It is almost certain that as early as 1 week postoperatively, the doses of mitomycin used in the treatment of patients described herein were not excessive. It has been shown that following limbal conjunctival autografting, the graft may be perfused from the underlying episcleral vessels that could potentially provide nutrition for a recurrent pterygium.

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Furthermore, there may be similarities between irradiation and antimitobolites such as mitomycin in their action on conjunctival and episcleral vasculature. Mitomycin is cytotoxic to vascular endothelial cells in vitro, and clinically there may be loss of vascularity after application of mitomycin in glaucoma filtering surgery.

None of the patients described here showed any clinical signs of underlying scleral inflammation or necrosis. Therefore, this appears to be a separate entity from surgically induced necrotizing scleritis, a condition that may also cause conjunctival autograft failure after pterygium surgery.

In deciding on the optimal surgical management for pterygium, use of adjunctive destructive techniques should be carefully considered. In addition to the risk of sight-threatening complications such as scleral necrosis and infective scleritis, it appears that these techniques also interfere with future surgical management in cases of recurrence, as described here. Reconstrucitive surgery using a limbal conjunctival autograft can provide excellent results for both primary and recurrent pterygia; however, the procedure is time consuming and there is considerable variation in technique among surgeons.

In the setting of previous irradiation or mitomycin therapy, there may be a role for preoperative assessment of anterior segment circulation with indocyanine green angiography before considering autograft surgery. Because use of amniotic membrane grafts appears to delay vascularization as compared with a conjunctival autograft, this method should also be reconsidered in the surgery of recurrent pterygia. These considerations reduce surgical options for treating recurrent pterygium, and we believe that methods to improve graft survival after pterygium surgery in this setting should be considered.

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Discrete lines of increased fundus autofluorescence (FAF) have recently been described in various retinal dystrophies.1 2 It has been shown that these lines demarcate areas with impaired retinal sensitivity from those without and may constrict or expand in different retinal dystrophies over time.1 2 Morphological changes corresponding to lines of increased FAF have not been described yet. Likewise, the mechanism underlying the abnormal accumulation of lipofuscin and increased FAF is unknown. In retinitis pigmentosa, abnormally increased FAF commonly forms a parafoveal ring or annulus. Recent optical coherence tomography (OCT) findings suggest that the band that represents the interface of the inner/outer segments of photoreceptors may be preserved within the ring.3

The imaging tool used herein (Spectralis HRA+OCT; Heidelberg Engineering, Heidelberg, Germany) allows for exact correlation of simultaneously recorded confocal scanning laser ophthalmoscopy (cSLO) FAF images and high-resolution spectral-domain (SD)–OCT images. We investigated the underlying morphological SD-OCT changes in the presence of lines of increased FAF in one patient with macular dystrophy and one with pigmented paravenous retinocloroidal atrophy.

Report of Cases. Case 1. Patient 1 (Figure 1), a 47-year-old man with bilateral fundus appearance of bull’s-eye maculopathy and normal scotopic and photopic full-field electroretinogram responses exhibited a ring of increased FAF that sharply demarcated a central area of severely impaired light sensitivity that had been demonstrated by fundus-controlled microperimetry.1 2 Simultaneous cSLO and SD-OCT imaging revealed that the area...
of increased FAF corresponded to the junction between 2 different zones. Outside the ring, OCT scans showed preserved retinal layers; within the ring, the interface of the inner and outer segments of photoreceptors layer (IPRL) was absent, and the hyperreflective band that is assumed to represent the external limiting membrane (ELM) appeared to rest directly on the preserved retinal pigment epithelium (RPE) layer. The outer nuclear layer (ONL) and the more inner retinal layers appeared unaffected. Fundus autofluorescence and the RPE layer appeared normal on either side of the ring, independent of the presence of the IPRL.

Case 2. Patient 2 (Figure 2 and Figure 3), a 29-year-old man with bilateral pigmented paravenous retinochoroidal atrophy exhibited arcs of increased FAF with a crescent-like distribution surrounding the area of RPE atrophy. In the left eye, the central macula was surrounded by a ring of increased FAF that was broadened at the temporal side. Microperimetric assessment revealed the appearance of normal light sensitivity in the central macula and severely reduced light sensitivity in areas that were demarcated by the arc of increased FAF.

Simultaneous cSLO and SD-OCT imaging revealed that the line of increased FAF corresponded to the junction between a zone with preserved retinal layers on the SD-OCT scan and a zone where the presumed ELM appeared to rest directly on the RPE layer (Figure 2). In the left eye, in a broadened area with increased FAF, the IPRL was not present, but there seemed to be an increased distance between the RPE layer and the presumed ELM (Figure 3) compared with the areas with normal-appearing FAF and loss of the IPRL.

Comment. Transition zones with sharp demarcation between viable and degenerated photoreceptors and areas with direct apposition of the ELM to the RPE have been reported in histopathologic sections in a patient with retinitis pigmentosa. Notably, these zones also showed only minor morphological changes at the level of the RPE. The correlation of OCT bands with anatomical layers has not been totally elucidated yet; therefore, interpretation of OCT findings still re-
requires caution. However, according to the previous postmortem analysis with the observations of this study strongly suggest that combined cSLO-SD-OCT imaging may detect structural changes within different retinal layers in vivo that were previously only identifiable by histopathology.

The striking observation of the spatial correlation of the ring of increased FAF with the transitional zone seen by SD-OCT may add to the understanding of FAF findings. It would be conceivable that the RPE cells in the transitional zone bear an increased metabolic burden. They may be unable to phagocytize the increased demand for material and compounds from severely impaired photoreceptors. This would lead to an increased accumulation of fluorophores and, subsequently, an increased FAF signal. When photoreceptor function is finally lost, the metabolic requirements for the corresponding RPE cells are reduced. The accumulated material may be partly degraded; thus, the FAF intensities would return to normal levels. The observation of preserved FAF in retinal areas with impaired retinal sensitivity and absence of the IPRL would suggest that normal-appearing FAF intensities do not necessarily reflect an anatomically or functionally intact photoreceptor-RPE complex. The RPE might be present despite the absence of intact photoreceptors. It may be speculated that surviving RPE cells contain lipofuscin granules that were formed prior to the occurrence of outer retinal atrophy. Because it is thought that RPE cells have no means of exocytosis of such granules, a viable RPE would continue to elicit FAF phenomena. This would also indicate that constant phagocytosis of shed photoreceptor outer segment is not required for normal FAF intensities.

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Multimodal Fundus Imaging in Foveal Hypoplasia: Combined Scanning Laser Ophthalmoscope Imaging and Spectral-Domain Optical Coherence Tomography

Foveal hypoplasia is a rare disease that mostly occurs in association with other systemic or ocular diseases, such as albinism or aniridia.

Video available at www.archophthalmol.com

Diagnosis can be challenging, especially if foveal hypoplasia is an isolated finding. In recent years, optical coherence tomography (OCT) has been described as a useful tool to confirm the suspected diagnosis. However, the common associ-