normal conditions, high levels of oxygen lead to the obliteration of vessels in foveal area, whereas when hypoxia occurs, vascular proliferation may reach the centre of the foveola.[4] Involvement of the fovea may determine a reduction of visual acuity, stable at long-term follow-up.[2] Visual impairment has been generally attributed without any significant evidence to the mere presence of the macrovessel in the foveal area, rather than to an anomalous development of the neuroretina caused by the abnormal vessel.[2,4,5] Nevertheless, in these reports, no OCT had been performed. In this reported case, live microstructural evaluation with OCT has shown non-oedematous foveal thickening and a high-to-medium hyper-reflective area near the vessel that distorted the retinal architecture. Usually at OCT, normal neuroretinal layers are weakly to moderately backscattering, whereas hyper-reflectivity is often due to the presence of fibrosis or blood. Many studies have reported that hypoxia determines fibrogenesis, as it enhances the proliferative responses to mitogens, including platelet-derived growth factor , fibroblast growth factor 2 , and epidermal growth factor.[6,7] We could speculate that a low intrauterine concentration of oxygen may give rise to both the abnormal retinal vessel and a paravascular fibrosis, which would replace normal retinal layers, resulting in hyper-reflectivity at OCT. The pinpoints of higher reflectivity could represent intraretinal capillaries, whose presence seems possible while considering the abnormally rich capillary bed.

In conclusion, the stable visual impairment occurring in the presence of a macular abnormal macrovessel may be attributable to the loss of the normal architecture of the fovea, which has been observed at OCT. This retinal distortion could be consequent to developmental abnormalities occurring after an intrauterine hypoxic stimulus.

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Sir,

Two useful techniques of pars plana vitrectomy using endoscope

We demonstrate two useful techniques of endoscope-guided vitrectomy for rhegmatogenous retinal detachment (RRD) and proliferative vitreoretinopathy (PVR). The endoscope has been used for over 10 years in vitreoretinal surgery.[1,2] Using this endoscopic system at any time during surgery, surgeons can examine the intraocular structure such as the ciliary sulcus, pars plana or vitreous base and obtain valuable information to help them complete surgery.[3] Until now, the endoscope has been found to be useful, limited in treating patients undergoing transpupillary vitreous surgery owing to problems in the anterior segment such as corneal opacity, small pupils, etc.

The endoscope that we used was a Solid Fiber Catheter AS-611 (FiberTech, Tokyo, Japan). One additional technique is for RRD without drainage retinectomy (intentional retinal hole). We introduced the insertion tube of the endoscope into the eye through the opening for illumination made to the sclera, then the original holes or tears were detected; the head position was changed in order to move the subretinal fluid right beneath the original holes/tears and the subretinal fluid was then removed via a soft tapering tube under the endoscope after fluid–air exchange. Lastly, photocoagulation or cryopexy was performed in order to close the tears. As an example, in the case of the RRD patient with a temporal hole (right eye), the head should be turned to the right side to move the subretinal fluid beneath the hole (Figure 1a). When operating using the transpupillary approach, we could not change the head position; thus, we had to perform drainage retinectomy to remove the subretinal fluid effectively, especially in cases of RRD with peripheral tears, or we had to insert perfluorocarbon into the vitreous cavity to flatten the retina.[4] Using the endoscope, even after changing the head position, we can still detect the original tears and vacuum the subretinal fluid through those tears without having to create a drainage retinectomy (Figure 1b). Drainage retinectomy tends to induce various complications.[5] For instance, artificial macular detachment can occur even in the case of 'macular on' RRD. Moreover, in the case of PVR, drainage retinectomy provides the further foot process of proliferative tissues that can induce another PVR. Owing to free of intentional drainage retinectomy, our technique will reduce such complications. Thus far, we have treated more than 200 RRD patients using this technique and the outcomes have been quite promising.

Another advantage of endoscope-guided vitrectomy is that we can peel the proliferative membrane from the retina in the coexistence of water and air during the surgery of total retinal detachment or PVR. In general, air-exchanged condition can flatten the retina but makes it difficult for the surgeons to pick up and hold the preretinal membrane. Transpupil vitrectomy requires complete replacement of either water or air; otherwise, the interface reflex interferes with the surgical procedures. In contrast, in the endoscope-guided vitrectomy, we can place air in the upper part and water in the lower (or bottom) part (Figure 2a). Upper air flattens the detached retina and prevents incarceration of vitreous body into the pars plana sclerotomy site. Lower part water allows the easy removal of proliferative membrane (Figure 2b).

