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Large Choroidal Melanoma Presenting As Neovascular Glaucoma

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Abstract
Choroidal melanoma is a relatively rare tumour with a poor prognosis, though it is the most common primary malignancy of the eye among adults. Choroidal melanoma has been reported to present as acute angle closure glaucoma, secondary glaucoma, chronic uveitis, cataract, and staphyloma. We report a case of a 58-year-old male presenting with features of neovascular glaucoma in the right eye and having initially been treated with anti-glaucoma medications. However,B-scan ultrasonography revealed a mushroom-shaped, elevated, solid lesion with low internal reflectivity suggestive of choroidal melanoma. The patient underwent an enucleation of the eye, and the Histopathological examination along with the immunohistochemistry studies of the lesion following enucleation of confirmed the diagnosis of malignant choroidal melanoma.
We highlight with this case that large choroidal melanoma may rarely present with features of neovascular glaucoma. The etiology of neovascular glaucoma should be investigated carefully and a potentially life-threatening intraocular tumour should be excluded, although it is a rare presentation.
Keywords: *choroidal melanoma, iris neovascularisation, neovascular glaucoma*

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I. Introduction

Choroidal melanoma is the most common primary malignancy of the eye among adults [1]. It remains a rare condition with an incidence of 0.73 cases / 100,000 per year in France [2], but can be life-threatening. Tumours are often asymptomatic and therefore their discovery can be accidental during a routine examination, as it can be revealed by an amputation of the visual field, or even with pain, photophobia, and major hypertonia. Numerous benign and malignant lesions may mimic its ophthalmoscopic features. We report a case of large choroidal melanoma presenting with features of neovascular glaucoma.

II. Case Description

A 58-year-old male with a history of diminution of vision, presented for pain, redness and rapid decreasing of vision in the right eye for the last 2 months. On examination, the visual acuity in the right eye was counting fingers at 1m . The slit lamp biomicroscopy examination found a conjunctival congestion, a corneal edema, a non-reacting middilated pupil with diffuse neovascularization of iris, an intraocular pressure at 47mmhg and cellular reaction were noted in the right eye (figure 1). On dilated fundus examination of the right eye, a large dark elevated tumor measuring approximately 8.5 mm × 12mm has been located in nasal region, adjacent to the optic disc and surrounded by subretinal exudates and hemorrhages. Gonioscopy examination with indentation revealed an angle closure.

The left eye showed a visual acuity of 20/20 with +1,25 DS correction, an intraocular pressure of 14 mmHg, a normal anterior chamber and normal disc and macula.

Ultrasonography of the right eye revealed a dome-shaped, elevated, solid lesion in the nasal and superiornasal sector with a base diameter of approximately 15 mm with moderate internal reflectivity, orbital computed tomography revealed a solid tumor protruding in the vitreous attached to the choroid (figure 2).

After consultation with the oncologist and a radiological evaluation , we excluded metastasis after performing abdominal ultrasonography and positron emission tomography and any contraindication to general anesthesia .The poor prognosis was explained to the patient and the enucluation was performed on the right eye . The microscopic examination of the section showed choroid tissue infiltration by a tumour arranged in sheets and fascicles. The histopathological examination along with the immunohistochemistry studies confirmed the diagnosis of malignant choroidal melanoma. The patient has been followed for two years and no tumor cell recurrence or metastasis has been observed until now.

III. Discussion:

Uveal melanoma is the most common primary malignant intraocular tumor in the adult Caucasian population [3]. Its incidence in France has been estimated at 0.73 per 100,000 inhabitants per year [2]. Its early detection requires knowledge of the visual symptoms before the runners, thereby improving prognosis [4].It affects not only the functional prognosis but also the vital one by its metastatic power. It often develops from the choroid, but can also develop from the iris and the ciliary body. The melanoma can manifest various clinical features, depending on the location, size, growth pattern and biological behavior of the tumor. Most patients present with painless loss or distortion of vision, with a pigmented dome-shaped mass on exploration of the fundus during a routine exam, but other patients have more serious symptoms related to tumor necrosis such as intravitreal bleeding, detachment of the retina or even a secondary glaucoma [5] which can complicate the evolution of a known melanoma or reveal the affection with more acute symptoms as in our case, whose main mechanism is iris neovascularization, due to the ischemia and retinal necrosis in relation to the tumor and hypoxia of the neighboring retina with release of angiogenic factors (VEGF) and basic fibroblast growth factor and support endothelial cell growth [6]. This mechanism of secondary glaucoma complicating or revealing melanoma is rare, in general it is mainly secondary to angle closure, melanocytic glaucoma, or direct circumferential invasion of the angle by the tumor [3].

IV. Conclusion

Unexplained ocular hypertension should lead to a complete retinal examination for this exceptional form of melanoma. Detecting the warning signs may lead to early diagnosis and prevent metastatic dissemination which has a poor prognosis.

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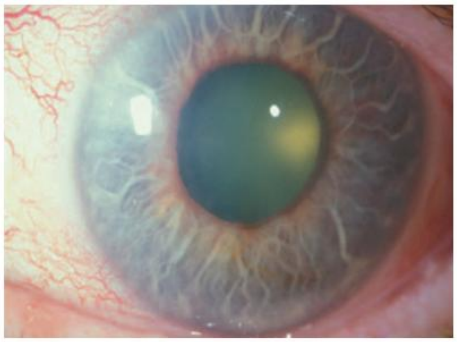
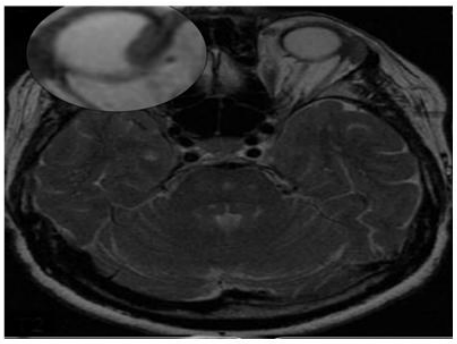


Picture 1 : non-reacting middilated pupil, diffuse neovascularization of iris



Picture 2 : orbital computed tomography revealed a solid tumor protruding in the vitreous from choroid

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