



Testis Sparing Surgery in Double Testicular Tumor in a Child: Report of a Case

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Case Report

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Abstract

Mature teratomas are the most common benign testicular tumour during childhood. Epidermoid cyst are rare benign tumours, being more frequent before adolescence. We report so far the only case of ipsilateral and synchronous mature teratoma and epidermoid cyst in paediatric age.

Keywords: Teratoma; Testicular Tumors; Epidermoid Cysts

Case Report

An 11-year-old boy presented with acute left testicular pain of 12 hours, without sweating or vomiting. A torsion of Morgagni hydatid was visualized on emergency ultrasound (US). This test also showed two incidental contiguous lesions

in the lower pole of the left testis. They were hypo echoic with well-defined margins and without Colour-Doppler signal. The largest 8 x 6 mm with diffuse micro calcifications inside and the smallest 4 x 3 mm, with peripheral hyper echoic rim (Figure 1).



Figure 1: Ultrasound showing micro calcifications (star) and hyper echoic rim (arrow).

On physical examination we palpated two stony-hard nodules next to each other on distal third of left testis. No signs of pubertal development were found on the patient (Tanner I). Tumor markers of alpha fetoprotein,

beta human chorionic gonadotropin and inhibin B were negative and serum levels of testosterone were normal. The contrast enhanced ultrasound (CEUS) confirmed absence of vascularization of the two nodules (Figure 2).

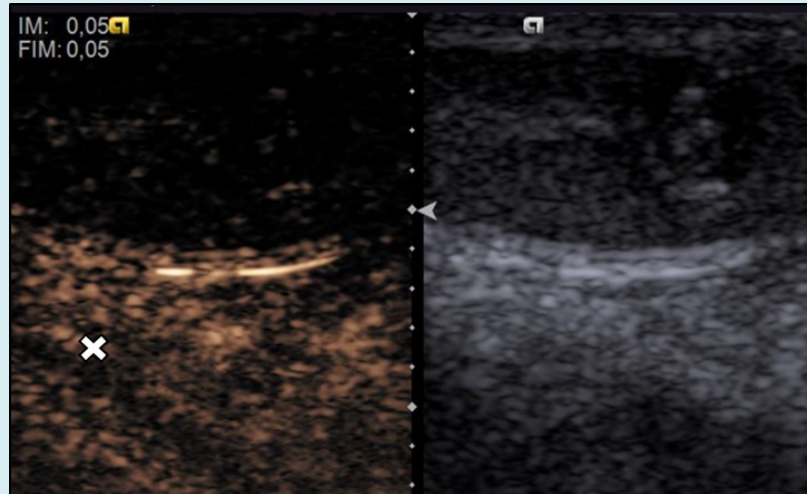


Figure 2: Contrast enhanced ultrasound. No contrast enhancement (cross) identified in either of two lesions.

We proceeded to perform testis sparing surgery through scrotal access identifying two lesions next to each other. The biggest was heterogeneous purplish and the other yellowish. Both were encapsulated, non-infiltrating to testis

parenchyma and easy to shell out. On histology, the major lesion was diagnosed of mature cystic teratoma. The minor was confirmed as epidermoid cyst (Figure 3).

