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Choroidal Melanoma: A Case Report

Zouaki Zakaria[1*], Boui Meriem[1], Roukhsi Redouane[1], Hammoune Nabil[1], Slioui Badr[1], BenElhend Salah[1], Bellasri Salah[1], Atmane Mehdi[1], Mouhsine Abdelilah[1]

[1]Department of Radiology, Avicenne Military Hospital, Marrakech, Morocco

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***Corresponding author:** Zouaki Zakaria

Abstract **Case Report**

Choroidal melanoma is a rare tumour, but remains the most common primary intraocular malignancy. It may be discovered incidentally during fundus examination or in the workup of intravitreal haemorrhage, retinal detachment, or even a scleritis or episcleritis-like presentation. We report the case of a 52-year-old man with choroidal melanoma, highlighting the contribution of imaging in the management of this ocular pathology.

Keywords: Melanoma, choroidal, eye, tumour, MRI, imaging.

INTRODUCTION

Choroidal melanoma is a rare disease, but remains the most common ocular tumour in adults. It arises embryologically from cells derived from the anterior neural crest. It is characterised by a high risk of metastatic evolution and high mortality.

We herein report a case of choroidal melanoma to highlight the contribution of imaging in the management of this ocular pathology.

CASE REPORT

A 52-year-old man, with no notable pathological history, who had been suffering from decreasing visual acuity evolving for three months. The fundus showed a pigmented mass, the biological test was unremarkable. The MRI showed a parietal lesion of the postero-external and inferior pole, with a melanic signal: hyperintense in T1, hypointense in T2, enhancing after injection of gadolinium.

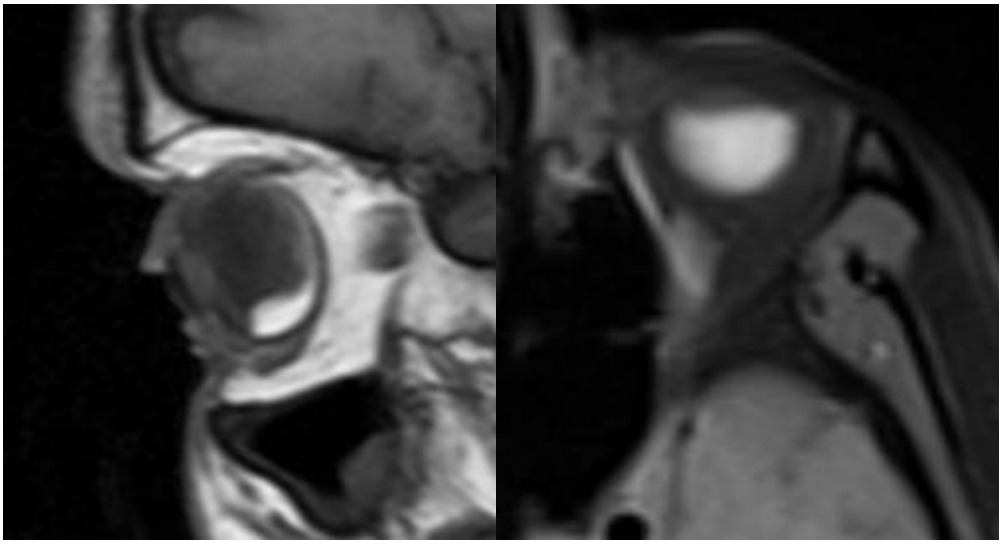

Figure A

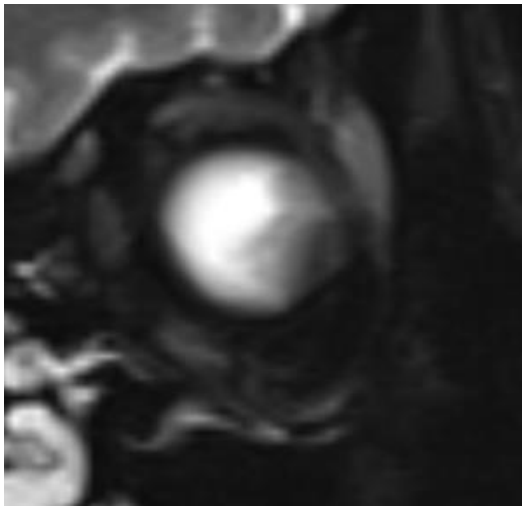

Figure B

MRI showing a choroidal melanoma: (A) Sagittal and axial planes showing a T1 hyperintense signal parietal mass (B) Coronal plane showing a T2 hypointense parietal mass.

DISCUSSION

It is a rare condition, although it is the most common ocular tumour in adults [1]. The median age of onset is 55 years. This tumour is rare before the age of 20, and its incidence increases with age. It occurs mainly in Caucasian population, and is less common in black population. The sex ratio is 1.03 with a slight male predominance according to studies [2]. Mortality at 5 years is approximately about 50%. The main cause of mortality is the occurrence of liver metastases, resulting in death within 6 months if untreated [3].

Choroidal melanoma is derived from uveal melanocytes derived from anterior neural crest cells [4].

Clinically, choroidal melanoma is manifested by intermittent phosphenes when the tumour backs up the retina, myodesopsies in case of vitreous haemorrhage, decreased visual acuity when the tumour is located at the posterior pole of the eye, or visual field amputation when the tumour is large and leads to retinal detachment.

On the fundus, it appears as a pigmented mass that is rarely unpigmented, as some melanomas are achromatic.

On ultrasound this parietal lesion is globally hypoechoic with often posterior attenuation and is very rarely calcified. It has a variable shape: lenticular, domed or mushroom-shaped when the tumour develops through a rupture in Bruch's membrane separating the choroid from the retina. There is frequently a choroidal excavation, reflected by a decrease in the thickness of the normal wall behind the lesion, related to the tumour extension which destroys this wall. On colour Doppler ultrasound, the tumour is hypervascularised in almost all cases [5], except if the thickness of the lesion is less than 2 mm or if there is significant ocular hypertonia. Four different types of arterial vascularisation have been described [6].

MRI shows a parietal lesion that is most often T1 hyperintense and T2 hypointense, which is related to the presence of melanin (and therefore not seen in achromic melanomas), taking up contrast. Because of the spontaneous T1 hypersignal that can mask contrast uptake, an identical T1 sequence is performed without and after injection, allowing subtraction images to be taken. Any extrascleral extension will be well analysed by injected T1 sequences with fat suppression [7]. Similarly, MRI can be used to separate the tumour lesion from a possible associated DR and to differentiate it from other diagnoses, in particular choroidal haemangioma or haematoma. In our case MRI showed a typical aspect of choroidal melanoma as an hyperintense T1 and hypointense T2 parietal lesion.

CONCLUSION

Choroidal melanoma is a rare tumour with a poor prognosis, with the early occurrence of liver metastases, making this pathology very severe. Imaging, in particular ultrasound and MRI, is essential for the diagnosis and follow-up of the lesion.

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