

Macroaneurysm

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Retinal arterial macroaneurysm is a localized fusiform or saccular dilatation of a retinal arterial vessel within first three orders of bifurcation. Diameter of a macroaneurysm exceeds 100 microns. Multiple aneurysms are common, occurring in approximately 20% of affected eyes. These are associated with exudation and hemorrhage, which may result in decreased visual acuity if it involves central macula.

CASE STUDY

A 64-year-old Asian Indian male came with a hemorrhage of around three-disc diameter at the posterior pole of right eye with asteroid hyalosis (Fig. 76.1). Best-corrected vision in the right eye was counting fingers 2 meters. Patient had no systemic illness. Lesion was imaged using the Spectralis and underwent spectral-domain optical

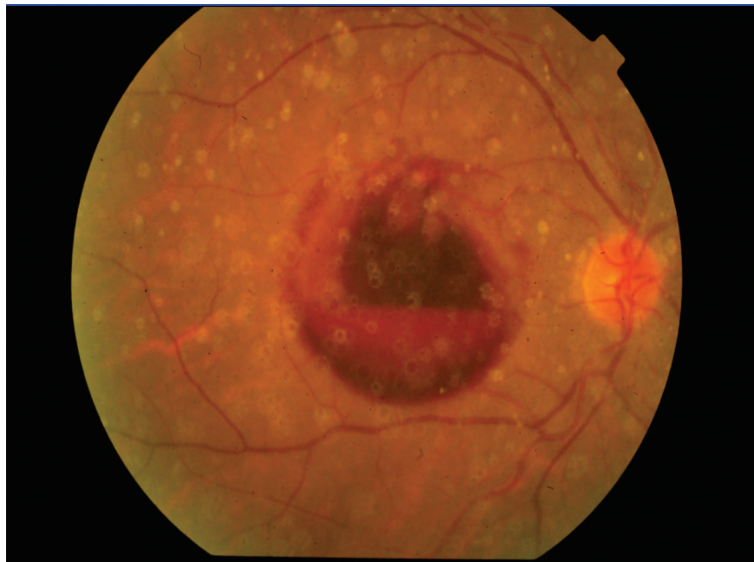


Fig. 76.1 Right eye fundus photograph imaged on TOPCON TRC-50DX showing bright-red blood settled in inferior half of lesion and dark-red blood in center with asteroid hyalosis.

