



Letter to the Editor re: “Unintentional Staining of the Anterior Vitreous with Trypan Blue During Cataract Surgery”

Şaban Gönül, Serhat Eker

Selçuk University Faculty of Medicine, Department of Ophthalmology, Konya, Turkey

Dear Editor,

We have read with great interest the article by Kayıkçıoğlu et al.¹ “Unintentional Staining of the Anterior Vitreous With Trypan Blue During Cataract Surgery”. The article describes a rare complication of phacoemulsification surgery: staining of the posterior capsule and anterior vitreous with trypan blue during phacoemulsification surgery. We thank the authors for their work and would like to make some contributions with respect to trypan blue toxicity of the retina, which can also be seen after vitrectomy with many vital dyes including trypan blue.

It has been reported that some retinal changes may occur due to the use of trypan blue at high concentrations and exposure times.^{2,3} Lüke et al.² showed reduction of b-wave amplitudes with the use of trypan blue in their electrophysiological study. Some morphological changes in the inner retinal layers were also demonstrated due to the use of high concentrations of trypan blue solutions in a postmortem study.³ These toxic effects may not cause any fundus abnormalities but can be detected by an electrophysiological examination such as electroretinogram. In their study, Kayıkçıoğlu et al.¹ reported that retinal toxicity was not observed in these patients. It seems that an electrophysiological test was not performed to detect possible retinal toxicity in their study, which may have caused the retinal toxicity to be overlooked. In these patients, inadvertently toxic concentrations of trypan blue may have passed into the vitreous cavity and had a toxic effect due to the long exposure time, as vitrectomy was not performed in these patients. In addition, postoperative visual acuities ranged from

0.4 to 0.9 in the patients described by the authors. None of the patients achieved a Snellen visual acuity of 1.0 or better in the postoperative period. The authors did not specify any finding that could affect the postoperative visual acuity of these patients. If there is no other finding to explain these levels of visual acuity in the postoperative period, this may also be a sign of toxic retinopathy caused by trypan blue inadvertently passing into the vitreous cavity.

As a result, electrophysiological examination should be performed to exclude retinal toxicity of any substance inadvertently applied to the vitreous cavity. We would like to congratulate the authors again for their interesting study and hope that our feedback will make a further contribution to the literature, especially in terms of retinal toxicity caused by vital dyes including trypan blue.

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Authorship Contributions

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Address for Correspondence: Şaban Gönül, Selçuk University Faculty of Medicine, Department of Ophthalmology, Konya, Turkey

E-mail: drsabangonul@gmail.com **ORCID-ID:** orcid.org/0000-0003-0803-1197

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