Clinical picture

Double ring sign at the macula in a patient with Valsalva retinopathy

A 52-year-old woman with hypertension presented with a sudden, painless and profound loss of vision in the left eye while doing farm work. Visual acuity was 0.08 only in the affected eye. Ophthalmoscopic examination revealed a large dome-shaped sub-internal limiting membrane (sub-ILM) haemorrhage and a subhyaloid haemorrhage located anterior to the sub-ILM haemorrhage. The latter also showed a niveau formation. This finding is known as a ‘double ring’ sign with the ‘inner ring’ caused by the sub-ILM bleed (Figure 1a, solid white arrows) and the ‘outer ring’ caused by the subhyaloid bleed (Figure 1a, solid yellow arrows). The above findings were confirmed by optical coherence tomography (OCT) examination. These rings may represent the demarcation line between the detached and the adherent ILM (Figure 1b, hollow white arrows) and the posterior hyaloid (Figure 1b, hollow yellow arrows), respectively. OCT also clearly showed shadowing due to concentrated blood cells. Therefore, the patient was diagnosed as having Valsalva retinopathy. The patient was followed without any treatment. Three months later, the haemorrhages showed almost complete resolution.

Figure 1. Fundus photographs: (a) initial visit, (c) 3 months later. Optical coherence tomography findings of the left eye: (b) initial visit, (d) 3 months later.
Visually acuity improved to 1.0. On OCT, a small cavitation between the ILM (Figure 1d, hollow white arrows) and intact retina was detected.

Valsalva retinopathy is an uncommon disease that presents with sudden onset visual loss due to pre-macular haemorrhaging that entraps in the sub-ILM and subhyaloid space. These types of haemorrhages occasionally present a ‘double ring’ sign.\(^1\,^2\) This case highlights the fact that OCT revealed the above two types of haemorrhages. Although the spontaneous resolution of a large and dense haemorrhage is very unlikely,\(^3\) this case presented a good clinical course without surgical intervention.

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References