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SHORT COMMUNICATION

Delayed treatment of choroidal melanoma due to pregnancy

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PURPOSE. *The authors report a 27-year-old woman who presented with a large, choroidal melanoma when she was 28 weeks pregnant. Following detailed discussion with the patient, the decision was made to postpone any surgical treatment until after the birth of her child.*

METHODS. *Case report.*

RESULTS. *The patient had successful transscleral local resection of the tumor with 6/12 vision 6 months later. Cytogenetic studies showed a low risk of subsequent metastases.*

CONCLUSIONS. *This case illustrates that deferring the treatment of a choroidal melanoma presenting during pregnancy can be a reasonable treatment plan, if the patient is highly motivated to keep the eye. (Eur J Ophthalmol 2006; 16: 876-8)*

KEY WORDS. *Choroidal melanoma, Pregnancy, Local resection, Cytogenetics*

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INTRODUCTION

Presentation of choroidal melanoma during pregnancy has been reported in 0.4% of all patients (1). Studies report no evidence of either estrogen or progesterone binding properties inferring no hormonal responsiveness of these tumors (2, 3). Egan et al suggested that childbearing confers some protection from death from uveal melanoma with relative protection increasing with parity (4). Current treatment modalities include enucleation, radiotherapy using plaques, proton beam or stereotactic techniques, transpupillary thermotherapy, and local resection (either transscleral or transretinal) with or without adjuvant radiotherapy. Over the last 20 years improvements have been made in treatment modalities that allow conservation of the globe without increasing the risk of metastatic death (5).

Recent advances in cytogenetics are beginning to reveal patterns in the genetic structure of uveal melanoma. A high mortality in patients with monosomy 3 melanoma suggests that, in these patients, ocular treatment may be only palliative (5-7).

Case report

A 27-year-old woman, who was 28 weeks pregnant, was referred to our center with a tumor in her left eye. Six months earlier she had presented to her ophthalmologist complaining of blurred vision. She had no other ocular or medical history and there was no family history of ocular tumors.

On examination, the visual acuity was 6/6 in the right eye (OD) and 6/12 in the left eye (OS). Examination of the right eye was unremarkable. The left eye had inferior sentinel vessels and a large dome-shaped, pigmented, solid, choroidal tumor inferiorly (Fig. 1). This involved four clock hours of ciliary body and two clock hours of iris and angle. The tumor had a transverse diameter of 14.7 mm, a longi-

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tudinal diameter of 13.4 mm, and a thickness of 12.6 mm. No extrascleral extension was detected. B-scan ultrasonography suggested a diagnosis of choroidal melanoma. The intended management was transscleral local resection with adjunctive ruthenium plaque radiotherapy. This procedure required hypotensive general anesthesia, which was contraindicated by the pregnancy. A decision was made to postpone the surgery until after the birth of the patient's child. The patient was informed that the risk to life of such a delay was probably insignificant because current knowledge suggests that any metastatic spread would have commenced at an early stage (5).

The procedure was performed 12 weeks later, 3 weeks after the uneventful birth of a baby boy. The tumor measurements at that time had increased to 16.4 mm (transverse), 15.4 mm (longitudinal), and 14.3 mm (thickness). The local resection was uneventful but postoperatively she developed total hyphema, which required anterior chamber washout and pars plana vitrectomy with 10% SF_6 tamponade. Six months later she underwent uneventful phacoemulsification with a lens implant and her vision improved to 6/12. Histology revealed a uveal melanoma with predominantly spindle cell morphology (Fig. 2). Clearance could not be commented upon due to tumor fragmentation. Cytogenetic analysis revealed no evidence of either monosomy 3 or trisomy 8.

