

Case Report



Extratesticular and Intratesticular Varicocele: Sonographic Findings (Case Report)

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ABSTRACT

Varicocele is abnormal dilatation with tortuosity of the veins of pampiniform plexus. While extratesticular varicoceles are relatively common disorder, intratesticular varicoceles are very rare. The diagnosis of varicocele is important because it is the most common correctable cause of male infertility. If there is clinical suspicion of varicocele Doppler US and US are the radiological procedure of choice to provide rapid diagnosis. In this case we present ultrasonographic findings of extra with intratesticular varicocele.

Key words: Varicocele, testis, ultrasonography, doppler

ÖZET

Ekstratestiküler ve İnterestiküler Varikosel: Sonografik Bulgular (Olgu sunumu)

Varikosel pampiniform pleksus venlerinin tortuozite ve anormal dilatasyonudur. Ekstra testiküler varikosel sık görülen bir patoloji olmakla birlikte intratestiküler varikosel çok nadirdir. Varikoselin tanısı, erkek infertilitesinin en sık düzeltilebilir nedeni olmasından önemlidir. Klinik olarak varikosel şüphesinde Doppler ultrasonografi ve ultrasonografi hızlı tanı için ilk seçilecek radyolojik görüntüleme yöntemleridir. Biz bu olguda ekstra ve intra testiküler varikosel birlikteliğinin ultrasonografik bulgularını sunduk.

Anahtar kelimeler: Varikosel, testis, ultrasonografi, doppler

Varicocele is a common entity described as abnormal dilatation, exceeding 2mm in diameter, with tortuosity of the veins of the pampiniform plexus (1). While extratesticular varicoceles (ETV) affect 8-20% of adult men, intratesticular varicoceles (ITV) are very rare (2), and relatively new entity, reported in fewer than 2% of symptomatic men undergoing testicular sonography (3,4). The clinical importance of this condition has not been established yet but awareness of its appearance on sonography is important to differentiate it from other focal testicular lesions including malignancy (5).

We present sonographic findings of extra and intratesticular varicocele.

CASE

A 25 year-old man was referred for scrotal ultrasonography (US) because of left scrotal pain. He had this complaint for five months. The medical history was unremarkable and laboratory data on admission were within normal limits.

Gray scale Doppler US and US were performed with the patient in supine and standing positions. Gray-scale US image (Figure 1) demonstrated that, the left testis contained abnormal hypoechoic tubular structures associated with ipsilateral extra testicular varicocele. Doppler US showed symmetric, arterial flow in both testes. Color Doppler (Figure 2) and duplex Doppler (Figure 3) imaging optimized to display the low-flow velocities of these structures, confirmed the venous flow pattern with phasic variation and showed that venous flow increased in these intratesticular tubular structures during

valsalva's maneuver. US findings were compatible ETV with ITV. He treated successfully with left spermatic vein ligation. In control, he had no symptoms with varicocele.

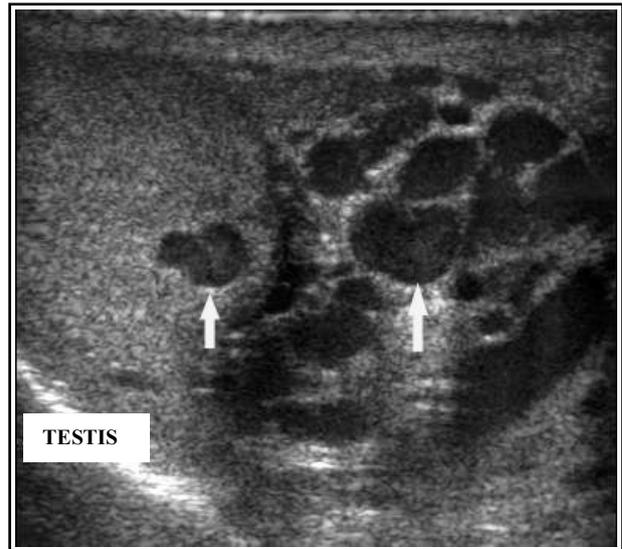


Figure 1: Gray-scale US image demonstrated that left testis contained abnormal hypoechoic tubular structures (short arrow) associated with ipsilateral extratesticular varicocele (long arrow).