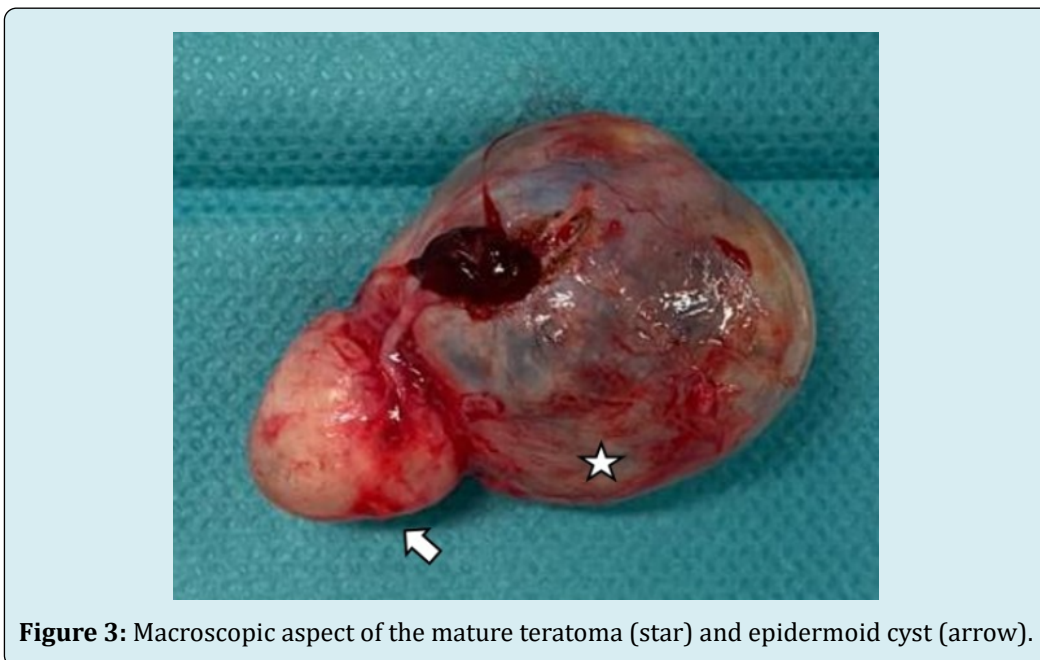


Figure 3: Macroscopic aspect of the mature teratoma (star) and epidermoid cyst (arrow).

On 3 years of follow up with routine ultrasound, no recurrence or testicular atrophy were detected.

Discussion

Testicular tumors are infrequent on pediatric age, being only about 1-2% of total solid tumors. Traditionally, they

have been treated with radical orchiectomy through inguinal access, extrapolating the data of adults to children [1]. The frequency of benign tumors is highest in children than adults, even more in pre-pubertal. In post-pubertal children, the general incidence of testicular tumor increases ten times, being mostly malignant. Despite testis sparing surgery was described in the 80s, there is no big evidence for benign tumors in the last years. However, it is still controversial when you can apply this technique, because the risk of a final diagnosis of malignant tumor and recurrence [2]. Teratomas are the most frequent testicular tumors in children with an incidence between 8-48%. They are composed of tissues from the three germinal layers. On ultrasound, teratomas varies highly including focal or diffuse micro calcifications, cystic or solid, single or multi-septated. Some can mimic dermoid and Epidermoid cysts [3,4]. Epidermoid cyst are tumors of keratin producing epithelium, being between 1-11% of total of pediatric testicular tumors. Sonographic findings include well circumscribed hypoechoic mass and hyper-echogenic rim with an onion-ring pattern [4,5].

In both cases, there are no reports of their malignant variety in pre-pubertal patients [6]. The benign nature of these tumors favours testis sparing surgery [2,6-10]. In adults, teratomas are malignant in 90-95% of cases. Avoiding unnecessary orchiectomy, prevents possible psychological problems and potential loss of fertility and hormonal function [6,11]. Colour-Doppler ultrasound traditionally has been considered not sufficient to discard or confirm vascularization, and therefore malignancy. Ma W, et al. found avascular ultrasound lesions can be malignant in up to 39.7% of adult cases [12]. CEUS has already proved their efficacy to assess vascularization in intratesticular lesions. Two thirds of benign lesions showed no enhancement and one third had homogeneous enhancement. Heterogeneous enhancement was present in all malignant lesions [13-15].

Conclusion

In this case, all sonographic findings (both US and CEUS), pre-pubertal age and negative tumors markers were highly compatible with benign lesions. Consequently, access through inguinoscopy to control spermatic vessels to deliver the testis and performing frozen section was not necessary, minimizing morbidity of surgery. So far, this is the only case reported of synchronous and ipsilateral mature teratoma and epidermoid cyst in pediatric age.

Availability of Data

The data of this case report are located at Consortium Corporation Sanitaria Parc Tauli, Sabadell, Spain.

Authors' Contributions

GJR participated in data acquisition, drafting the manuscript and performed the surgery and follow-up of the patient. BJ, SMS, JJ, EC and AN participated in figure preparation, revising and editing and helped with translation for English language. JP assisted at the surgery. SB, SVB, GM and BN helped in revising and editing the manuscript. All authors read and approved the final manuscript.

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