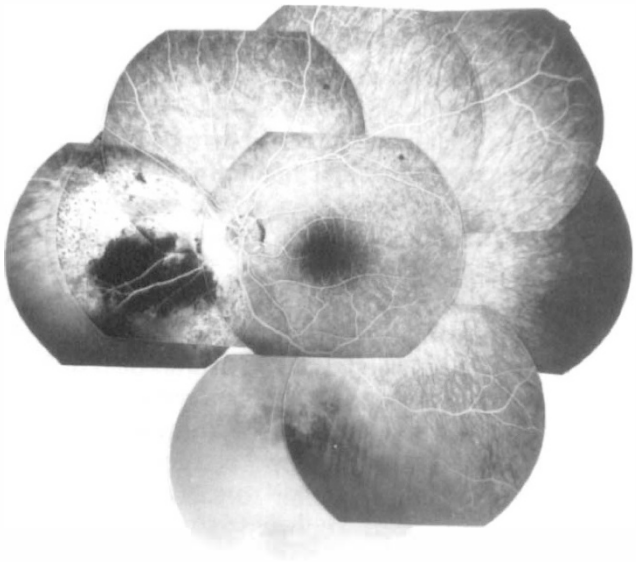

Fig. 2. *LE: 8 months later the lesions have been replaced by a large area of chorioretinal atrophy.*

sion would give rise to a venous pressure wave transmitted to the eye, due to the lack of antireflux valves between the vena cava and the eye.

The unilaterality of the symptoms may be explained by the anatomical distribution of the cervical veins and the position of the neck at the moment of the crash. The involvement of the choroid, whose vascular system is independent of the retinal vascular system, can be less easily explained. However, this anatomical independence does not exclude the possibility that both (retinal and choroidal) systems are simultaneously involved by the rapid rise in venous pressure in the upper half of the body. The involvement of the vitreous body and of the inner layers of the retina could be correlated with the vitreous endophthalmodonesis that produces tangential forces between the vitreous body and the retina;[5] this results in commotio retinae and traumatic vasculopathy.

Whiplash may also give rise to numerous consequences. There are other reports of impairment of pupillary dynamics by sympathetic nerve lesions, as well as macular lesions resembling lamellar holes by vitreous tractions. However, there have been no reports describing, as in this case, unilateral vitreous haemorrhage, posterior detachment of the vitreous body, and multiple retinochoroidal haemorrhages.

From a medico-legal point of view, the fundamental criteria concerning the causal nexus (i.e. chronology, topography, and efficacy of the cause), are only partly present in the case reported, which would lead to a suspicion of malingering. However, given the pathogenetic and clinical evaluation of this case, such a suspicion would not appear to be justified.

We suppose that our pathogenetic hypothesis could also explain lesions in patients who were wearing a seat belt.

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Sir,

We read with great interest the recent paper by Chell *et al.* on the long-term follow-up results of the adjustable single continuous suturing (SCS) technique in penetrating keratoplasty.[1] The authors come to some interesting conclusions; however, we would like to address some points in light of our experience with the technique which we use and have prospectively evaluated over the last 3 years. In contrast to the authors, we use a 24-bite 10/0 nylon rather than 16-bite 10/0 nylon suture.

Chell *et al.* stated that sutures were removed when they became loose or broken, in 16 of the 30 patients (53%) in their study. No information was given, however, on the diagnosis of the patients who had their suture removed, and on whether those who required suture removal had previously been adjusted. In another study,[2] a number of patients demonstrated exposed, loose suture loops several weeks to months after post-operative suture adjustment. This is in accordance with the preliminary results from our study, where 11 of the first 29 patients (38%) demonstrated loose exposed suture loops within a year of follow-up, and had their suture removed. Additionally, 8 of these 11 patients (73%) were keratoconic patients. This may represent a

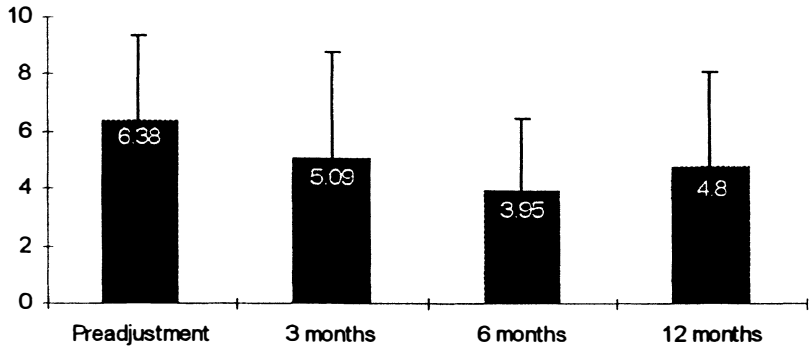

Fig. 1. *Topographic astigmatism (simk readings) preadjustment and at 3, 6, and 12 months follow-up.*

difference in the healing process between keratoconic and non-keratoconic patients. In view of these findings, we have now abandoned the SCS technique in patients with keratoconus. In one of our patients the loosening of the suture resulted in corneal abscess and subsequently collapse of the graft. Chell *et al.* also reported on one patient with corneal abscess and decompensation but they did not comment on the cause of that.

It is also interesting to note that in the reported study the median time for removal of the SCS is greater in the adjusted group (104 weeks) than in the non-adjusted (76.5 weeks). This is very different from our observations that show a mean time of suture removal of 26 weeks (range 2–52 weeks). We agree with the authors' finding that long-term astigmatic drift (LTAD) is to be expected in most patients of the adjusted group. We have been able to show this within the first year of follow-up (Fig. 1). Our mean 12 month astigmatic result using corneal topography (simk readings) has shown an increase compared with the mean topographic astigmatism at 6 months, likely to be related to the SCS removal. Although Chell *et al.* have shown better long-term astigmatic results in their study than us, and we congratulate them on this, we presume that their cylinder measurement (DC) is based on manifest refraction rather than on keratometry or corneal topography, and this may result in underestimation of the magnitude of astigmatism.

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Sir,

We thank Dr Karabatsas and Mr Cook for their comments on our paper 'Long-term follow-up of a single continuous adjustable suture in penetrating keratoplasty'.

The numbers of patients with loose and broken sutures are shown in Table I, along with relevant data on diagnosis and the presence or absence of suture removal. It should be noted that in keratoconic patients in the adjusted group 5 sutures broke and 2 remained intact, but no sutures were loose. In the non-adjusted group 3 remained intact, 3 broke and 2 became loose. The loose sutures required removal at 52 and 69 weeks respectively, and did not follow any form of adjustment. Karabatsas and Cook also commented on the patient excluded from this study because of decompensation and subsequent bacterial abscess formation. This 85-year-old patient with pseudophakic bullous keratopathy was not adjusted post-operatively. The suture remained intact and showed no sign of loosening.

Karabatsas and Cook do not include surgical details in their letter, which makes it difficult for us to compare their methods with ours – in particular whether torsional or anti-torsional sutures are used and in general other methods of their graft technique. The one difference which is reported is their use of a 24-bite 10/0 nylon compared with our 16-bite 10/0 nylon. This increased number of bites, and incumbent increased suture material, may be causing some of the loosening they are experiencing in the post-operative period. It could, therefore, also be implicated in their earlier suture removal time of 26 weeks (range 2–52 weeks) compared with ours at 104 weeks (range 32–144 weeks) for the adjusted group and 76.5 weeks (range 52–130 weeks) for the non-adjusted group. They give no comparative figure for non-adjustment. Karabatsas and Cook refer with