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Sir,
Recurrent intradialytic elevation of intraocular pressure in a case of neovascular glaucoma

We report a case of elevated intraocular pressure (IOP) during haemodialysis (HD), the commonest treatment for end-stage renal failure.

Case report

A 48-year-old male presented with recurrent right ocular pain and nausea during regular HD for post-kidney transplant failure. He was diagnosed with right central retinal vein occlusion 10 weeks previously. He developed rubeotic glaucoma 4 weeks earlier, with 360°-angle neovascularisation (Shaffer Grade 4 all quadrants on gonioscopy) and visual acuities (VA) of hand movements (HM), right and 6/6 left. IOPs were 39 mm Hg right and 11 mm Hg left. Treatment included pan-retinal photocoagulation, cyclodiode and topical IOP-lowering drugs. IOP reduced to 19 mm Hg and rubeosis regressed.

At presentation, 10-min post-dialysis, VAs were barely HM right and 6/6 left with IOPs of 62 and 10 mm Hg, respectively. Intravenous acetazolamide and topical agents lowered IOP to 20 mm Hg. He presented with further intradialytic symptoms and IOPs of 60 and 55 mm Hg two further times. The eye was comfortable between HD with IOP consistently 19–24 mm Hg. We initiated oral acetazolamide 250 mg SR the evening before and on the day of HD. After 5 months, he remains comfortable during HD, with IOPs immediately post-HD, consistently between 22–25 mm Hg.

Comment

The effect of HD on IOP has been widely studied, with conflicting reports. A systematic review concluded that the relationship was not clear.¹ Reports of IOP rise during HD in neovascular^{2,3} and pseudo-exfoliative glaucoma are extremely limited.^{4,5} Mechanisms for elevated IOP during HD are unclear; some authors propose that reduced plasma osmolality causes increased aqueous humour production and potential to elevate IOP.³ Normal eyes may increase outflow to compensate.

In our patient, we suggest that raised IOP resulted from imbalance between aqueous outflow, due to obstruction by angle neovascularisation and aqueous

production. The higher IOP in the affected eye between dialysis sessions supports a theory of outflow obstruction; the drainage system could not compensate for increased aqueous during HD.

Regular acetazolamide, an interim measure until renal transplant, has successfully prevented IOP surges without causing side effects in our patient, particularly metabolic acidosis. Other reported strategies include cyclodiode,³ filtration surgery,² adjusted HD including a hyperosmotic agent⁵ or eviscerating treatment-resistant cases.²

Clinicians must recognise that IOP may rise intolerably during HD in glaucoma patients. We suggest that acetazolamide, with close systemic monitoring, is an effective and safe strategy.

Conflict of interest

The authors declare no conflict of interest.

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Sir,
Acute lymphocytic leukemia relapsing as bilateral serous retinal detachment: a case report

We report a case of bilateral serous retinal detachment (SRD) as an initial sign of relapse of acute lymphocytic leukemia. A 31-year-old woman with acute pre B-cell lymphocytic leukemia in complete remission, who presented with symptoms of visual blurring, was found to have bilateral SRD. A bone marrow aspirate revealed relapse of the disease. Her maculopathy completely resolved following systemic chemotherapy.