

# Spontaneous resolution of a macroaneurysm on the optic disc

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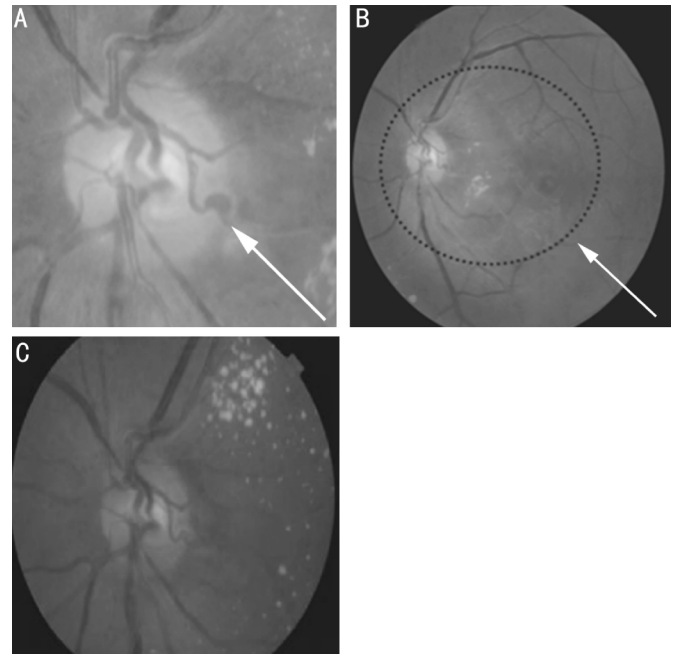
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Dear Sir,

I am Dr. Taku Toyama, from the Department of Ophthalmology, University of Japan. I write to present a case report of macroaneurysm on the optic disc.

A 63-year-old woman had initially visited an eye clinic because she experienced anorthopia in her left eye. A macroaneurysm on the left optic disc was suspected. She was referred to our hospital for a medical work-up. At 61 years of age, she had undergone a laser photocoagulation treatment for a macroaneurysm at a lesion in the inferior temporal region of her left eye. She also suffered from systemic hyperlipidemia.

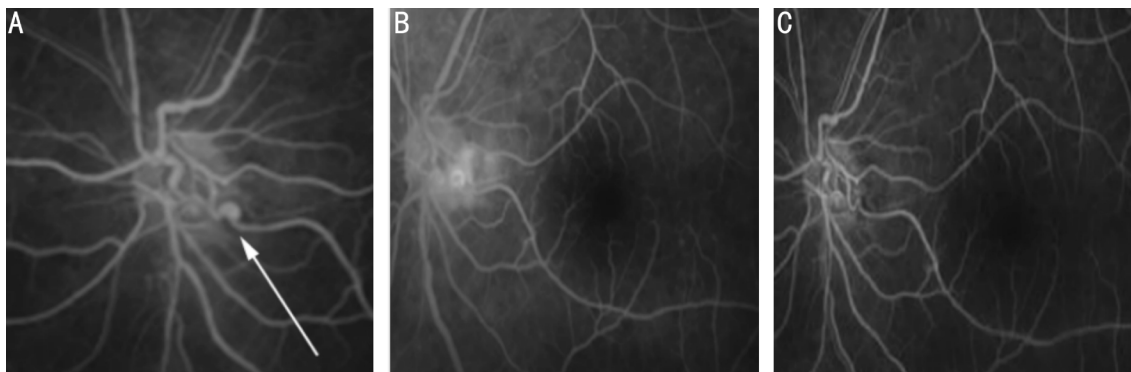
During her first visit to our hospital, her best-corrected visual acuity in the affected eye was 0.3 and that in her right eye was 1.2. The intraocular pressure was 12mmHg in the right eye and 13mmHg in the left eye. The findings of slit-lamp examination for both eyes were normal except for the presence of mild cataracts. Fundus examination of her left eye revealed a macroaneurysm on the optic disc and serous retinal detachment around the optic disc involving the macula (Figure 1A, 1B). A hyperfluorescent area on the disc and leakage at the early phase were detected using fluorescein angiography (FA) (Figure 2A, 2B). An inflow of indocyanine green into the mass of the optic disc was observed on indocyanine green angiography (IA), but no other abnormalities were observed (Figure 3). Optical coherence tomography (OCT) confirmed serous retinal detachment at the macula (Figure 4A). Therefore, her visual acuity was thought to have decreased because of the leakage from the macroaneurysm with serous retinal detachment.



