Capillary haemangioma of the testis

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Abstract

A case of testicular capillary haemangioma is reported and the importance of intraoperative examination of this very rare lesion emphasised. Capillary haemangioma of the testis can be similar to malignant testicular tumours on clinical presentation, as well as on ultrasonography and magnetic resonance imaging, and therefore should be included in the intraoperative differential diagnosis. Because of the benign nature of this lesion, conservative surgical treatment by means of tumour enucleation with preservation of the testis is possible, if intraoperative examination of frozen sections of representative tissue can be performed.

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Keywords: testis; haemangioma

Usually, radical orchidectomy is performed in cases of solid intratesticular tumour. This is the standard procedure, because most testicular tumours in young men are malignant tumours of germ cell origin. We report a case of a capillary haemangioma of the testis, diagnosed on intraoperative examination of the frozen section. Because this is an extremely rare benign testicular tumour, the neoplasm was treated by conservative tumour enucleation with preservation of the testis, instead of orchidectomy.

Case report

An 18 year old man presented with a palpable, non-tender, left testicular mass approximately 1.5 cm in diameter. Scrotal sonography revealed a roundish, well demarcated hypoechoic area. Within the lesion echopoor areas were

detected. Colour Doppler sonography showed no increased blood flow within the lesion. The lesion was located in the upper pole of the testis. Laboratory examinations, including relevant tumour markers, particularly α -fetoprotein and β -human chorionic gonadotrophin, were normal. Exploration of the left testis by an inguinal approach revealed a blue/reddish, moderately firm, circumscribed intraparenchymal mass. The excised specimen, $0.4 \times 0.4 \times 0.3$ cm in dimension, was diagnosed as benign angiomatous tumour on intraoperative examination of the frozen section. Because of this diagnosis, tumour enucleation was performed, instead of left orchidectomy. Paraffin wax embedded sections verified the intraoperative diagnosis of a capillary haemangioma, showing characteristic features of a vascular tumour with abundant vascular spaces, lined by spindle shaped endothelial cells without anaplastic features (fig 1A). No mitotic figures were seen. The tumour tissue was interspersed with a few mast cells. Single pre-existing tubuli with atrophy were found within the tumour tissue. The tumour nodule was well delineated and surrounded by regular seminiferous tubules. Immunohistochemistry showed expression of vascular markers CD31 and CD34 (fig 1B), as well as vimentin by the tumour cells.

Discussion

Testicular capillary haemangioma in adults is an exceptionally rare tumour. In a review of the English literature of the past seven decades we found only four reports of unequivocal capillary haemangiomas of the testis in adults.^{1–4} These patients, similar to our patient, were young men, aged 25, 18, 45, and 26 years,

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Figure 1 (A) Vascular capillary tumour with abundant vascular spaces, lined by spindle shaped endothelial cells without anaplastic features (haematoxylin and eosin stained; original magnification, $\times 200$). (B) Tumour cells showing prominent expression of the vascular marker CD34 (immunohistochemistry for CD34; original magnification, $\times 200$).

Table 1 Vascular tumours of the testis in the literature

Diagnosis and references	Number of cases	Age range
Capillary haemangioma ¹⁻⁴ (present case)	5	18–45 years
Papillary endothelial hyperplasia ⁵	1	26 years
Cavernous haemangioma ⁶⁻¹³	8	15–77 years
Histiocytoid haemangioma ¹⁴⁻¹⁹	8	23–49 years

respectively. Two of the tumours were left sided,^{1,2} and the other two were right sided.^{3,4} However, other types of benign testicular vascular tumours in men have also been reported in the literature (table 1). In summary, eight testicular vascular tumours were classified as cavernous haemangiomas. Another eight cases were diagnosed as histiocytoid haemangiomas.²⁰ One case was diagnosed as papillary endothelial hyperplasia,⁵ and five cases, including our present case, were classified as capillary haemangiomas.

Whereas cavernous and capillary haemangiomas do not pose major difficulties in diagnosis and classification, the term histiocytoid haemangioma is still a controversial classification.^{14,21} It is a unifying concept of vascular neoplasms embracing a clinicopathological spectrum of lesions, proposed by Rosai and co-workers.²⁰

A remarkable fact is that no unequivocal de novo malignant vascular testicular tumour has been reported in the English literature. One single published case of a high grade angiosarcoma in the testis was interpreted as secondary sarcomatous transformation of a pre-existing teratomatous germ cell tumour.²² To date, all reported vascular testicular tumours have clearly demonstrated benign behaviour, with no evidence of local recurrence or metastasis.

We report another case of testicular capillary haemangioma and emphasise the importance of intraoperative examination of this lesion. Capillary haemangioma of the testis can be similar to malignant testicular tumours on clinical presentation, as well as on ultrasonography and magnetic resonance imaging.⁴ Be-

cause of the benign nature of this lesion, conservative surgical treatment by means of tumour enucleation with preservation of the testis is possible, if intraoperative examination of frozen sections of representative tissue can be performed.

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