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ULTRASONOGRAPHIC FINDINGS OF EPIDIDYMAL TORSION IN ADULTS –
A RARE CAUSE OF ACUTE SCROTUM

ULTRAZVUČNI NALAZ TORZIJE EPIDIDIMISA KOD ODRASLIH –
REDAK UZROK AKUTNOG SKROTUMA

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Summary

Introduction. Epididymal torsion is a rare cause of acute scrotum. Only a few cases have been described in the literature, and preoperative ultrasound diagnosis was done only in two cases. So far, according to our data, cases of epididymal torsion in adults have not previously been reported in the literature. Case Report. We report the case of a 39-year-old man, who was admitted to the hospital for pain in the left hemiscrotum lasting for three days. The physical examination revealed a swelling limited to the left hemiscrotum, so the patient was referred for an ultrasound examination with the diagnosis of epididymitis. The ultrasonography showed that the left epididymis was significantly enlarged in the head area with heterogeneous structure of the parenchyma on a gray-scale, without a significant Color Doppler signal. At the level of the neck and the body of the epididymis, there was a "whirlpool sign" with a reactive hydrocele and edema of the left scrotum soft tissue that was highly suspicious for torsion of the epididymis. The patient underwent emergency surgery and epididymal torsion of about 540 degrees was confirmed intraoperatively. Conclusion. The torsion of the epididymis should be kept in mind in the differential diagnosis of acute scrotal pain in adults.

Key words: Ultrasonography; Ultrasonography, Doppler, Color; Scrotum; Epididymis; Torsion Abnormality; Adult; Acute Pain; Signs and Symptoms; Genital Diseases, Male

Case report

Priказ случаја

Uvod. Torzija epididimisa je vrlo redak uzrok akutnog skrotuma. Samo je nekoliko slučajeva torzije epididimisa opisano u literaturi, a samo dva slučaja imaju preoperativnu ultrazvučnu dijagnozu. Do sada, u literaturi prema našim podacima nije opisana torzija epididimisa kod odraslih. Priказ случаја. Predstavljamo slučaj 39-godišnjeg muškarca koji je primljen u bolnicu zbog bolova u levom hemiskrotumu, koji traju tri dana. Na fizikalnom pregledu otkriven je otok ograničen na levi hemiskrotum, pa je pacijent upućen na ultrazvučni pregled sa dijagnostom epididimitisima. Ultrazografski levi epididimis je znacajno uvećan u predelu glave i heterogene strukture parenhima na sivoj skali, bez značajnog kolor dopler signa. Na prelasku vrata u telo epididimisa videli smo znak „vrtnog“ sa reaktivnom hidrokelom i edemom mekog tkiva levog skrotuma, što je bilo visoko suspektno za torziju epididimisa. Pacijent je odmah operisan i intraoperativno je potvrđeno postojanje torzije epididimisa za oko 540 stepeni. Zaključak. Torziju epididimisa treba imati na umu u diferencijalnoj dijagnozi akutnog skrotuma kod odraslih.

Ključne reči: ultrasonografija; kolor dopler sonografija; skrotum; epididimis; torzija; odrasli; akutni bol; znaci i simptomi; muška genitalna oboljenja

Introduction

Epididymal torsion is a rare cause of acute scrotum. Only a few cases have been described in the literature and preoperative ultrasound diagnosis was made only in two cases. So far, cases of torsion of the epididymis in adults have not previously been reported in the literature.

Case Report

We report the case of a 39-year-old man, who was admitted to the hospital due to intense pain and swelling of the left hemiscrotum. The pain started 72 hours before admission and was increasing in severity. In his medical history, the patient denied earlier testicular problems. The physical examination revealed a swelling limited to the left hemiscrotum and scrotal skin erythema. The right hemiscrotum was normal on physical examination. The patient was referred for an ultrasound examination with the diagnosis of epididymitis. The ultrasonography showed a significantly enlarged left epididymis in the head area with spermatocele (Figure 1), 4 x 3 cm in diameter and heterogeneous structure on gray-scale without significant Color Doppler signal (Figure 2). At the level of the neck and the body of the epididymis, there was a “whirlpool sign” (Figure 3) with a reactive hydrocele and edema of the left scrotum soft tissue that was highly suspi-
cious for torsion of the epididymis. Also, edema of the left scrotal soft tissue was noticed (Figure 4). The left testicle had a normal echo-structure, and the right scrotum was normal. The patient underwent emergency surgery and epididymal torsion of about 540 degrees was confirmed intraoperatively. The removed part of epididymal head was sent for histopathologic analysis which confirmed hemorrhagic infarction of the resected epididymis (Figure 5).

**Discussion**

Isolated torsion of the epididymal head is an uncommon cause of acute scrotal pain [1–6]. The most frequently used diagnostic techniques in patients with acute scrotum include B mode ultrasonography imaging and color Doppler with point spectral analysis of the intratesticular waveforms; they showed extremely high sensitivity in the diagnosis of testicular and epididymal torsion as well as in the differential diagnosis of torsion and acute inflammatory conditions. The diagnosis of epididymal torsion is based on the detection of echotexture abnormalities of the involved epidi-
In our patient, ultrasonographic findings included a normal testis with normal vascular signals and a markedly enlarged, heterogeneous epididymal head with a “whirlpool sign”. The shape of the vessels at the epididymal head suggested a twist. Changes detected on ultrasonography were confirmed at surgery when isolated torsion of the epididymal head was diagnosed. Abnormal attachment of the epididymis is rare in patients with normally descended testicles [2]. In a surgical series, the epididymis was found either completely attached to the testis or attached at the level of the body and tail in 96.4% of cases, whereas attachment only at the level of head was seen in 2.7%, and nonfusion was seen in 0.9%; furthermore, attachment at the level of the epididymal head or at the tail only was found in 2.4% of cases in a group of fetuses who died from causes unrelated to the genital tract [3].

**Conclusion**

The isolated torsion of the epididymis should be kept in mind in the differential diagnosis of acute scrotal pain in adults.

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