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Images of Interest / Imagens de Interesse

Intrascrotal Extratesticular Epidermoid Cyst

Cisto Epidermóide Intra-Escrotal Extra-Testicular

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Abstract

We present a histologically confirmed pediatric case of an intrascrotal extratesticular epidermoid cyst. Epidermoid cysts are benign tumors that are exceptionally located in an intratesticular topography. They are even rarer when they are intrascrotal but extratesticular. Their imaging features suggestive of benignity and extratesticular location should be promptly diagnosed to plan the surgical intervention adequately.
Conventional ultrasound of the scrotum combined with contrast-enhanced ultrasound (CEUS) was performed, identifying a well-defined hypoechoic para-testicular lesion with a hyperechoic border, avascular in the Doppler study, and without enhancement in CEUS, and these findings, in conjunction with its cystic nature, favor benignity.

Keywords

Child; Epidermoid cyst; Testicular diseases.

Resumo

Apresentamos um caso pediátrico de cisto epidermóide extra-testicular intra-escrotal, confirmado histologicamente. Os cistos epidermóides são tumores benignos que excecionalmente se localizam em topografia intra-testicular, sendo ainda mais raros quando intra-escrotais mas extra-testiculares. A suas características imagiológicas de benignidade e localização extra-testicular deverão ser prontamente diagnosticadas, de forma a planear adequadamente a intervenção cirúrgica.
Foi realizada ecografia escrotal convencional combinada com ecografia com contraste endovenoso (CEUS), com identificação de uma lesão para-testicular hipoecóica bem delimitada com bordo hiperecóico, avascular no estudo de Doppler, e com ausência de realce no CEUS, achados, que juntamente com a sua natureza cística, favorecem benignidade.

Palavras-chave

Criança; Cisto epidermóide; Doenças testiculares.

Case Report

A 6-year-old boy was referred for sonographic evaluation after noticing a painless swelling in the left testis. His past medical history was irrelevant.
Ultrasonography (Figure 1a) showed a rounded well-circumscribed 18 mm mass in the left hemiscrotum. The lesion was hypoechoic with an echogenic rim, without internal calcifications. Posterior acoustic enhancement was present and color Doppler imaging showed no internal vascular flow, suggesting a cystic nature. The lesion was completely separable from the left testis, which was in the inguinal canal (Figure 1b). Both testicles were normal in size and parenchymal echogenicity.
Since the sonographic aspect of the lesion was nondiagnostic, simultaneous contrast-enhanced ultrasound (CEUS) was also performed, after informed consent. The lesion did not show enhancement (Figure 2a), differently from the normal contrast uptake visible in the testicles and corpus cavernosum of the penis (Figure 2b and 2c).

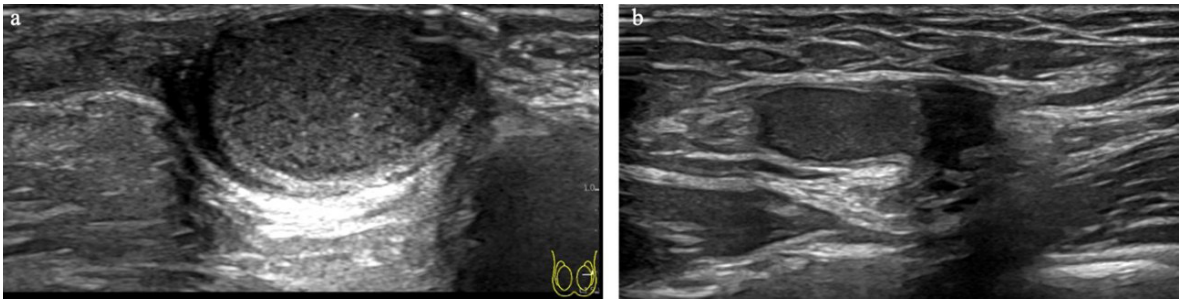

Figure 1 – Sonogram shows a heterogeneous hypoechoic lesion (image a) in the left hemiscrotum surrounded by echogenic rim, and posterior acoustic enhancement, and a displaced left testis in the inguinal canal (image b).

