

been thought to result from retrograde degeneration of optic nerve axons.⁸

The bilateral haemorrhagic necrosis of the putamen and oedema in the deep white matter of our patient are the characteristic MRI findings of severe methanol intoxication.⁹ Besides the optic disc oedema, the oedematous changes involving optic tracts and optic radiations shown on MRI might contribute to the profound vision loss in our case. The MRI in methanol poisoning not only demonstrates this specific pattern of brain damage but also provides good correlation among brain, visual pathway, and the evolution of the clinical course of the disorder.

In conclusion, methanol poisoning is a rare entity, and historically difficult to treat. Furthermore, it is worthwhile to study the administration of steroids, osmotic diuretics, antioxidants, vitamins, or other methods in protecting the optic nerve in acute or subacute phases of methanol poisoning in the future.

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References

- Sharpe JA, Hostovsky M, Bilbao JM, Rewcastle NB. Methanol optic neuropathy: a histopathological study. *Neurology* 1982; 32: 1093–1100.
- 2 Mcmartin KE, Ambre JJ, Tephly TR. Methanol poisoning in human subjects: role of formic acid accumulation in metabolic acidosis. *Am J Med* 1980; **68**: 414–418.
- 3 Lushine KA, Harris CR, Holger JS. Methanol ingestion: prevention of toxic sequelae after massive ingestion. *J Emerg Med* 2003; **24**: 43–46.
- 4 Benton CD, Calhoun FP. The ocular side effects of methyl alcohol poisoning: report of a catastrophe involving 320 persons. *Trans Am Acad Ophthalmol Otolaryngol* 1952; 36: 875–883.
- 5 Sodhi PK, Goyal JL, Mehta DK. Methanol-induced optic neuropathy: treatment with intravenous high dose steroids. *Int J Clin Pract* 2001; **55**: 599–602.
- 6 Baumbach GL, Cancilla PA, Martin-Amat G, Tephly TR, McMartin KE, Makar AB *et al*. Methyl alcohol poisoning IV: alterations of the morphological findings of the retina and optic nerve. *Arch Ophthalmol* 1977; 95: 1859–1865.
- 7 Hayreh MS, Hayreh SS, Baumbach GL, Cancilla P, Martin-Amat G, Tephly TR *et al.* Methyl alcohol poisoning III: ocular toxicity. *Arch Ophthalmol* 1977; 95: 1851–1855.
- 8 Sharma M, Volpe NJ, Dreyer EB. Methanol-induced optic nerve cupping. Arch Ophthalmol 1999; 17: 286.
- 9 Kuteifan K, Oesterle H, Tajahmady, Gutbub AM, Laplatte G. Necrosis and hemorrhage of the putamen in methanol poisoning shown on MRI. *Neuroradiology* 1998; 40: 158–160.

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Sir,

Trypan blue vital staining of the anterior lens capsule in the management of cataract in true exfoliation of the lens capsule

True exfoliation or lamellar delamination of the lens capsule is a rare disorder characterised by thickening of the lens capsule with marked splitting of the superficial portion of the anterior lens capsule from the deeper layers, which then extends creating an unusual floating membrane structure in the anterior chamber.^{1–3} There are no reports of patients with this condition undergoing modern phacoemulsification cataract surgery.

We describe a case in which completion of a continuous curvilinear capsulorhexis (CCC) was permitted by the use of trypan blue vital staining and uncomplicated phacoemulsification was completed.

Case report

A 65-year-old gentleman was referred to the eye clinic for consideration of cataract surgery. He complained of a gradual reduction in visual acuity over several months. There was no past ophthalmic history of note and no known systemic illness. He was taking no medication.

On examination, his visual acuities (VA) were 6/18 right and 6/12 left. Slit-lamp examination of the anterior segments demonstrated a striking floating membrane

arising from the anterior lens capsule in both eyes. Corresponding defects were present on the anterior capsule in each eye; however, no lens fibre oedema or uveitis to suggest a full-thickness capsular rupture (Figure 1). Moderately advanced nuclear sclerotic cataracts were present, worse in the right eye. Fundal examination was unremarkable.

At the patients' request, he was listed for surgery with planned right phacoemulsification cataract extraction with intraocular lens (IOL) implantation. The patient was counselled and given a guarded prognosis owing to uncertainty surrounding the intraoperative behaviour of the capsular abnormality.

Trypan blue (Vision Blue) vital staining of the anterior lens capsule demonstrated that the capsular abnormalities were indeed not full thickness and permitted the completion of a clearly identifiable, 5 mm CCC. The operation was continued with caution, but the capsules behaviour was not unduly atypical. The lens nucleus was removed utilizing a phacochop technique and the lens cortex material aspirated with a Simcoe cannula. No complications ensued and a foldable IOL was implanted in the capsular bag.

At 2 weeks postoperatively, the best-corrected VA was 6/9 and the IOL well centred 'in the bag'.

Discussion

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True exfoliation of the lens capsule was first described in glassblowers in 1922. Infrared exposure was recognised as the aetiology. Other reported causes include iridocyclitis, metallic intraocular foreign bodies, trauma, and idiopathic.^{3,4} We suggest that our case represents an idiopathic aetiology, as the history was noncontributory. It is interesting to note that some



Figure 1 Preoperative slit-lamp photograph of right eye in retroillumination demonstrating capsular abnormalities.

authors believe the condition to be underdetected and under-reported. $^{\rm 5}$

This, to our knowledge, is the first report of phacoemulsification with IOL implantation in true exfoliation of the lens capsule. The capsular abnormalities are striking and in our case these raised some concern. It was not clear whether it would be possible to form a CCC or whether capsular strength would be sufficient to withstand the forces associated with phacoemulsification. Trypan blue staining of the capsule permitted the construction of a clearly identifiable CCC despite the pre-existing abnormalities. Intraoperatively, although care was taken to avoid capsular stress where possible, there was no suggestion of overt fragility.

We consider that trypan blue staining of the anterior lens capsule was vital in the management of this case. Although the capsular integrity appeared satisfactory, a guarded prognosis with regard to outcome would seem prudent in patients with true exfoliation of the lens capsule.

References

- 1 Elschnig A. Detachment of the zonular lamellae in glassblowers. *Klin Monatsbl Augenheilkd* 1922; **69**: 732–734.
- 2 Karp CL, Fazio JR, Culbertson WW, Green R. True exfoliation of the lens capsule. *Arch Ophthalmol* 1999; **117**: 1078–1080.
- 3 Radda TM, Klemen UM. True idiopathic exfoliation. Klin Monatsbl Augenheilkd 1982; 181(4): 276–277.
- 4 Yamamoto N, Miyagawa A. True exfoliation of the lens capsule following uveitis. *Graefes Arch Clin Exp Ophthalmol* 2000; **238**(12): 1009–1010.
- 5 Cashwell Jr LF, Holleman IL, Weaver RG, van Rens GH. Idiopathic true exfoliation of the lens capsule. *Ophthalmology* 1989; **96**(3): 348–351.

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