



## Neonatal testicular torsion suggesting diagnosis of testicular tumour in a newborn infant

### Testis tümör ile karıştırılan yenidoğan testis torsiyonu

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#### Abstract

Scrotal swelling in infants is a nonspecific sign of a wide range of pathologies, from benign diseases to malignancies and acute surgical emergencies such as testicular torsion and tumors. We present here a case with testicular mass shown in ultrasonography examination and high level of AFP were found shortly after birth in another hospital and was referred to our clinic as a case with the suspicion of testicular tumor. Within 4 hours, the infant underwent scrotal exploration. Delayed testis torsion was detected and orchiectomy was performed. Histopathology of the specimen revealed hemorrhagic infarction and necrosis. Scrotal USG can nearly always be used to confirm a testicular mass, whereas a differentiation between torsion and tumor can more accurately be done by Colour Doppler USG. An emergency exploration must be performed in the treatment of both diseases.

**Keywords:** Newborn; Testis; Torsion; Testis Tumor.

#### Öz

İnfanlarda skrotal şişlik benign patolojilerden malignitelere kadar değişen çok geniş bir patolojik tablonun nonspesifik bir bulgusu olup testiküler torsiyon veya malignite gibi acil cerrahi gerektiren bir durumun göstergesi olabilir. Burada başka bir hastanede doğumun hemen ardından ultrasonografik olarak tespit edilen testiküler kitle ve AFP yüksekliği nedeni ile malignite şüphesi ile kliniğimize sevk edilen bir vakayı sunduk. Dört saat içerisinde bebeğe skrotal eksplorasyon yapıldı. Gecikmiş testiküler torsiyon tespit edildi ve orşiktomi yapıldı. Spesimenin histopatolojik incelenmesinde hemorajik infarkt ve doku nekrosu tespit edildi. Skrotal ultrasonografi testiküler kitleyi tanımlamada her zaman kullanılabilen bir teknik olmasına rağmen torsiyon ve tümör ayrımı renkli Doppler ultrasonografi inceleme ile daha kesin olarak yapılabilir. Her iki hastalığın tedavisinde de acil skrotal eksplorasyon yapılmalıdır.

**Anahtar Kelimeler:** Yenidoğan; Testis Torsiyonu; Testis Tümörü.

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## INTRODUCTION

Scrotal enlargement in the newborn population is caused by a variety of pathologic processes including hydroceles, hernias, testicular torsion (TT) or neoplasm. Testicular torsion and neoplasm are the common pediatric urologic emergencies. Perinatal testicular torsion (PTT) occurred in the intrauterine or the first 30 days of the postnatal period is a rare entity, and represents 12% of all testicular torsions during childhood (1). Perinatal testicular torsion is reported to occur in nearly 6.1/100.000 births (2). Prenatal torsion is marked by no disturbance or few localized findings. On the contrary, postnatal torsion is an acute manifestation with considerable sensitivity and swelling comparing with normal testicle (2). During the diagnosis, testicular torsion can be confused with testicular tumor. Scrotal USG nearly always can be used to confirm a testicular mass, whereas a differentiation between torsion and tumor can just be made by Colour Doppler USG (3). We present here a case of testicular torsion mimicking testicular tumor in a newborn infant.

## CASE REPORT

At 37 weeks and 6 days of gestation, a 3850 g, large-for-gestational-age male infant was born in another hospital. A swelling of the left scrotum was detected in the physical examination. Ultrasonography (USG) examination showed the nonhomogeneous echoes and a mass in the left testis. After then, the patient was referred to our clinic as a case with the suspicion of testicular tumor. The patient was presented to our clinic in the next day. Our physical examination revealed a normal right scrotum but a distinct swelling of the left scrotum, which was firm and mobile (Figure 1A).



**Figure 1. A:** A normal right scrotum but a distinct swelling of the left scrotum, which was firm and mobile. **B:** There was no change in testicular colour and orchiectomy was performed.

There was no intratesticular signal and nonhomogeneous echoes detected in the Colour Doppler USG examination of the left testis. Hormone assay revealed a high level of alpha-fetoprotein (AFP)

(19000 ng/ml) and normal human chorionic gonadotropin (hCG) level.

Within 4 hours, the infant underwent scrotal exploration by left sub-inguinal incision. The testis was haemorrhagic and black in colour with 360° extra-tunical twist of the spermatic cord. (Figure 1B).

## DISCUSSION

Scrotal swelling in infants is a nonspecific sign of a wide range of pathologies, from benign disease to malignancies and acute surgical emergencies. Intrauterine testicular torsion and neoplasm of testis is rare in new-born period. Ultrasonography provides a noninvasive, safe and quick examination to evaluate the scrotum and its contents. Colour Doppler USG usually demonstrates lack of blood circulation in the testis, and testicular USG demonstrates a heterogeneous echo pattern with necrotic areas and an thickening of the tunica albuginea (3). Thus TT and testicular tumours may be distinguished from each other. In our case, in the previous hospital, the patient was made only USG due to absence of Colour Doppler USG. AFP levels may be detected high during the first few months of life, so this situation causes difficulty in differentiation of abnormalities from the normal variations in newborn (4). Likewise, AFP level was detected high in our patient.

The treatment of both Testis torsion and testicular tumour is emergency exploration. Review of literature indicates that there is a controversial management of these entities. Especially, the management of unilateral PTT is controversial due to the poor functional improvement and the low risk of contralateral torsion (5). The reason of this controversy is mostly related to the timing of the operation and the necessity of contralateral exploration as well as the treatment of necrotic testes. Some authors recommend a conservative approach, if PTT is suspected, due to the risk of anaesthesia in this age group (2). On the other hand, Sorensen et al. reported that in 10 newborns with extravaginal testicular torsion, 40% of the torsioned testes were salvaged by immediate surgical intervention (6). But Das and Singer described the loss of the testis in 80 to 90% of these patients with PTT in spite of immediate surgical intervention (7).

Testis torsion in the newborn is an rare event and emergency exploration is indicated. Also It can be missed diagnosed with testicular tumor. Scrotal USG can nearly always be used to confirm a testicular mass, whereas a differentiation between torsion and tumor can more accurately be done by colour Doppler USG. An emergency exploration must be performed in the treatment of both diseases.

## REFERENCES

1. Nandi B, Murphy FL. Neonatal testicular torsion: a systematic literature review. *Pediatr Surg Int* 2011;27(10):1037-40.

2. Yerkes EB, Robertson FM, Gitlin J, Kaefer M, Cain MP, Rink RC. Management of perinatal torsion: Today, tomorrow or never? *J Urol* 2005;174(4 Pt 2):1579–82.
3. van der Sluijs JW, den Hollander JC, Lequin MH, Nijman RM, Robben SG. Prenatal testicular torsion: diagnosis and natural course. An ultrasonographic study. *Eur Radiol* 2004;14(2):250–5.
4. Schneider DT, Calaminus G. Diagnostic value of alpha1-fetoprotein and beta-human chorionic gonadotropin in infancy and childhood. *Pediatr Hematol Oncol* 2002;18(1):11-26.
5. Stone KT, Kass EJ, Cacciarelli AA, Gibson DP. Management of suspected antenatal torsion: what is the best strategy? *J Urol* 1995;153(3 Pt1):782–4.
6. Sorensen MD, Galansky SH, Striegl AM, Mevorach R, Koyle MA. Perinatal extravaginal torsion of the testis in the first month of life is a salvageable event. *Urology* 2003;62:(1)132–4.
7. Das S, Singer A. Controversies of perinatal torsion of the spermatic cord: a review, survey and recommendations. *J Urol* 1990;143(2):231–3.