ELECTRONIC CLINICAL CASE

Simultaneous vitreous hemorrhage and branch retinal artery occlusion after prepapillary arterial loop rupture

Hémorragie du vitré et occlusion de branche artérielle rétinienne après rupture d’une boucle artérielle prépapillaire

M. Codenotti, G. Fogliato*, U. De Benedetto, L. Iuliano, F. Bandello

Department of Ophthalmology, San Raffaele Scientific Institute, 60 Via Olgettina, 20132 Milan, Italy

Received 12 April 2012; accepted 16 July 2012
Available online 12 February 2013

KEYWORDS
Prepapillary arterial loop; Vitreous hemorrhage; Branch retinal artery occlusion; Vitrectomy; Posterior vitreous detachment

Summary Prepapillary arterial loops are rare benign congenital vascular anomalies that may be complicated by vitreous hemorrhage and branch retinal artery occlusion (BRAO). We describe the first case in the literature of simultaneous occurrence of both these complications in the same eye of a patient with a bilateral prepapillary arterial loop, successfully treated with vitrectomy.

© 2013 Elsevier Masson SAS. All rights reserved.

MOTS CLÉS
Boucle artérielle prépapillaire ; Hémorragie du vitré ; Occlusion de branche artérielle rétinienne ; Vitrectomie ;

Résumé Les boucles artérielles prépapillaires sont de rares anomalies vasculaires bénignes, qui peuvent se compliquer d’hémorragie du vitré et d’occlusion de branche artérielle rétinienne. Nous décrivons le premier cas rapporté de la littérature chez un patient avec une boucle artérielle prépapillaire.
Prepapillary arterial loops are rare congenital vascular abnormalities, usually benign and asymptomatic. Vitreous hemorrhage and branch retinal artery occlusion (BRAO) are the most frequent described complications [1–4]. To our knowledge, simultaneous occurrence of both these complications has not been previously reported. We describe a case of prepapillary arterial loop rupture resulting in vitreous hemorrhage and BRAO in a patient with a bilateral vascular anomaly.

A 64-year-old woman was referred to our clinic for sudden vision loss in her right eye (hand motion). No history of trauma or earlier visual dysfunction were reported. A dense vitreous hemorrhage was diagnosed. Best Corrected Visual Acuity in the left eye was 20/20 and a pulsating prepapillary arterial loop was noted at fundus observation, confirmed by fluorescein angiography (Fig. 1A). Ultrasound scan of the right eye showed a prepapillary vitreous adhesion next to a hyperechogenic vascular anomaly, consistent with prepapillary loop (Fig. 1B). No hemorrhage clearing was eventually noted during the strict follow-up. Three weeks after presentation the patient underwent a pars plana vitrectomy (PPV), and a leaking prepapillary arterial loop was intraoperatively found to be the source of hemorrhage. Endodiathermy of the vascular anomaly was required to stop the bleeding. On the 1-week postoperative examination the patient had full vision restoration (20/20), but a fluorescein angiography highlighted an inferotemporal BRAO (Fig. 1C and D), with macular blood supply provided by patent cilioretinal arteries. No hemorrhage recurrence or further complications presented during the 12-month follow-up.

Prepapillary arterial loops are optic disc vascular anomalies of one of the main branches of the central retinal artery. Vessels usually extend into the vitreous, twist and then return back, supplying the retina as a normal branch vessel. If the presence of a prepapillary arterial loop is very uncommon, bilateral anomaly is even more rare. Vitreous hemorrhage has been previously reported as

---

**Figure 1.** (A) Left eye fluorescing angiography showing a prepapillary arterial loop. Optic disc, arterial and venous vascularization are not affected by further significant abnormalities. As the kinking course of vessels does not allow a complete visualization of the vascular course, the loop is probably upstream of the inferotemporal retinal artery. (B) Preoperative right eye B-scan ultrasonography demonstrating the vitreous hemorrhage and a posterior vitreous detachment with residual adhesion on a prepapillary hyperechogenic vascular anomaly (arrow). (C) One-week post-surgical retinography showing a prepapillary vascular abnormality. (D) The one-week postoperative fluorescein angiography shows a prepapillary hyperfluorescent vascular abnormality with a hypofluorescent central spot corresponding to the surgically coagulated vessel. Inferotemporal retinal artery is characterized by a reduced lumen and a delayed perfusion.
Hemorrhage and BRAO in prepapillary arterial loop rupture

Disclosure of interest

The authors declare that they have no conflict of interest concerning this article.

References