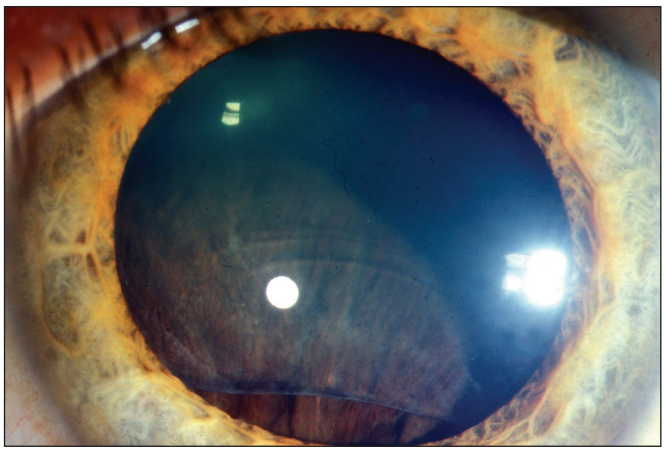

Fig. 1 - *Anterior segment color photograph showing the inferior choroidal tumor displacing the lens superiorly.*

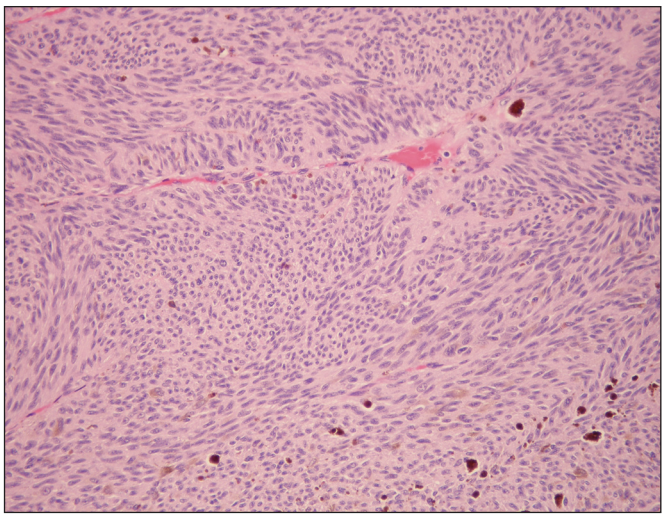

Fig. 2 - *Hematoxylin and eosin stained section of the melanoma demonstrating the fascicular arrangement of the cells and their dominant spindle morphology. Very occasional epithelioid tumor cells were seen (original magnification x300).*

DISCUSSION

This case is remarkable because the treatment of a large choroidal melanoma was postponed by 12 weeks. Such a delay would have been inconceivable only a few years ago, when immediate enucleation would have been recommended because of the hypothesis that uveal melanomas metastasize at a late stage, after tumor growth and de-differentiation. Factors that were considered important for metastatic spread were large tumor volume, ciliary body involvement, and epithelioid cell type (8).

Metastatic mortality correlates highly with chromosomal abnormalities such as monosomy 3 and gains in chromosome 8. When both are present, the 5-year survival is only 45% as compared with more than 90% when both chromosomes are apparently normal. The survival curves for patients with and without these abnormal chromosomes respectively diverge from the time of primary ocular treatment. Since metastatic disease is believed to develop several years after spread of the tumor from the eye it is now generally accepted that any metastatic spread commences early, years before treatment of the primary lesion (5). For this reason, treatment of choroidal melanoma is perhaps merely palliative in patients with a large tumor, contrary to what was previous believed. These recent advances now supersede older prognostic factors such as size and location (in part). This hypothesis justifies the postponement of therapy in this case.

Serendipitously, the delayed treatment allows the growth rate of our patient's tumor to be estimated. If the tumor shape approximates an ellipsoidal shape, the change in echographic dimensions equates to a volume increase of 45% and a calculated doubling time of 160

days, which is less than previously reported for spindle cell melanoma (9).

It was not possible to predict the growth rate in this patient when she was first seen, so it was not known whether the tumor would still be resectable when she was reviewed after the birth of her baby. In the event, however, the surgery itself was uncomplicated.

Published studies provide inconsistent results regarding the psychological effects of enucleation (10-12). This patient was highly motivated to retain the eye and might therefore be expected to develop psychological difficulties if the eye is lost. The senior author's intuition suggests, however, that the patient had a resilient personality and would have coped well with any outcome.

In conclusion, this case suggests that when a patient presents with uveal melanoma during pregnancy, it can be reasonable to delay treatment until the baby is born if the patient is highly motivated to keep the eye.

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