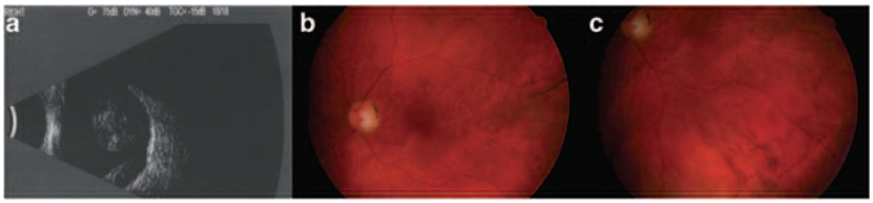

Figure 1 (a) B-scan ultrasonography of the left eye 1 day after surgery showing suprachoroidal haemorrhage. Colour fundus photographs of the left eye 4 months after surgery showing (b) residual choroidal macular folds and (c) peripheral pigmentary retinopathy following reabsorption of haemorrhage.

The following day, the visual acuity was hand movements. Fundus and ultrasound examination (Figure 1a) confirmed extensive suprachoroidal haemorrhage. A full blood count (FBC) showed thrombocytopenia (platelet count 87×10^9/l). Haematology opinion was sought; investigations including a blood film and autoimmune screen were normal. Quinine was stopped and the platelet count has gradually risen. With conservative management, the left visual acuity has improved to 6/6 at 4 months post-surgery despite the presence of macular choroidal folds (Figures 1b and c).

Comment

Expulsive suprachoroidal haemorrhage is a rare but potentially devastating event during intraocular surgery. Occult thrombocytopenia is the only identifiable risk factor for haemorrhage in this patient. Extensive haematological investigation has strongly suggested quinine drug-induced immune thrombocytopenia (DITP). The rise in platelet count since cessation of quinine supports this.

Quinine causes DITP by stimulating production of antibodies against platelet membrane glycoproteins causing platelet destruction. Treatment includes drug withdrawal and control of bleeding.[2] We believe this is the first reported case of quinine-induced thrombocytopenia associated with intraocular haemorrhage.

Awareness of quinine use in the elderly population is important. The Royal College of Ophthalmologists local anaesthetic guidelines suggest a pre-operative FBC only for patients with a history of systemic disease or abnormal examination.[3] We feel that occult thrombocytopenia significantly contributed to the suprachoroidal haemorrhage in this case and recommend an FBC prior to intraocular surgery for all patients taking quinine.

Conflict of interest

The authors declare no conflict of interest.

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Sir,

Cost effectiveness of phacoemulsification in developing countries

I read with interest the article by Hennig *et al*[1] describing the outcomes of high-volume phacoemulsification in Nepal. Although patients' expectations of cataract surgery will undoubtedly increase in future, it is important to remember that more than 18 million people in developing nations are blinded by cataracts, with the number increasing each year.

Studies have shown that the percentage of patients with good visual outcomes with phacoemulsification is comparable to that of manual small-incision cataract surgery (MSICS).[2,3] The reported cost for consumables performing phacoemulsification with a rigid intraocular lens (IOL) was US$0.50 more than MSICS.[1] However, this cost differential can become quite significant when the total volume of cases is considered. For the 8955 phacoemulsification surgeries performed in this series, an additional $4477.50 could have been saved with MSICS, which can be used for consumables for more than 1000 additional patients. In addition, the authors rightly point out that this cost does not take into account the cost of the phaco machine and its maintenance. In contrast, MSICS is considerably less dependent on expensive equipment and costs less in consumables.[2–4]

It would be interesting to know the density of the cataracts, whether sutures were required to close the 5 mm phaco wound, and the resultant astigmatism. It has been shown that MSICS causes less postoperative oedema,[2,3] which may be quite significant in phacoemulsification, depending on the density of the nucleus. The majority of patients in underserved areas of developing countries usually present only when the cataracts are quite advanced. One potential advantage of phacoemulsification may be the slightly lower amount of surgically induced astigmatism[3,5] but a 5 mm wound may cause more astigmatism than with a foldable IOL.

In summary, I feel that there are many factors that should be considered when using phacoemulsification in a high-volume setting in developing regions, and a prospective comparative study would go a long way to answering these questions. Nevertheless, I congratulate the authors on their results and commend them for their good work in Nepal and India.

Conflict of interest
The author has no financial or proprietary interests.

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Sir,
Response to Dr Colin Tan

We are grateful to Dr Tan[1] for his interest in our report.[2]

We agree with Dr Tan that a small increase in unit cost can add up to a large increase in total cost in a high-volume setting. However, this must be set against the improved visual outcomes. In the largest clinical trial of phaco *vs* manual small-incision cataract surgery (MSICS), patients who had undergone phacoemulsification with a foldable IOL were significantly more likely to have a presenting visual acuity of 6/18 or better at 8 weeks after surgery than those having MSICS with a rigid IOL.[3]

There is increasing demand for phacoemulsification in poor and middle-income countries, both from patients and from ophthalmologists. This will lead to increased costs, and possibly to reduced numbers of surgeries because of this. The majority of the increased cost is due to the use of a much more expensive foldable intraocular lens.[4] The purpose of our small study is not to suggest that phaco should supersede MSICS in all cases, but rather that some of the benefits of phaco may be obtainable at significantly lower cost by using an inexpensive rigid IOL rather than a more costly foldable implant.

Dr Tan mentions that MSICS causes less post-operative corneal oedema, particularly in very dense nuclei. For this reason, all eyes likely to have hard nuclei had MSICS in this study.

Out of the 8410 phaco with 5-mm scleral tunnel incisions and rigid PMMA IOL, 24 (0.28%) required sutures to close the wound. Because this was a retrospective study, it was not possible to collect data on induced astigmatism. Although the 5-mm incision is larger, it is more posterior, and may cause no more astigmatism than the 3-mm clear corneal wound.

We are in complete agreement with Dr Tan that the best way to answer these questions is in a prospective study. We have recently obtained ethical approval for a prospective trial of rigid *vs* foldable IOL following phacoemulsification in Nepal, and we hope to begin recruitment later this year.

Conflict of interest
The authors declare no conflict of interest.

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