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## SHORT COMMUNICATION

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### Case report

# Transretinal Feeder vessel ligation in von Hippel-Lindau disease

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**PURPOSE.** To present a new technique called transretinal feeder vessel ligation for the treatment of retinal angiomas.

**METHODS.** Case report of a patient with peripheral retinal angiomas previously treated unsuccessfully with photocoagulation who responded to this new, alternative surgical treatment.

**RESULTS.** The retinal angiomas decreased in size although two new feeder vessels appeared and the lesions showed a regression pattern after additional laser therapy over the vascular tumors.

**CONCLUSIONS.** A transretinal feeder vessel ligation in association with vitrectomy and photocoagulation may be useful for some advanced or non-responsive cases of retinal angiomas. (*Eur J Ophthalmol* 2001; 11: 386-8)

**KEY WORDS.** Angiomatosis, Retina, Vascular suture, Vitrectomy

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## INTRODUCTION

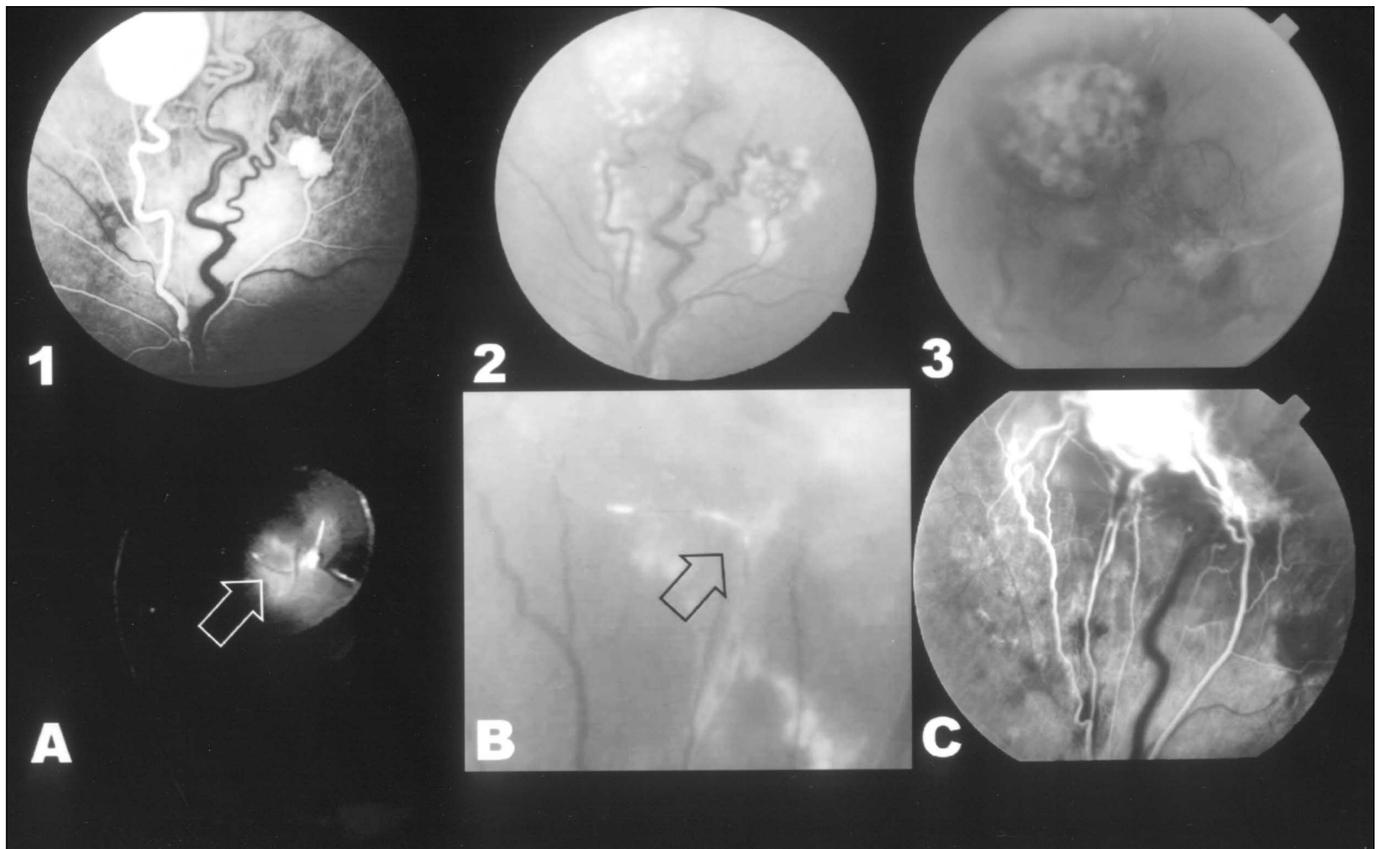
The treatment of retinal angiomas in von Hippel-Lindau syndrome or as sporadic lesions employs cryotherapy, diathermy, photocoagulation, radiotherapy, local eye wall resection, and vitrectomy for the management of complications (1, 2). This paper describes a new technique called transretinal feeder vessel ligation in a patient with peripheral angiomas previously treated unsuccessfully with photocoagulation.

