

Sir,

Visual preservation 18 years after cobalt plaque treatment of choroidal melanoma

Brachytherapy using a radioactive plaque is a common method of treating choroidal melanoma today.¹ Vision can often be retained following brachytherapy for peripheral melanomas, but most patients lose considerable vision when the tumour is located in the macular region.² We report a case of choroidal melanoma with a margin within 3 mm from the foveola in which the patient retained excellent vision 18 years after treatment with a cobalt-60 plaque.

Case report

In March 1980, a 51-year-old man was referred for a choroidal melanoma. His visual acuity was 20/20 in each eye and intraocular pressures were normal. In his right eye was a dome-shaped, pigmented choroidal mass (Figs. 1–3) 12 × 11 mm basally and 6 mm in thickness as measured by estimation and ultrasonography (Fig. 4). The posterior margin of the tumour was 3 mm temporal to the foveola (Fig. 3).

The patient elected treatment with a radioactive plaque, which was done by our standard technique.¹ A dose of 35 000 cGy was delivered to the tumour base and macular area and 10 000 cGy to the tumour apex. Six months after treatment the tumour was 2 mm in thickness by ultrasonography and 1 year later it was entirely flat on ophthalmoscopy (Fig. 5) and

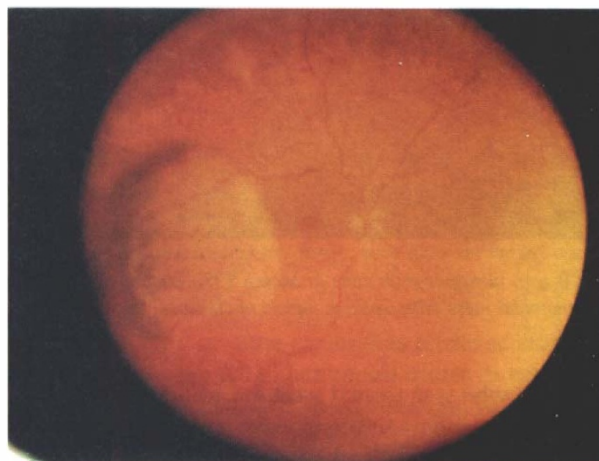


Fig. 2. Wide-angle fundus photograph showing the tumour. The retinal detachment is not easily visualised in the photograph.

ultrasonography. There was a distinct margin between the irradiated tumour and the normal foveal area (Fig. 6). For 18 years the vision has remained 20/20 and there is no tumour recurrence or radiation retinopathy (Figs. 5, 6).

Comment

When a melanoma is in the macular area (tumour margin within 3 mm of the foveola) most patients treated with plaque or charged particle radiotherapy experience considerable visual loss due to radiation retinopathy.^{2–4} Since ruthenium-192 and iodine-125 plaques appear to have fewer complications, they have replaced cobalt-60 at most centres. It is interesting that

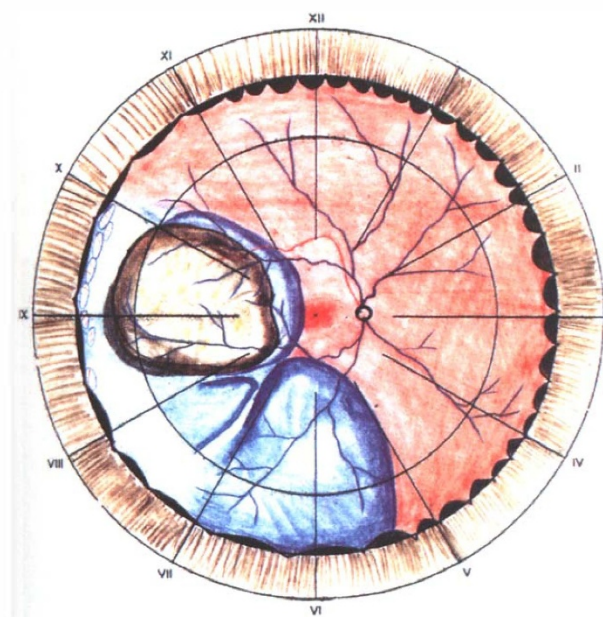


Fig. 1. Fundus drawing of the right eye showing the melanoma (brown) temporal to the macular area and secondary retinal detachment (blue).

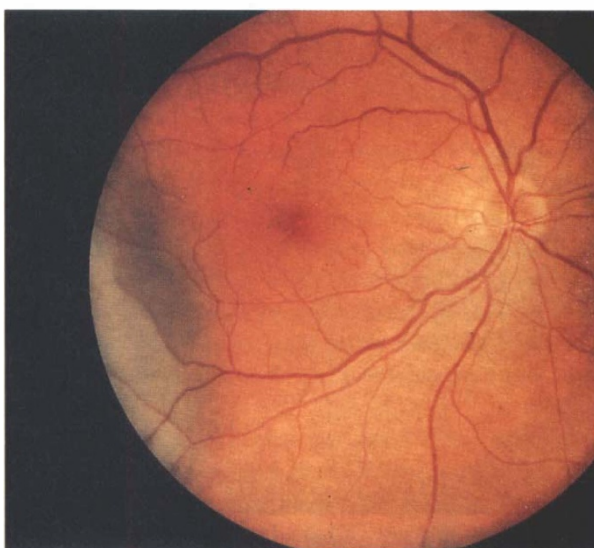


Fig. 3. Fundus photograph showing the posterior edge of the pigmented choroidal tumour.

