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Minimally invasive strabismus surgery

Comparison of a new, minimally invasive strabismus surgery technique with the usual limbal approach for rectus muscle recession and plication

B J Kushner

A minimally invasive strabismus surgery procedure causes less inflammation postoperatively, but is harder, provides limited exposure and probably has a steep learning curve

There has been a trend in most surgical disciplines for performing procedures that are minimally invasive through increasingly smaller incisions. Dr Mojon is to be commended for his description of the minimally invasive strabismus surgery (MISS) technique described in this issue of the British Journal of Ophthalmology **(*see page* 76)**. Descriptions of new strabismus surgical procedures are often published in an anecdotal manner, describing results in only several patients. It is refreshing to see a publication such as that of Dr Mojon[1] who tested this new procedure on 20 patients matched against a control group, with objective data comparing the two groups.

The main advantage of the MISS technique is that it causes somewhat less inflammation in the immediate postoperative period compared with the standard limbal approach. The main disadvantage is that the MISS technique is harder, provides more limited exposure and probably has a steep learning curve. Although Mojon[1] believes that a microscope is needed for this procedure, he also uses a microscope for surgery performed with the limbal approach. Without debating the merits of using a microscope for all strabismus surgery, I would think that if surgeons are comfortable not using a microscope for standard strabismus surgery, they would not need it with the MISS technique.

Mojon's[1] study compares the MISS technique with the limbal approach, which I understand is widely used in Europe. I should add that all the advantages he found with the MISS technique would also be present with the fornix approach, which is widely used in the US and elsewhere. Although I personally do not routinely use the fornix approach, I believe it would be easier and provide better exposure than the MISS technique. For a surgeon who thinks that the limbal approach causes undue discomfort in the immediate postoperative period (I personally do not) the fornix approach is a reasonable alternative. Nevertheless the fornix approach may not be advisable in certain patients, specifically elderly people with thin conjunctiva. In these patients, MISS might be considered a preferable alternative to limbal surgery. However, these are the patients in whom one often wishes to use an adjustable suture technique. In such circumstances, the limbal approach would still be necessary.

One advantage of the MISS technique over the limbal approach that was not emphasised by Mojon[1] relates to anterior segment ischaemia. Increasing evidence suggests that disruption of the perilimbal episclerial vessels, which occurs with a limbal incision, may predispose a patient to anterior segment ischaemia. Having recently experienced anterior segment ischaemia in a patient with Graves' orbitopathy, on whom I simultaneously recessed an adjacent inferior rectus muscle and medial rectus muscle (he had not undergone prior strabismus surgery), I am sensitive to this issue. The MISS technique may decrease the risk of anterior segment ischaemia in such patients. It may be a useful addition to our armamentarium in this setting, provided we are not planning to use an adjustable suture technique.

In summary, the MISS technique may have applications in some circumstances. It is not clear to me that its advantages outweigh the disadvantages for routine strabismus surgery. However, for the surgeon who does not wish to use the fornix approach and is concerned about postoperative discomfort with limbal surgery, it seems to be a viable alternative.

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