Optimising the management of trachomatous trichiasis

Caused by repeated ocular infection with the bacterium *Chlamydia trachomatis*, trachoma results in blindness in the poorest of the poor.1 Going blind from trachoma is painful:2 eyelashes from scarred eyelids abrade the cornea, and alterations in the tear film make the cornea vulnerable to destructive secondary bacterial and fungal infections. Sufferers often pull out their own misdirected eyelashes if they are unable to access, unwilling to request, or unaware of the availability of the operations that might reposition those eyelashes and save their sight.

In the 1937 instalment of his landmark seven-volume *Textbook of Ophthalmology*, Duke-Elder3 was moved to note that trachoma was “an immense subject, in the literature replete with hypotheses, discussions, polemics, in the world pregnant with suffering, disability and blindness”. Over the ensuing eight decades, in more than 50 countries,4 the suffering, disability, and blindness have, regrettably, endured. The world is fortunate that a handful of committed academic groups have continued to develop and test key hypotheses, too—and, generally, to avoid polemics. But real progress in the science of interventions against trachoma occurs infrequently, in part because funding for research on neglected diseases like trachoma has been very limited.

In *The Lancet Global Health*, the randomised controlled trial by Esmael Habtamu and colleagues5 does represent real progress. It is arguably the most important work on trichiasis (the condition in which eyelashes touch the eye) since Reacher and colleagues,6,7 working in Oman more than two decades ago, established bilamellar tarsal rotation (BLTR) as the management option of choice. However, the trials in Oman did not include as a comparator the technique of posterior lamellar tarsal rotation (PLTR) which, despite a lack of head-to-head data to judge its efficacy against that of BLTR, has continued to be widely used in some programmes in Africa. The current work provides those long-awaited data.

Habtamu and colleagues provide a meticulous comparison of BLTR and PLTR. They identified PLTR-experienced surgeons and, after training and certifying them in BLTR, allowed a run-in period of 6 months and required repeat BLTR certification before commencing recruitment for the trial, to ensure that each surgeon was technically competent and experienced at both procedures. Randomisation was stratified by surgeon, to reduce any effect of differential surgical skill. The design, conduct, and analysis of the trial were exemplary, including exceptionally high follow-up rates, demonstration of repeatability of outcome measurement, and development and use of a method to assess outcomes masked to randomisation status—overcoming the problem posed by the association of one technique (BLTR) with a visible scar on the outer surface of the eyelid.

The difference in outcomes is compelling. 1 year after surgery, the rate of recurrent trichiasis was 22% in those who had undergone BLTR, and 13% in those who had undergone PLTR: an absolute risk difference of 9·50% (95% CI 4·79–14·16). This is an incredibly important finding for programmes, for which the very high incidence of postoperative trichiasis (exceeding 60% at 3 years in one study,8 with substantial variation between locations9) has for a long time represented a major disincentive to sign-up by prospective patients. Extrapolating this recurrence reduction to the management of the millions of people who need trichiasis surgery worldwide4 suggests that use of PLTR could help to avert hundreds of thousands of cases of recurrent disease: a presentation that affords a management challenge even for experienced oculoplastic surgeons. The implication is that surgeons who are yet to be trained should be trained to undertake PLTR rather than BLTR. Whether highly BLTR-experienced surgeons should be asked to retrain in the alternative technique is a separate question that should be prospectively addressed.

A committed alliance4 of ministries of health, non-governmental organisations, donors, and academics is now working tirelessly to try to achieve the World Health Assembly’s target of elimination of trachoma as a public health problem by 2020.10 The work by Habtamu and colleagues provides added impetus to that effort.

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