LETTER TO THE EDITOR

Early treatment with Nd-YAG laser for a premacular hemorrhage secondary to a retinal macroaneurysm

Traitement précoce par laser YAG de l’hémorragie prémaculaire compliquant un macroanévrisme rétinien

Case report

A 50-year-old man presented with a sudden, painless, visual loss in his left eye of 24 hours.

His past ocular and medical histories were unremarkable and the accident was not preceded by a physical exertion. On examination, best corrected visual acuity was 20/20 in the right eye and 20/400 in the left eye. There was no afferent pupil defect and the anterior segment examination was unremarkable in both eyes.

Dilated fundus examination of the left eye showed a large sedimented premacular hemorrhage beneath a transparent membrane covering most of the macula including the fovea. There was also a small ectasia of a macular branch of supero-temporal vein located above the sedimented blood inside the area of the detached membrane (Fig. 1). Fundus examination of the right eye was normal.

Fluorescein angiography showed blockage of choroidal fluorescence by preretal blood and confirmed that the vascular ectasia was a retinal venous macroaneurysm (Fig. 2). No other vascular or retinal abnormalities were found on both eyes.

Blood pressure, complete blood count, prothrombin time, activated partial-thromboplastin time, and fasting blood glucose level were normal. Observation was our first option in order to allow a spontaneous resolution of hemorrhage. But one week later, bleeding has increased and a dense round preretal hemorrhage has hidden all macular details (Fig. 3).

Nd:YAG was applied to the inferior and most prominent location of the hemorrhage with 2 shots at 2.5 mj. Blood slowly drained into the inferior vitreous and completely relieved the macular region within 24 hours (Fig. 4).

Three weeks after treatment, the visual acuity in the left eye was 10/10 and the premacular hemorrhage was totally cleared (Fig. 5) leaving a disruption of the internal limiting membrane observed on Optical Coherence Tomography (OCT) (Fig. 6).

Discussion

Premacular subhyaloid hemorrhage results from a variety of disorders including valsalva retinopathy, macroaneurysms, retinal vein occlusions and diabetic retinopathy [1]. Retinal macroaneurysms are acquired fusiform or saccular dilations of retinal vessels. They occur more commonly at arteries than at veins. Retinal venous macroaneurysms have

Figure 1. Fundus photograph of the left eye shows a large sedimented premacular hemorrhage covering most of the macula including the fovea. There was also a small ectasia of a macular branch of supero-temporal vein located above the sedimented blood (arrow).

Figure 2. Fluorescein angiography shows blockage of choroidal fluorescence by preretal blood and a retinal venous macroaneurysm (arrow).
been predominantly described in association with retinal branch vein occlusion [2]. Unlike retinal arterial macroaneurysms, isolated retinal venous macroaneurysms are a very rare condition [3–5]. Our patient developed a premacular subhyaloid hemorrhage secondary to the rupture of an isolated retinal venous macroaneurysm. The bleeding in this case was not induced by Valsalva maneuver. Physical examination and biological investigations revealed no systemic diseases. The etiology of the retinal venous macroaneurysm as well as the cause of the bleeding in this case remain unknown.

Spontaneous clearing of premacular hemorrhages usually occurs, but may take several months with possible reduction in visual function and toxic damage to the retina from prolonged contact with hemoglobin and iron [6]. Premacular hemorrhage can be managed with vitrectomy or opening of posterior hyaloid with Nd-Yag or Argon green laser. Besides helping in immediate improvement of vision laser drainage helps unmask the underlying pathology [7]. The premacular hemorrhage in our patient was successfully treated with Nd-YAG laser.

Some authors advocate using argon laser to treat the macroaneurysm itself [3]. In our patient, the vascular malformation was not treated and during the observation period, no recurrence of hemorrhage occurred, and no retinal edema or exudate accumulation from the lesion were seen.

Disclosure of interest

The authors declare that they have no competing interest.

References

Letter to the editor


F. Abid a,*, D. Sellami a, S. Ben Yahia b, S. Gargouri a, D. Ammous a, M. Khairallah b, J. Feki a

a Department of ophtalmology, Habib Bourguiba University Hospital, Faculty of Medicine, University of Sfax, Sfax, Tunisia
b Department of ophtalmology, Fattouma Bourguiba University Hospital, Faculty of Medicine, University of Monastir, Monastir, Tunisia

* Corresponding author. Avenue Majida-Boulila, 3027 Sfax, Tunisia.
E-mail addresses: fatmabid@gmail.com, fatma.abid.mzid@gmail.com (F. Abid)

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