
SHORT COMMUNICATION

Case report

Retinal arterial macroaneurysm in a young patient with chronic renal failure

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PURPOSE. *To report the youngest case of retinal arterial macroaneurysm.*

METHOD. *Case Report.*

RESULTS. *Clinical examination and fundus fluorescein angiography revealed retinal arterial macroaneurysm in a 23-year-old patient with chronic renal failure.*

CONCLUSIONS. *Acquired macroaneurysm may develop even in a very young patient, especially with chronic renal failure. (Eur J Ophthalmol 2000; 10: 264-5)*

KEY WORDS. *Macroaneurysm, Chronic renal failure, Hypertension*

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INTRODUCTION

Retinal arterial macroaneurysm can be defined as acquired fusiform or saccular dilatations of the retinal arteries, usually arising within the first three orders of bifurcation. This pathology is usually seen in patients over 60 years of age, with hypertension and arteriosclerotic vascular disease (1). We report a case of macroaneurysm in a 23-year-old patient with chronic renal failure who, to the best of our knowledge, is the youngest patient in the literature.

Case Report

A 23-year-old woman developed sudden, painless, blurred vision in the left eye three weeks before consultation. Her medical history was significant. She had had chronic renal failure and hypertension for five years as a result of which a left nephrectomy had been done in 1993. Since then she has been on hemodialysis therapy twice a week. Irregular therapy has meant that her hypertension has not been maintained under control.

On examination her best corrected visual acuity was 20/30 OD and 20/200 OS. Anterior segments were normal and intraocular pressure was 16mmHg OU. Slit lamp biomicroscopy of the right fundus revealed slight pallor of the disc with retinal pigment epithe-

lial changes in the macula. Examination of the left fundus showed subretinal and intraretinal hemorrhage in the upper temporal region of the macula, with lipid exudates inside the hemorrhagic area and subhyaloid, boat-shaped, hemorrhage in the lower quadrant of the macula. There was also a ring-like superficial hemorrhage, indicating that the resorption stage had been reached (Fig. 1). Fundus fluorescein angiography (FFA) showed rapid and incomplete filling of the macroaneurysm in the hemorrhagic region, which confirmed the diagnosis of retinal macroaneurysm while the area surrounding the macroaneurysm showed microvascular abnormalities (Fig. 2).

DISCUSSION

Isolated cases of macroaneurysm are almost always seen in the elderly because aging is associated with replacement of the smooth muscle of the arterial media by collagen, with an increase in intimal collagen. The arteries lose their elastic recoil and become rigid and relatively dilated (2). These changes are similar to those seen in the sclerotic phase of hypertensive retinopathy, when there is poor retinal vascular autoregulation and subsequent vessel hyalinisation, resulting in a rigid, dilated arteriole with abnormal vessel walls (3). The extent of the damage to the vessel

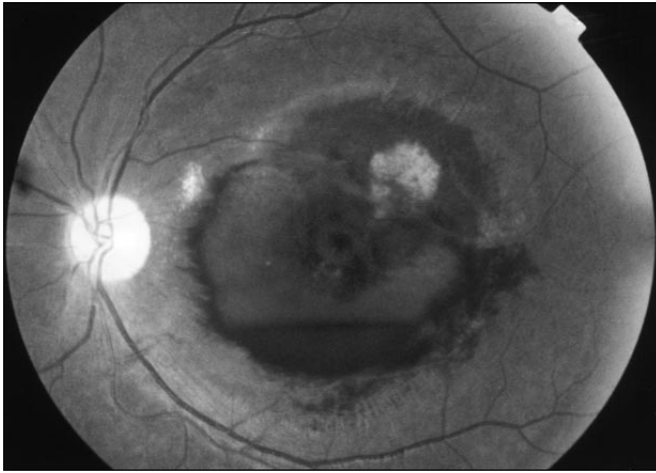


Fig. 1 - Subretinal and intraretinal hemorrhage in the upper temporal region of the macula, with lipid exudates inside the hemorrhagic area and subhyaloid, boat-shaped, hemorrhage in the lower quadrant of the macula. In addition, a ring-like superficial hemorrhage was present.

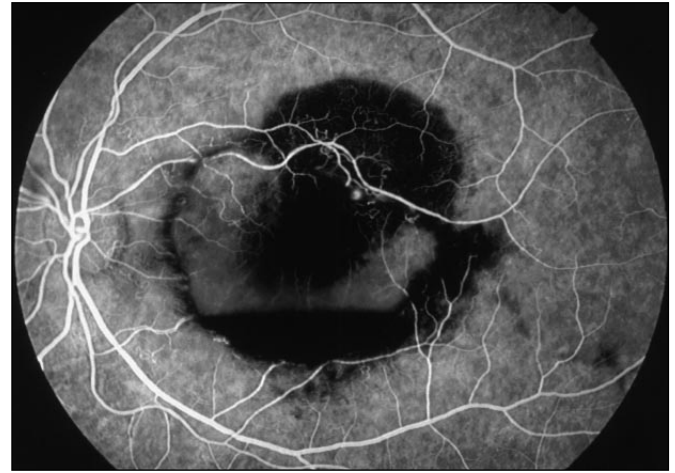


Fig. 2 - Fundus fluorescein angiography showed rapid and incomplete filling of the macroaneurysm in the hemorrhagic region, while the area surrounding the macroaneurysm showed microvascular abnormalities.

wall may be directly proportional to the degree of hypertension and to its duration. Both hypertensive retinopathy and many other age-related changes may be caused by hemodynamic stress (4).

In our case the acquired macroaneurysm was seen at a very early age. The cause could have been severe and uncontrolled hypertension due to chronic renal failure. Since the patient had been diagnosed for the first time five years earlier, it is probable that she had had the disease for much longer, as left nephrectomy had been necessary. Quite likely the severe hypertension due to renal failure induced hemodynamic stress, and constant increase in intraluminal pressure, as a result of which macroaneurysm developed sooner than expected.

On FFA the area surrounding a macroaneurysm often presents capillary microaneurysms, non perfusion, and intraretinal microvascular abnormalities (1), which were also seen in our case. Although branch retinal vein occlusions have been reported as mas-

querading as retinal macroaneurysms, this diagnosis was ruled out on the basis of the clinical picture, the type of hemorrhage, and the FFA findings.

Thus, macroaneurysms may develop even in very young patients, especially in those with chronic renal failure. Our case became symptomatic as a result of the rupture of the aneurysm. There is a real danger, however, that asymptomatic patients may be overlooked. We therefore wish to emphasize our concern that young patients who have systemic vascular disease should be carefully examined even though they present no symptoms because a macroaneurysm may, therefore, be overlooked.

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