Case	(672) Acute testicular trauma
Authors	S. Nagrani, A. Martínez, C. Cruz-conde, S. Borruel
Centre	H U 12 De Octubre.

CASE PRESENTATION

A 23 year-old male presenting at Emergency Department after suffering high-energy, direct, left testicular trauma (knee playing soccer). On physical examination, the testicle is very painful and slightly elevated in comparison to the contralateral one.

Ultrasonography is performed to evaluate scrotal covers and rule out overlying testicular torsion (Figure). Imaging findings revealed a disruption of the tunica albuginea with parenchymal extrusion and absence of flow; these findings are consistent with testicular rupture.

DISCUSSION

The majority of non-penetrating traumas occur in 10-30 year-old patients. The impact against the pubic symphysis or thighs during sports activities and traffic accidents may result in a severe testicular injury.

Ultrasound imaging is the best tool for the initial evaluation of acute scrotal trauma. It has a reported sensitivity close to 100% for detection of testicular lesions such as rupture, fracture, hematoma and torsion, dislocation or pseudoaneurysm. It also permits the study of extratesticular structures.

High-frequency US examination should be performed with a linear-array transducer. The asymptomatic testicle should be explored at first to make morphologic comparisons with the injured one. Likewise, the pulse repetition frequency (PRF) must be adjusted in the healthy testicle so that the pulsed-wave Doppler spectra obtained is reliable (it is recommended to detect flow in the upper, middle and lower thirds).

The tunica albuginea is a layer of fibrous connective tissue that confers protection to the testis. It supports approximately 50 kg of force. It is visualized as a thin echogenic line surrounding the testicle. Imaging findings of testicular rupture include disruption of the tunica albuginea and contour abnormalities with extruded parenchyma, which presents a heterogeneous echoestructure.

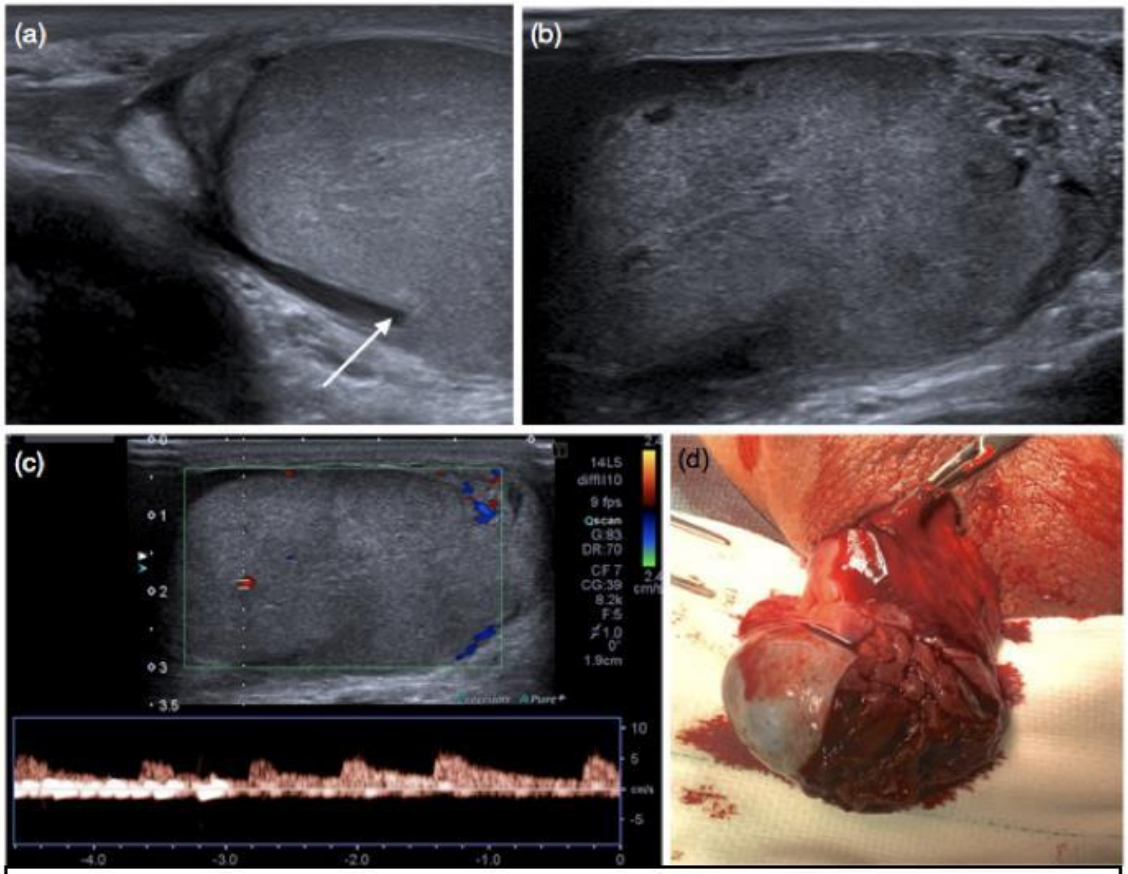
The tunica albuginea is in intimate contact with the tunica vasculosa, so it is common to find loss of vascularity in the affected testicular region.

If there are suspicious findings of testicular rupture, a surgical exploration should be undertaken without delay to assess parenchyma viability and perform orchiectomy, if necessary.

CONCLUSION

Radiologists should be familiar with imaging findings of scrotal trauma. An intact tunica albuginea excludes testicular rupture; however, when a discontinuity is found, additional

findings such as contour abnormalities, heterogeneity of the structure and absence of vascularization would make the diagnosis.



Longitudinal gray scale images show an echogenic line covering the upper half of the testicle; this corresponds to the tunica albuginea (a). The arrow depicts a disruption in the most caudal region. There is also loss of the normal contour of the testicle with heterogeneous echogenicity of the parenchyma (b). Doppler flow is only detected in the upper half of the testicle (c). Surgical examination corroborates a complete rupture of the tunica albuginea involving the lower half of the testicle with extrusion of the devitalized parenchyma through the defect (d).

BIBLIOGRAPHY

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