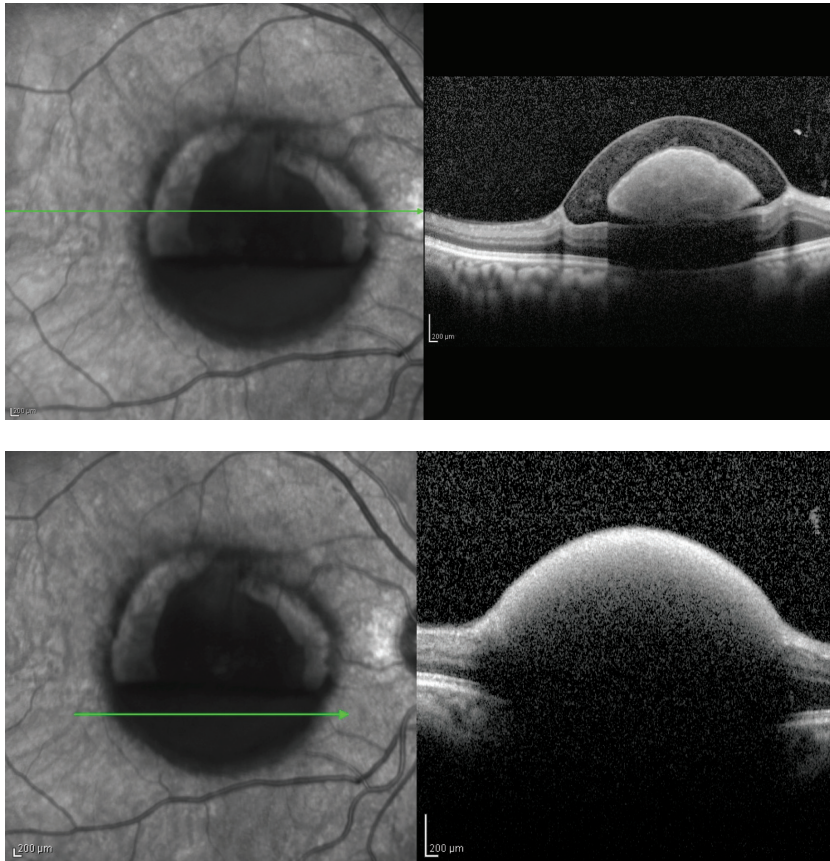


Fig. 76.2 Horizontal SD-OCT section scan imaged using the Spectralis® (Heidelberg Engineering) showing subinternal limiting membrane (ILM) hemorrhage in the scan passing through upper part of hemorrhage and boat-shaped subhyaloid hemorrhage in lower part.

coherence tomography (SD-OCT) (Fig. 76.2), fundus fluorescein angiography (FFA), and indocyanine green (ICG) angiography (Fig. 76.3).

Patient had boat-shaped subhyaloid hemorrhage and subinternal limiting-membrane hemorrhage measuring approximately 2-disc diameters at the macula. Fluorescein angiography showed two saccular lesions along superior arcade suggestive of macroaneurysm. We treated the patient with focal laser photocoagulation to the lesions and intravitreal gas to displace the blood.

Retinal macroaneurysm occurs most commonly in sixth to seventh decade. It is rare before age 60 years. Females are three times more commonly affected than males.

Two classical types of aneurysm—saccular and fusiform—affect retinal arteries. Systemic hypertension, atherosclerotic disease, and serum lipid abnormalities may contribute to formation of retinal macroaneurysms. Defects in vessel wall, which may be sites-at-risk for aneurysm formation, may occur in patients with focal arterial wall atheromas. Exudation and hemorrhage occur due to leakage from the aneurysm; following an acute hemorrhage, spontaneous thrombosis may lead to closure of the aneurysm. Retinal macroaneurysms may lead to vitreous hemorrhage, retinal detachment, macular holes, and choroidal neovascular membrane formation. Treatment of macroaneurysm involves direct photocoagulation to the lesion.

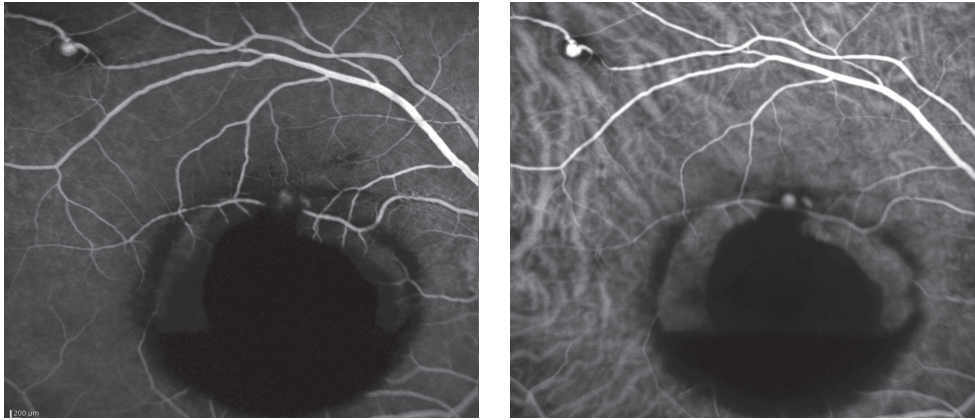


Fig. 76.3 Simultaneous FA and ICG of the patient showing blocked fluorescence corresponding to hemorrhage and hyperfluorescent saccular lesion along superior arcade suggestive of macroaneurysm—another similar lesion is seen in superotemporal region.

FURTHER READING

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