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ORIGINAL ARTICLE

Beyond-the-edge proliferation after relaxing retinectomy

Prolifération au-delà de la berge après rétinectomie relaxante

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KEYWORDS
Proliferative vitreoretinopathy;
Retinal detachment;
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Summary
Purpose. — To report beyond-the-edge proliferation (BTEP) after relaxing retinectomies (RR) i.e. fibrous sheets stretched between the RR edge and the far periphery; to evaluate the tractional potential and report the long-term course of BTEP.
Methods. — Retrospective review of the medical records of 83 patients having undergone a RR between January 2009 and December 2014 to identify patients with BTEP.
Results. — Six patients aged 31 to 76 were identified. Retinectomy had been performed for traumatic retinal incarceration in one case and anterior PVR in 5 cases. BTEP occurred within weeks of the RR (earliest: 5 weeks). It was discovered intraoperatively in two patients with silicone oil tamponade, at 7 weeks and 6 months respectively after RR. It recurred over a few months after excision in 5 patients, causing inferior tractional retinoschisis in 4 patients and inferior tractional retinal detachment in two patients.

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Conclusions. — BTEP is an unusual form of proliferative vitreoretinopathy developing despite the absence of the usual vitreo-retinal support (excised during RR), probably through compartmentalization and cell migration along the inferior interface between silicone oil or gas and the aqueous humour. BTEP can cause serious retinal traction, develops over weeks after the RR and recurs frequently a few months after excision.

MOTS CLÉS
Prolifération vitréo-rétinienne ;
Décollement de rétine ;
Rétinectomie relaxante

Résumé
Objectif. — Décrire la prolifération au-delà des berges (PADB) après rétinectomie relaxante (RR), affection consistant en des bandes fibreuses tendues entre la berge de la rétinectomie et l'extrême périphérie ; évaluer le potentiel tractionnel et l'évolution à long terme de la PADB.
Matériels et méthodes. — Analyse rétrospective des dossiers de 83 patients ayant bénéficié d'une RR entre janvier 2009 et décembre 2014 pour y retrouver les cas de PADB.
Résultats. — Six patients âgés de 31 à 76 ans ont été retrouvés. La RR avait été pratiquée pour une incarcération rétinienne post-traumatique dans un cas et pour traiter une prolifération vitréo-rétinienne antérieure dans 5 cas. La PADB est survenue en quelques semaines après la RR (au plus tôt 5 semaines après). La découverte a été peropératoire chez 2 patients tamponnés par huile de silicone respectivement 7 semaines et 6 mois après la RR. La PADB a récidivé quelques mois après excision chez 5 patients, causant un rétinoschisis tractionnel inférieur chez 4 patients et un décollement de rétine tractionnel inférieur chez 2 patients.
Conclusion. — La PADB est une forme inhabituelle de prolifération vitréo-rétinienne survenant malgré l'absence du support vitréo-rétinien habituel (excisé lors de la RR), probablement par compartimentation et migration cellulaire le long de l'interface entre l'huile de silicone ou le gaz et l'humeur aqueuse. La PADB peut entraîner des tractions rétiniennes notables, se constitue en quelques semaines après la RR et récidive fréquemment en quelques mois après excision.

Introduction

Beyond-the-edge proliferation (BTEP) after relaxing retinectomy (RR) i.e. proliferation anterior to and contiguous with the RR edge is an unusual form of proliferative vitreoretinopathy (PVR). In none of the 7 reported BTEP cases that we are aware of [1—3], were the tractional potential and the long-term course of BTEP reported.

Methods

Using a personal database (updated by ED), we consulted the data of 83 patients operated by a single ophthalmologist (ED) and having undergone a RR between January 2009 and December 2014, to identify patients with BTEP.

Results

We retrieved 6 patients and reviewed their medical records. Table 1 gives the patient details. We used a RR technique previously reported [4]. Precisely, all patients underwent 20 G pars plana vitrectomy (PPV). The vitreous was removed up to the vitreous base aided by scleral indentation. Continuous endodiathermy was applied to the margin of the retina that was to be cut. The margin site was chosen to be as peripheral as possible, with sufficient circumferential extension to offer a relief of all retinal traction. The retinectomy was always performed using the vitrectomy probe. The anterior retinal flap anterior to the retinectomy margin was excised as completely as possible using the vitrectomy probe aided by scleral indentation. The retina was flattened using perfluordecaline. Three rows of confluent laser endophotocoagulation (532 nm) were applied to the posterior margin of the retinectomy. Decalin was exchanged for silicone oil (1000 centistokes).

In case 1, the inferior retina re-detached 6 weeks after RR with silicone oil tamponade (SiO) owing to RR fibrosis and BTEP. The patient was pseudophakic (combined procedure during the first vitrectomy). The retina detached further owing to contractile epi-retinal membranes (ERMs). Nine months after RR, SiO ablation, ERMs peeling, internal limiting membrane peeling, BTEP section, repeat RR (fibrotic edge excision), endophotocoagulation and SiO were performed. A recurrence of temporal BTEP occurred 9 months later, extended to the inferior and nasal areas respectively 13 and 24 months later. The retina remained attached but OCT showed inferior tractional retinoschisis (TR) (Fig. 1).

In case 2, BTEP occurred infero-nasally 5 weeks after RR. The patient was pseudophakic (operated on three months