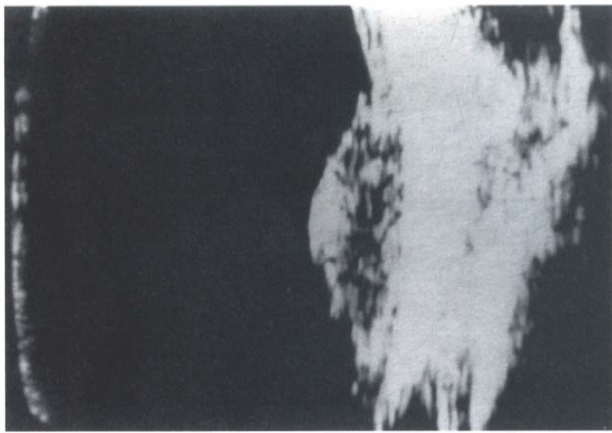


Fig. 4. B-scan ultrasonogram done in March 1980, showing a dome-shaped choroidal mass with features typical of choroidal melanoma.

our patient, who was treated with a cobalt-60 plaque for a choroidal melanoma in the macular area, has enjoyed excellent tumour control and excellent vision for 18 years since treatment. A recent study of plaque radiotherapy for choroidal melanoma in the macular area showed that visual outcome was better than previously suspected. In that report of 630 patients with macular choroidal melanoma treated with plaque radiotherapy and followed for more than 5 years, the final visual acuity was better than 20/200 in 44% of patients and better than 20/40 in 9%.⁵ Many of the earlier patients in that series were treated with cobalt-60 plaques, which were associated with worse visual outcomes. With the more recent use of lower-energy isotopes and improved designs of radioactive plaques, even better visual results are anticipated in the future.

The reason for such a favourable response to cobalt-60 plaque radiotherapy in the patient reported here is unclear. However, it demonstrates that excellent tumour control and visual results can sometimes be obtained even though the melanoma is in the macular area.

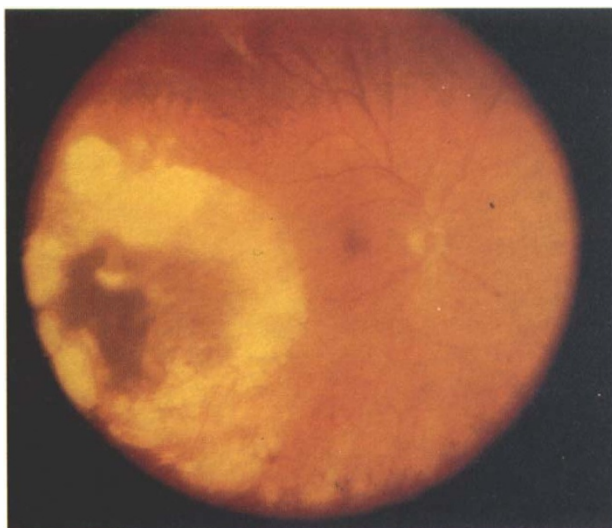


Fig. 5. Wide-angle fundus photograph (corresponding to Fig. 2) done in 1996, showing a flat scar in the area where previously there was tumour.



Fig. 6. Fundus photograph (corresponding to Fig. 3) showing the margin of treated area. The tumour has completely regressed with a well-delineated posterior margin to the scar. The optic disc and fovea show no radiation damage.

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References

1. Shields JA, Shields CL. Management of posterior uveal melanoma. In: Shields JA, Shields CL. Intraocular tumours: a text and atlas. Philadelphia: WB Saunders, 1992:171-205.
2. Cruess AF, Augsburger JJ, Shields JA, Donoso LA, Amsel J. Visual results following cobalt plaque radiotherapy for posterior uveal melanomas. *Ophthalmology* 1984;91:131-6.
3. Char DH, Kroll SM, Castro JK. Ten-year follow-up of helium ion therapy of uveal melanoma. *Am J Ophthalmol* 1998;125:81-9.
4. Gragoudas ES. Long-term results after proton irradiation of uveal melanomas. *Graefes Arch Clin Exp Ophthalmol* 1997;235:265-7.
5. Gunduz K, Shields CL, Shields JA, Cater J, Freire J, Brady LW. Plaque radiotherapy of choroidal melanoma with macular involvement. *AM J Ophthalmol* 1999; in press.

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Sir,

Angler's fishing line sinker causing rupture of globe and medial wall fracture

An angler sustained a left penetrating eye injury and fracture of the medial orbital wall from a flying fishing weight. The lead sinker found resting in his posterior nasal space was retrieved and the globe underwent primary repair but was later enucleated. The risks of