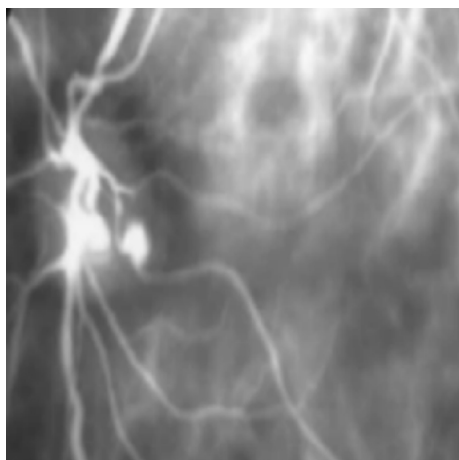
**Figure 1 Fundus photographs of a macroaneurysm on the optic disc** A: Fundus examination revealed a macroaneurysm on the optic disc. The arrow indicates the macroaneurysm on the optic disc; B: Fundus examination revealed serous retinal detachment around the optic disc involving the macula. The arrow and dotted line indicate the extent of the exudative change caused by the macroaneurysm; C: Fundus examination revealed a thrombosed macroaneurysm on the optic disc.

The patient was under observation for 7 months during which she did not receive any treatment. Her symptoms improved and the visual acuity in her left eye recovered to 1.0. In the fundus photograph obtained 7 months after her first visit (Figure 1C), the macroaneurysm on the optic disc was observed to be thrombosed and the serous retinal detachment had disappeared. We could not detect either serous retinal detachment by OCT or a hyperfluorescent area on the disc by FA (Figures 2A, 4B). Her blood levels of cholesterol and triglycerides remained stable for 7 months.

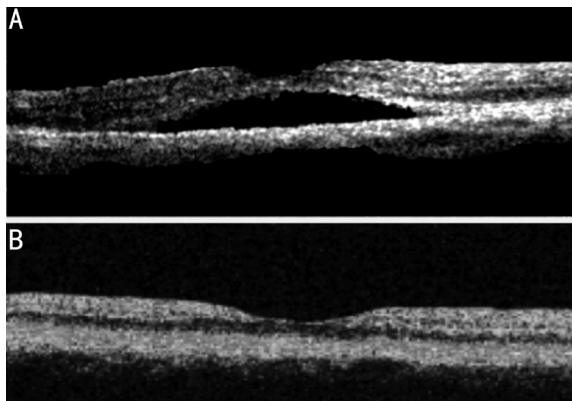
In 1973, Robertson<sup>[1]</sup> first reported that macroaneurysms are associated with vascular disorders such as hypertension and general arteriosclerotic cardiovascular diseases. Macroaneurysms of the temporal arteries are common, but macroaneurysms rarely occur on the optic disc<sup>[2]</sup>. According to previous case reports, the visual outcome of patients with macroaneurysms on the optic disc is good<sup>[2-4]</sup>. It has been speculated that the thickness of the nerve fiber around the



**Figure 2** Fluorescein angiograms A: A hyperfluorescent area on the optic disc was observed by fluorescein angiography. The arrow indicates the macroaneurysm on the optic disc; B: Fluorescein leakage from the macroaneurysm was observed during the early phase by fluorescein angiography; C: Fluorescein angiography revealed the thrombosis of the macroaneurysm and the absence of fluorescein leakage.



**Figure 3** The inflow of indocyanine green into the mass of the optic disc was observed on indocyanine green angiography.



**Figure 4** Optical coherence tomography images at the macula A: Serous retinal detachment at the macula observed by optical coherence tomography; B: Optical coherence tomography revealed the absence of serous retinal detachment.

optic disc prevents the easy infiltration of the hemorrhage beneath the retina. However, the visual outcome may not be favorable in cases accompanied by other vascular disorders such as branch retinal artery occlusion<sup>[2-5]</sup>. In this case report,

a patient with a macroaneurysm on the optic disc was observed for 7 months. After that time, the macroaneurysm had thrombosed and her visual acuity improved. A previous study had reported a direct association between macroaneurysms and hypertension<sup>[1]</sup>. Moreover, arterial sclerosis is a risk factor for macroaneurysms. Our patient was under treatment for hyperlipidemia, and the recurrence of the macroaneurysm could be attributed to this condition<sup>[1]</sup>. We report a case of a macroaneurysm on the optic disc. In this case, the serous retinal detachment had gradually disappeared due to the spontaneous thrombosis of the macroaneurysm and the visual outcome of the patient was good. Because of our patient's previous history of macroaneurysm, we suggested that she continue to be observed continuously, particularly to detect exacerbation and recurrence.

**ACKNOWLEDGEMENTS**

**Conflicts of Interest:** Toyama T, None; Kato S, None; Noda Y, None; Tsutsumi A, None.

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