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Fundus Autofluorescence and choroidal melanocytic tumors

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Purpose: To describe autofluorescence patterns of choroidal melanocytic lesions using the Heidelberg Retinal Angiograph 2 (HRA2). **Methods:** Ten patients with choroidal melanocytic lesions in the ocular fundus were submitted to comprehensive ophthalmologic examination, autofluorescence, fluorescein angiography (FA), ocular ultrasound and optical coherence tomography (OCT). Pathological evaluation using Sudan Black B, PAS, Ziehl Neelsen and fluorescence microscopy was conducted in one enucleated eye with large choroidal melanoma. **Results:** Seven patients had diagnosis of choroidal naevi and three had malignant choroidal melanoma. Choroidal naevi did not show any characteristic autofluorescence pattern, although secondary retina pigmented epithelium (RPE) changes like drusen and pigment epithelium detachment appeared hyperautofluorescent. The patients with malignant choroidal melanomas presented with orange pigmentation and intense confluent hyperautofluorescent signal over the lesion. Pathological studies of the malignant melanoma revealed lipofuscin underlying the RPE and within the tumor. **Conclusion:** Autofluorescence may be a useful non-invasive tool to assess the presence of lipofuscin in pigmented choroidal lesions which may contribute to the diagnosis and differentiation of malignant lesions.