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CONTROVERSY

'Bilateral same-day cataract surgery should routinely be offered to patients' – No

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Ophthalmologists have been debating the pros and cons of same-day bilateral cataract surgery for decades, but it is only recently that immediate sequential cataract surgery (ISCS) has been gaining popularity.[1,2] There have been a growing number of peer-reviewed publications addressing the issue, an International Society of Bilateral Cataract Surgeons established, and guidance regarding this included in the Royal College of Ophthalmologists Cataract Surgery Guidelines.[1,3,4] Interest in ISCS has been fuelled by improvements in surgical outcomes and studies demonstrating the economic benefits of operating on both eyes on the same day.[5] With appropriate case selection[6] and precautions against endophthalmitis and refractive surprise, ISCS can result in excellent outcomes and high levels of patient satisfaction.[1,7,8]

Despite growing interest, in most countries ISCS remains the exception rather than the rule, and it is our view that it should remain this way and that bilateral cataract surgery should not be routinely offered to patients. The arguments in favour of same-day bilateral surgery are primarily related to convenience and economy,[9] but these benefits are outweighed in most circumstances by the small but devastating risk of bilateral blindness due to a complication of surgery.

Calculations of the risk of bilateral endophthalmitis following ISCS depend on whether or not one views the risk of endophthalmitis in the second eye as independent to the risk in the first.[6] Postoperative bacterial endophthalmitis has been reported to occur in 0.04–0.2% of cataract surgeries.[10,11] If one assumes no underlying propensity for the complication, the risk of bilateral endophthalmitis may lie between 1 in 6 250 000 and 1 in 250 000. If one assumes the eyes are not independent, the risk of bilateral endophthalmitis may lie between 1 in 180 000 and 1 in 46 600.[6] Published series of same-day bilateral cataract surgery have yet to report a single case of bilateral endophthalmitis; however, for rare events one needs large numbers of patients to generate sufficient power.[12] There have been four cases of bilateral endophthalmitis following ISCS reported in the literature,[13–15] including one from the UK; however, in each of these cases stricter sterile separation of the two eyes may have prevented the complication.[16]

Outbreaks of endophthalmitis have been attributed to factors including contaminated intraocular lenses, saline, phacoemulsifiers, and intraocular irrigation solutions.[11] Therefore, measures to minimise the risk should include isolating surgery in the second eye from the first by re-gloving, re-gowning, and re-draping the patient; using different surgical staff; using disposal instruments or instruments from different sterilisation cycles; and using viscoelastics and balanced salt solutions from different manufacturers or with different batch numbers. Also, avoiding techniques associated with higher rates of endophthalmitis would be prudent, including avoiding corneal and temporal incisions.[6,11]

Such precautions may be logistically difficult, particularly if ISCS is offered to all, and even close adherence to these measures would not make ISCS as safe as delayed surgery. The major advantage of delaying second-eye surgery is that if the first eye develops a complication, particularly endophthalmitis, there is less chance of both the eyes being involved. The delay provides time to investigate and to treat the complication, and the lessons learnt

regarding causes can guide decision making regarding second-eye surgery. Those advocating bilateral same-day surgery generally acknowledge that many patients are not suitable for ISCS and therefore bilateral surgery should not be offered to all.[6] Indeed, schemes have been suggested to detect those with a propensity to develop endophthalmitis and other complications and thus exclude them.[6] Patients should not be offered bilateral same-day surgery if they have conditions that increase the risk of infection, such as blepharitis or diabetes, and those with factors that increase the risk of intraoperative complications, such as pseudoexfoliation or previous ocular trauma, should also be excluded. Circumstances in which bilateral cataract surgery might be justified include cases where a general anaesthetic is required and where, because of medical co-morbidities, the risk of having a general anaesthetic a second time would place the patient at unacceptable risk. However, even in this situation it may be better to proceed with only one eye, keeping the second as a 'reserve' should problems occur.

The argument regarding improved efficiency and convenience with same-day bilateral surgery can also be countered as there are alternative means by which services can be simplified, for example, 'one-stop' surgery or close-to-home optometrist-led follow-up.[17] We would argue that bilateral surgery is also unlikely to lead to large improvements in the use of theatre time, as surgery to each eye should be treated as a separate procedure and the turnover between patients is minimal.

Although patients require at least one additional journey to hospital for different-day bilateral cataract surgery, patient satisfaction in a large Finnish study was similar in those undergoing ISCS compared with those waiting 4–6 weeks for second-eye surgery.[7] Furthermore, the visual benefit of same-day surgery is also short-lived and by 4 months there is no significant difference between ISCS and sequential surgery with a 2-month interval.[5] If it can be determined whether patients are happy to wait until the success of the first-eye surgery, it would seem prudent to do so. In England there are no national data regarding the length of time patients wait for second-eye surgery; however, in 2009–2010 the mean waiting time from decision-to-treat to cataract surgery was only 57 days (Hospital Episode Statistics).

So should bilateral same-day cataract surgery routinely be offered to all? Well, given the large number of criteria for exclusion, the logistical difficulties of ensuring complete separation of surgery in the two eyes, and most critically the risk of bilateral complications, we argue it should not. The increased risk of bilateral surgically-induced blindness far outweighs the small increases in efficiency seen with ISCS. Advocates of ISCS argue that the incidence of bilateral endophthalmitis is rare; however, it is the severity of the complication rather than merely its frequency that must be taken into account. To adapt Lady Bracknell from the Importance of Being Earnest: 'to lose one eye may be regarded as misfortune, to lose both looks like carelessness'.

Conflict of interest

The authors declare no conflict of interest.

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A Tatham and JL Brookes

Moorfields Eye Hospital, London, UK

Correspondence: JL Brookes,
Moorfields Eye Hospital, City Road,
London EC1V 2PD, UK
Tel: +44 (0)20 207 253 3411;
Fax: +44 (0)20 7566 2334.
E-mail: John.Brookes@moorfields.nhs.uk