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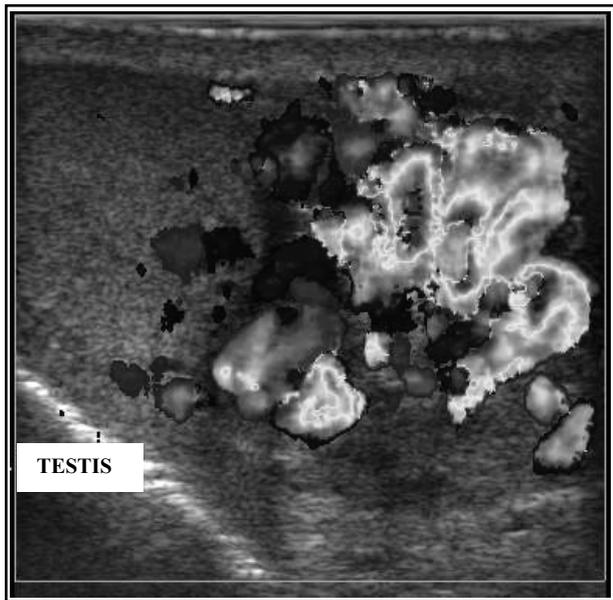


Figure 2: Color Doppler US showed that reflux venous flow increased during Valsalva's maneuver.

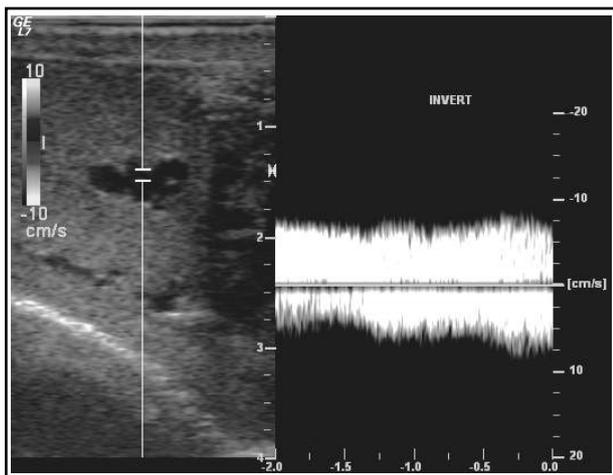


Figure 3: Duplex Doppler US showed that venous flow increased in these intratesticular tubular structures during Valsalva's maneuver.

DISCUSSION

Extra testicular varicocele is a relatively common disorder, which is seen as tubular serpentine structures, exceeding 2mm in diameter, along the course of spermatic cord or the peritesticular region, usually posterior to the testis (1). There are several etiological causes of ETV, such as retroperitoneal reflux, the "nutcracker phenomenon", valvular insufficiency of the left internal spermatic vein, ileospermatic reflux, neoplastic or other retroperitoneal diseases, visceral malposition syndromes and prior surgery in the inguinal and scrotal regions (6).

Intratesticular varicocele is a rare and relatively new entity. It is a possible cause of male infertility. The condition is

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seen as either straight or serpentine hypo echoic structures within the mediastinum testis and radiating into the testicular parenchyma. The pathogenesis and clinical significance are not clear (7). A cut-off diameter of 2.0mm appears inappropriate for diagnosing intratesticular varicocele. Atasoy et al. (8) reported that any intratesticular venous structure that shows reflux while the patient is standing or during Valsalva's maneuver should be diagnosed as an intratesticular varicocele, regardless of the venous diameter.

The initial reports claimed that intratesticular varicoceles are accompanied by extratesticular varicoceles. The exact pathophysiology of intra testicular varicocele is not known. These lesions generally occur because of retrograde blood flow into the pampiniform plexus of the scrotum secondary to incompetent or absent valves of internal spermatic, cremasteric, and vasal veins. The clinical significance of this finding is unknown. While the precise pathophysiology of varicocele continues to be studied, temperature mediated effects are regarded as a significant component (9,10).

The most common clinical presentations of ITV are of testicular pain (30%) and swelling (26%). The testicular pain is thought to relate to stretching of the tunica albuginea. Other presentations reported include infertility (22%) and epididymorchitis (11%) (11).

ITV is often associated with ipsilateral testicular atrophy associated parenchymal abnormalities, but whether it is a cause or a consequence of testicular atrophy remains unclear. It usually, but not always, occurs in association with an ipsilateral ETV.

Presence of intratesticular multicystic lesions in an adolescent raises the possibility of teratoma and the consideration of testis biopsy or possibly radical orchiectomy. Another lesion in the differential diagnosis is cystic dysplasia of the rete testis, abscess, simple cysts, and tubular ectasia. The correct diagnosis is made on identification of multiple tubular or oval anechoic structures greater than 2mm in diameter, clearly within the parenchyma of the testis, in proximity to the mediastinum testis with venous flow through the anechoic areas on Doppler US and a positive response in flow with the Valsalva's maneuver (7,11).

The diagnosis of varicocele is important because it is the most common correctable cause of male infertility. The diagnosis can easily be made when palpable or visible findings are observed but it may be rather challenging when it is subclinical (7).

Treatment methods reported are surgical intervention, percutaneous embolization using coils or liquid sclerosing agents (4,12). ITV was treated successfully by percutaneous sclerotherapy (13).

In conclusion, intratesticular varicocele is a rare entity. If there is clinical suspicion of varicocele, even in the presence of infertility or scrotal pain, Doppler US and US are the procedure of choice to provide rapid diagnosis.

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