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Sir,

Treatment of orbital haemangiopericytoma with surgery and preoperative embolization

We describe a case of extraconal orbital haemangiopericytoma that was completely resected following particle embolisation of the feeding artery.

Case report

A 22-year-old female patient presented with a 10-month history of progressive ptosis, generalised ophthalmoplegia, hypoglobus, and 6/6 visual acuity (VA). MRI with contrast of the orbits revealed a well-defined extraconal lesion above the superior rectus with homogenous enhancement and multiple flow voids, suggesting a vascular tumour. Cerebral angiography demonstrated dense tumour staining, showing multiple feeders to the tumour distal to origin of central retinal artery (CRA). The ophthalmic artery was catheterised using Marathon Flow Directed Micro Catheter (EV3; Irvine, CA, USA) and a Mirage 0.008 Guidewire (EV3), and safely placed distal to CRA (Figure 1a). Embosphere particles measuring 150–300 μm were injected slowly through distal ophthalmic artery into the tumour, under constant blank roadmap, to prevent particles floating retrogradely into the CRA. Approximately 95% devascularisation of the tumour was achieved with a small remnant feeder close to CRA (Figure 1b). Complete excision via lid crease approach was performed subsequently (Figures 2a and b).

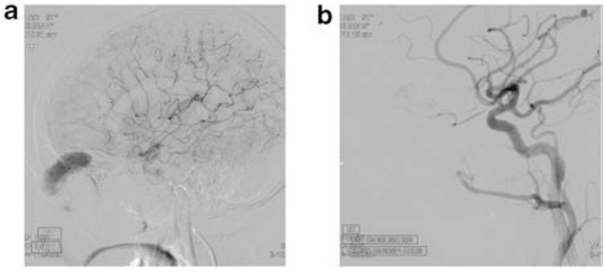

Figure 1 (a, b) Pre- and post-embolisation of the lesion.

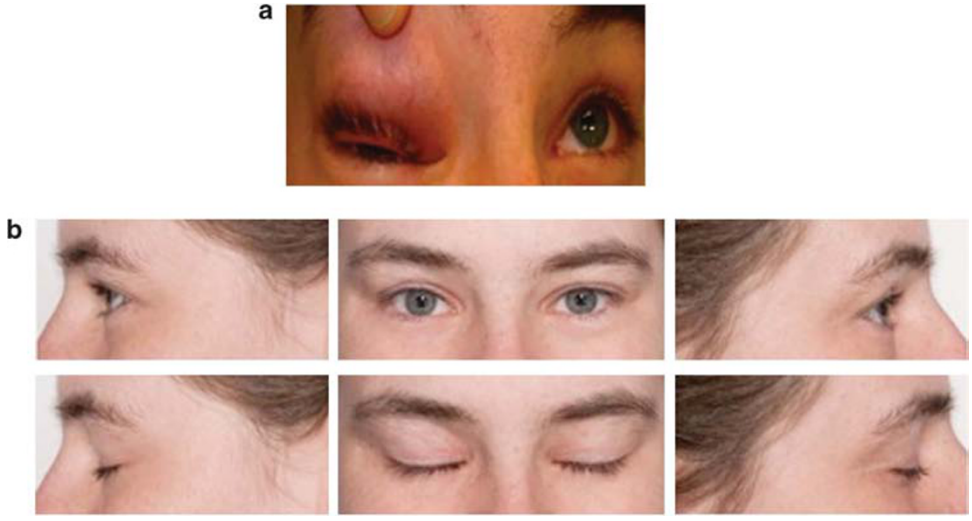

Figure 2 (a, b) Pre and post op picture of the patient.

Histopathology revealed thin collagenous capsule surrounding sheets of high density of oval cells with little pleomorphism and moderate mitotic activity. Necrosis was no seen. Tumour cells surrounded branching capillaries, giving staghorn appearance. Immunohistochemical stains of tumour cells were positive for CD34, CD99, Bcl-2, and Vimentin and negative for EMA, S-100, and SMA. The proliferative index (Ki-67) was positive in 5% of the tumour cells. These characteristic signs confirmed diagnosis of haemangiopericytoma.

Patient maintained 6/5 VA 1-year following surgery.

Comment

Haemangiopericytoma of the orbit is a rare, slow growing vascular tumour. Its incidence is 0.3–3% of all orbital biopsies.[1,2] Incomplete resection is associated with a high rate of recurrence and malignant conversion.[2] Complete removal of the lesion is considered the mainstay treatment.[3]

Gear *et al*[4] recommend radiotherapy for recurrent superficial tumour, however, radiotherapy carries the risk of ischaemic optic neuropathy, as does embolization. Takahashi *et al*[5] described excision of the lesion following embolization by polyvinyl alcohol to reduce tumour size.

To the best of our knowledge, this is the first reported case of haemangiopericytoma treated with particle embolization followed by *en bloc* excision of the lesion. Pre-excision embolization shrinks tumour, reducing the risk of intraoperative haemorrhage. We recommend preoperative embolization a useful technique for haemangiopericytoma treatment.

Conflict of interest

The authors declare no conflict of interest.

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