The major weakness of the endoscope is that the view provided is non-stereoscopic.[3] Thus, the endoscope has

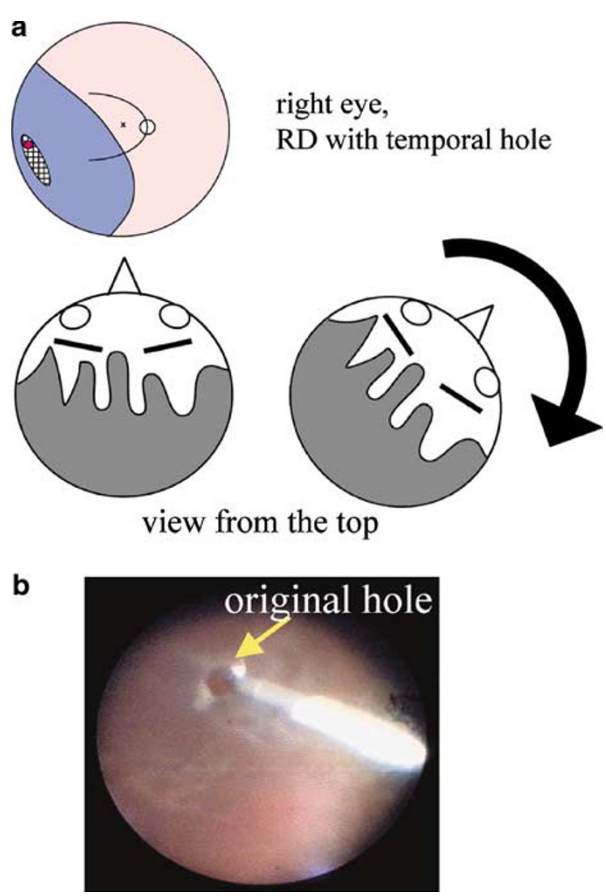

Figure 1 The schema of an advantageous technique of endoscope-guided vitrectomy. (a) Fundus sketch of retinal detachment (RD) patient with temporal hole. To remove the subretinal fluid effectively, the head position was rotated to the right side. (b) A demographic picture showing the removal of subretinal fluid under the endoscope.

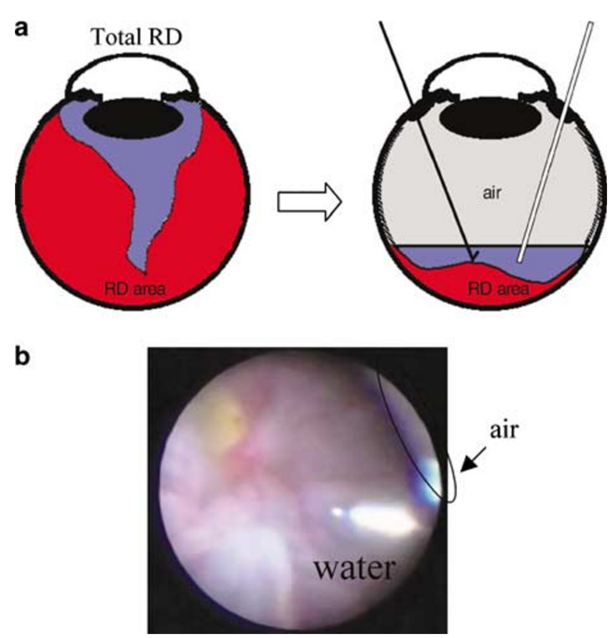

Figure 2 The schema of another advantageous technique of endoscope-guided vitrectomy. (a) The schema of vitrectomy for the total retinal detachment. Upper part air flattens the major part of retina and lower part water allows the surgeons to easily pick up and remove preretinal membrane. (b) A demographic picture showing the removal of preretinal membrane under the endoscope. The right circle shows the portion of air.

been used in combination with the transpupillary approach to compensate for the lack of solidity. There is also the fact that the quality of the CCD camera is not yet satisfactory. However, if surgeons recognize these weak points and adapt the intraocular endoscopic system appropriately, this instrument could surpass expectations and provide more safe and useful techniques for surgery. Our presenting techniques will also be helpful, especially in RRD and/or PVR patients with anterior segment problems, which are frequently occuring in severe cases.

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Sir,

Reply to T Sandinha *et al*

I read with interest the article written by T Sandinha *et al*.[1] I would like to make the following comments.

In the case 1 reported, the conjunctival pedicle appears very vascular even though the initial surgery was performed 2 months ago. The peripheral cornea was vascularised in the corresponding quadrant, contrary to what the authors had claimed in their article. This amount of peripheral corneal vascularisation would work against the success of any future corneal transplant surgery. An amniotic membrane graft or a tectonic corneal graft would have been a better choice for such a corneal perforation involving the visual axis. In the event of nonavailability of donor material, temporary glueing of the perforation or even a scleral autograft could have been carried out.

However, I agree that Superior forniceal conjunctival advancement pedicles could be used in peripheral corneal perforations such as the case 2 described in the article.

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Sir,

Panophthalmitis secondary to infection with *Citrobacter koseri*

We present a case of visual loss due to *Citrobacter koseri* panophthalmitis.

Case report

An 86-year-old retired taxi-driver was seen in clinic with a right full thickness macular hole. He was noted to have a small right lower lid cyst, the contents of which were digitally expressed. He underwent elective phacoemulsification, vitrectomy, insertion of silicone oil