas deferens

sac or (ii) longitudinal division of the genital ridge resulting in parallel development of testis, epididymis and vas or (iii) development of two-fold primordial glands on either side leading to two testes with two separate epididymis and their vas deferens.^[1,2,4] A simple classification of supernumerary testes has been given by Leung^[5] [Table 1]. The above described case falls under Leung Type III.

In the past, most cases were confirmed after surgical exploration. With the availability of high resolution imaging modalities, an accurate diagnosis can be reached by imaging alone. Though ultrasound with use of color Doppler is sufficient for diagnosis, adjunctive use of MRI virtually rules out any need of histopathological confirmation.

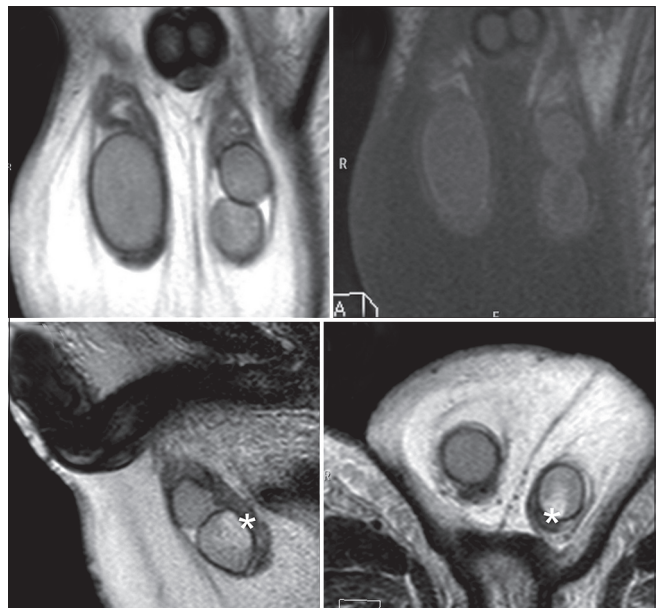


Figure 2: Magnetic resonance imaging images of the scrotum showing left sided supernumerary testis. (a) T2W coronal (b) T1W coronal (c) T2W sagittal (d) T2W axial image; prominent rete testis in the supernumerary testis (*)

In the pre-sonography era, most surgeons advocated orchidectomy in all patients owing to the risk of malignancy and torsion particularly in patients with completed families. With advances in imaging, a more conservative approach is now adopted.

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