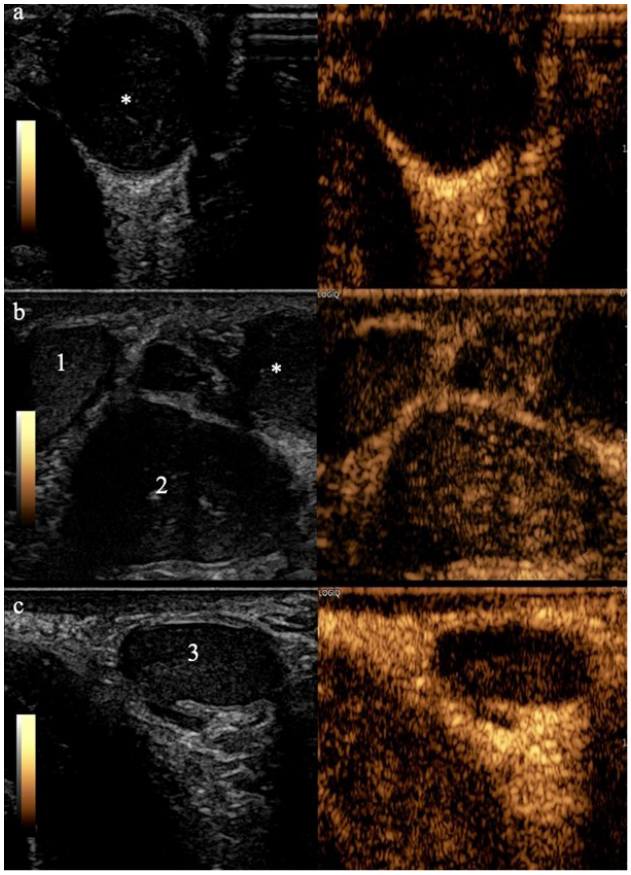

Figure 2 – In CEUS, the lesion (*) did not show post-contrast enhancement (image a). Comparison with the normal contrast uptake of the right testis (1) and corpus cavernosum (2) of the penis (image b) and left testis (3) located in the inguinal canal (image c).

Thus, CEUS reassured the absence of internal vascularity within the lesion, increasing the confidence in diagnosing a benign cystic lesion, namely an epidermoid cyst (EC) despite the absence of typical features on conventional ultrasound.
Testis-sparing surgery was performed via scrotal approach, with simultaneous orchidopexy. The pathology report of the excised lesion showed a cyst filled with pasty whitish material, compatible with an extratesticular EC.

Discussion

EC are benign tumors, accounting for 1% of all testicular tumors, that commonly present as a palpable painless nodule. They can be multiple and bilateral and are very rarely extratesticular in the cavity of the tunica vaginalis.[1]
The typical sonographic findings include well-demarcated round-shaped lesions with an 'onion ring' pattern or target appearance consisting of alternating hyperechoic and hypoechoic layers. However, sonographic findings of EC may vary, and the key feature to differentiate an EC from a malignant lesion is the confirmation of the absence of internal vascularity.[2]
Ultrasonography is the modality of choice for scrotal pathology evaluation, with B-mode and color Doppler being essential for lesion characterization and localization (intratesticular or paratesticular), however, it is not always enough for complete diagnosis.
Scrotal CEUS is an emerging method for evaluating testicular tissue vascularity in small pediatric testicles. Despite its off-label use, CEUS may be considered appropriate when preventing other imaging modalities' potential risks, such as the need for sedation or general anesthesia.[2,3]
Scrotal MRI has also been proposed as an additional imaging technique in cases of nondiagnostic ultrasonography findings.[2]
Despite most extratesticular masses being benign independently of the age of presentation, the differential diagnosis of paratesticular masses should include the rhabdomyosarcoma (RMS), which is a malignant tumor of the genito-urinary tract that occurs mainly in the first 2 decades of life, typically presenting as a painless scrotal nodule and on sonography as a heterogeneous ill-defined mass with increased vascularity. Paratesticular RMS requires radical orchiectomy while benign lesions are treated with organ-preserving surgery.[2]
Although ultrasonography can strongly suggest the diagnosis of EC, their rarity and variability of findings make it challenging to establish a diagnosis. CEUS is a useful complementary tool that adds confidence in the diagnosis of EC and aids in planning an adequate surgical approach.

Ethical Disclosures / Divulgações Éticas
Conflicts of interest: The authors have no conflicts of interest to declare.
Conflitos de interesse: Os autores declaram não possuir conflitos de interesse.
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Confidentiality of data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.
Confidencialidade dos dados: Os autores declaram ter seguido os protocolos do seu centro de trabalho acerca da publicação dos dados de doentes.
Protection of human and animal subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).
Protecção de pessoas e animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

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