



Hemangioma: rare testicular tumor

M. Bsilat, J-L. Jorion, O. Rahier, T. Puttemans, E. Dardenne
Clinique Saint Pierre Ottignies



Introduction

Testicular hemangiomas are rare
Less than 30 cases in all age groups in the English literature.

Child: only 9 similar cases between birth and puberty.

Aim:

- describe a rare but benign entity
- target patients for sparing testicle

Case report



16 years old boy with idiopathic delayed puberty treated by testosterone
History of preputial plasty
Oriented for classical follow up



Ultrasound:

- Intratesticular nodule from 6X5X8mm
- Doppler with unusual vascular activity, lots of vessels
- Elastography identical as testicular parenchyma



Serum markers:

AFP, B HCG, LDH all normal
Last testosterone control: within the norms



Partial orchiectomy was performed

Intra operative ultrasound control



Lots of benign capillary

CD31 expressed

Compatible with hemangioma

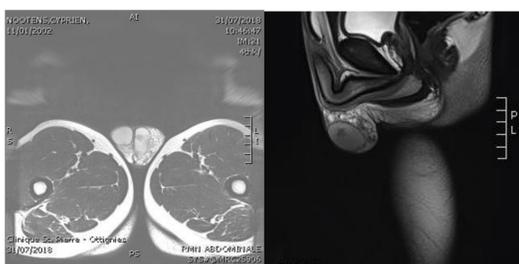


Figure 1 and 2 RMN: nodule visualised at T1 and T2 sequences

Discussion

Vascular tumors are rare, especially located in the testicles. Testicular hemangioma is a challenging diagnostic but it has to be discussed considering that this lesion is totally benign. Because of the age and the radiological patterns hemangiomas can mimic malignant tumors.

The clinical patterns are aspecific.

In all the cases consulted, the alpha foeto protein, beta chorionic gonadotrophin and lactate deshydrogenase were negative, suggesting this as an argument in favor of benign character even if only 50 percent of the patients shows markers elevations in testicular malignancies.

The diagnosis is made by pathological analysis. There are four types of testicular hemangiomas: cavernous, histiocytoid, capillary and papillary endothelial hyperplasia.

Histopathology shows vascular tumor with well differentiated endothelia. The vessels are large with thin wall. No excessive atypia's or mitosis are noted.

BAU2018

Dolce - La Hulpe/Terhulpen 6 & 7 DECEMBER 2018

Tumor Type	Age	Serum Tumor Marker
Malignant testicular tumors of nonseminomatous GCT*	<7 mo 7-9 mo ≥10 mo	AFP >1000 ng/mL AFP >100 ng/mL AFP >20 ng/mL
Yolk sac tumor		+++AFP, +HCG, +LDH
Embryonal carcinoma		+AFP, +HCG, ++LDH
Choriocarcinoma		+HCG, +LDH
Seminoma	Rarely seen in prepubertal age group	+HCG, ++LDH
Teratoma		No consistent elevation unless there is a mixed GCT component
Benign tumors		No elevation

AFP, alpha fetoprotein; GCT, germ cell tumor; HCG, human chorionic gonadotropin; LDH, lactate dehydrogenase; +, marker variably elevated; ++, marker often elevated; +++, marker always elevated.

* From reference: Shen, J. et al. Epidemiologic study of 230 cases of testicular/paratesticular tumors or masses: 15-year experience of a single center. *J Pediatr Surg* pii. 52;2056-2060 (2017).

Fig.3:level of markers according to differential diagnostic

The proportion of benign tumor in prepubescent boys has been reported as much higher compared with adults. The commonest neoplasms being yolk sac tumors and teratomas.

As far, follow up of testicular vascular tumors cases shown no evidence of malignant behavior, metastasis or local recurrence.

Because of the benign pattern of this pathology, testis sparing surgery must be considered for peri-or prepubescent children, as far as the nodule' size enables it.

Ultrasound

Ultrasonogram usually shows :

- Hypoechoic well limited nodule located in the testicular parenchyma
- Most of the time homogenous
- Doppler signal is at high velocity, with vessels filling it.
- Elastography show same stiffness as adjacent testicular tissue (malignant tumors are generally stiffer than testicle at elastography).

Despite all those characteristics, echography cannot affirm the diagnosis but can certainly help to consider the benign or the malignant potential of the lesion.

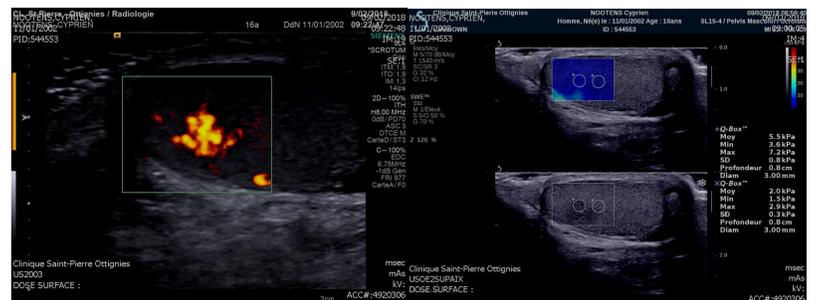


Fig.4: aspect of the nodule at Doppler's signal;

Fig.5 Elastography showing same stiffness as normal parenchyma

Conclusion

Who should benefit from sparing testicles surgery ?

- Pre or peri pubescent
- Benign patterns at echography
- Negative markers
- Size that enable partial resection
- Intra operative pathology analysis

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