### Case report

A 23-year-old white woman presented with vision loss in the left eye during the previous year. Best corrected visual acuity was 20/20 in the right eye and 20/60 in the left eye. Fundus examination revealed

two retinal angiomas in the periphery (one and five disc diameters) with feeding and draining vessels (Fig. 1-1). The patient received three photocoagulation treatments over the feeder vessels and the tumors during a period of three months (Figs. 1-2). The tumor did not regress, and the feeder vessels remained open. Vision decreased to 20/200 due to fibrovascular proliferation and exudative-tractional retinal detachment (Figs. 1-3), requiring vitrectomy.

The procedure included posterior hyaloid resection and removal of the epiretinal membrane over the vascular tumor region. Based on the preoperative fluorescein angiography, the arterial feeder vessels were identified. A transretinal feeder vessel ligation was employed, passing the needle and the 10-0 prolene suture in the subretinal space 1 mm proximal to the angiomas (Fig. 1-A, Fig. 1-B). The tying was done using a bimanual technique with two 20-gauge self-il-



**Fig. 1 - 1)** Early phase of fluorescein angiography showing the retinal angiomas with feeder and draining vessels. **2)** Fundus picture taken immediately after the first course of laser therapy over the feeder vessels and the vascular tumors. **3)** Fundus picture showing the epiretinal membrane and vitreous-retinal traction after repeat photocoagulation. **A.** Intra-operative fundus picture showing the transretinal ligature with prolene 10-0 (arrow = curved needle) going under the feeder vessel. **B.** Post-operative fundus picture showing the ends of the suture and the knot with surrounding fibrous tissue (arrow) around the attenuated but not occluded main feeder vessel. **C.** Post-operative fundus picture show reperfusion of the tumor from new afferent feeder vessels running parallel.

luminated end-gripping intraocular forceps. The perfusion of the main feeder vessels stopped intraoperatively with the ligature. Fluid-gas exchange was done at the end of the surgery. There were no tears at the vessel ligature or elsewhere on the retina.

The angiomas decreased in size and the retina reattached, but two new feeder vessels appeared (Fig. 1-C). The patient underwent photocoagulation over the vascular tumors, and the lesions showed a regression pattern. No suture complications, such as tearing, hemorrhage, or re proliferation from the ligature, were observed during the follow-up. Best corrected visual acuity in the left eye was 20/200 at 12 months.

## DISCUSSION

The treatment of retinal angiomas depends on the symptoms and on the size and site of the tumors. If macular vision is threatened, cryotherapy or photocoagulation laser treatment is indicated (3). Retinal detachment can be managed by scleral buckle or vitrectomy (4). There is controversy when the feeder vessels remain open, the alternatives being repeated thermal treatment or local eye wall resection (2).

While the natural history of retinal angiomas may lead to complications such as those observed in this patient, the long-term outcome of the surgical

procedure to stabilize the eye might have been better, with earlier, permanent regression of the lesions if endophotocoagulation had been applied over the vascular tumors. Although additional laser therapy was necessary, this technique seemed useful once the pre- and post-operative vision had become stable with no further deterioration. This new, alternative treatment in association with vitrectomy and photocoagulation may be of benefit for the

management of retinal angiomas in some advanced sight-threatening or non-responsive cases of von Hippel-Lindau disease.

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