
INCREMENTAL DEEPENING OF A 2-4 MM LONG SCLERAL INCISION PLAYS A SIGNIFICANT ROLE IN PERMITTING CHOROIDAL EXPOSURE, VISUALISATION AND POSSIBLE COAGULATION BEFORE CHORIDOTOMY, BUT NECESSARILY INVOKES A RISK OF INADVERTENT CHOROIDAL PUNCTURE, RETINAL INCARCERATION, AND POTENTIAL REOPENING OF THE SCLEROTOMY AT REOPERATION. BY CONTRAST, THE MUCH SMALLER SCLEROCORTICAL OPENING AFTER HYPODERMIC NEEDLE OR SUTURE NEEDLE DRAINAGE VIRTUALLY ELIMINATES THE RISK OF INCARCERATION WHILE GIVING A PRIMARY CHOROIDAL HAEMORRHAGE AND ENSURING THAT A PORESITY IS MAINTAINED HIGH ENOUGH AND LONG ENOUGH FOR HAEMOSTASIS TO BECOME ESTABLISHED. AFTER SCLERAL CUTDOWN, THE CHOROID CAN BE COAGULATED BY CAUTERY OR DIAETHYLMETHYLPROPANOATE; HOWEVER, CHOROIDAL VAPORISATION WITHOUT INTRUSION USING EITHER DIAETHYLPROPANOATE OR AN ARGON LASER (VIA A FIBRPROC PE PROBE OR THE INDIRECT LASER DELIVERY SYSTEM) AIMS TO REDUCE THE RISK OF HAEMORRHAGE, RETINAL PERFORATION, OR FAILURE OF DRAINAGE. ALTHOUGH INITIAL LOWER ENERGY, LONGER DURATION COAGULATION OF THE CHOROID TENDS TO REDUCE CHOROIDAL HAEMORRHAGE ON SUBSEQUENT VAPORISATION, IT ALSO LOWERS THE RISK OF FIRST TIME SUCCESS OF SRF DRAINAGE WHILE RETINAL PERFORATION REMAINS A POSSIBILITY. THE RISK OF HAEMORRHAGIC COMPLICATIONS IS ALSO FELT TO REFLECT THE SITE OF SRF DRAINAGE THAT IS, WITH A REDUCED RISK AT THE WATERSHED OF VORTEX VEIN TERRITORIES WHERE THE (AS OPPOSED TO THE VERNAL) RECTUS AND THE SEQUENCE OF INDIVIDUAL RETINAL PROCEDURES - THAT IS, WITH A PUTATIVE BENEFIT FROM DRAINAGE BEFORE CRYOTHERAPY.

However, few of these manoeuvres have been supported by substantive evidence through clinical trials. Prospective studies tend to be more objective than retrospective studies, a healthy scepticism ensuing when a retrospective search of patient records is reported to reveal no drainage complications and 100% retattachment. Furthermore, independent, extended use of a particular technique (such as hypodermic needle drainage) may fail to endorse initial enthusiasm, but sometimes reflects difficulties in general applicability of the method or faults in following technical guidelines.

Given the inappropriateness of historical comparisons, prospective randomised controlled trials of different SRF drainage procedures have been informative, albeit none has employed masked observers. No major disparity in haemorrhaging was observed between laser drainage and needle choridotomy (without choroidal coagulation) in a recent trial by Ibanez and others. But, in this issue of the BJO, Ayling and colleagues (p 724) report that their trial comparing argon laser choridotomy with suture needle sclerocorticidal perforation was terminated early when an interim data analysis revealed a large and statistically significant difference in the incidence of clinically significant subretinal haemorrhage between the two groups. They had observed a 28-3% incidence of ‘small or large’ haemorrhages (that is, those over one disc area in size) in the suture needle drainage group compared with only 4-3% in the laser choridotomy group. However, this was perhaps an unduly precipitate conclusion to the study. Submacular haemorrhage and retinal incarceration are arguably the most clinically significant indices of hazard from any SRF drainage technique, while peripheral subretinal haemorrhage is not necessarily a risk factor for surgical failure of proliferative vitreoretinopathy. Thus, using these alternative criteria, they would have found no significant difference between the two techniques at that juncture. Also, notwithstanding earlier comments about historical comparisons, their 28-3% incidence of subretinal haemorrhage (and 12.5% incidence of submacular haemorrhage in macula off detachments) after suture needle drainage differs markedly from the 7-4% and 0% incidence respectively in a previous report. The propensity to submacular haemorrhage depends on the relative densities of blood and SRF (with viscous long standing SRF slowing the gravitational flow of blood beneath the macula) but also on the method used to limit the choroidal haemorrhage once initiated. Ayling and colleagues closed the drainage site when haemorrhage occurred during suture needle drainage, thus preventing resurgence of blood adjacent to SRF and thwarting the flattening of the retina which might have discouraged settling of haemorrhage under the macula.

The Moorfields trial does, however, point to the need to develop an SRF drainage method which combines the ease and convenience of suture needle drainage with the more secure haemostasis deriving from laser choridotomy. This has been achieved experimentally using carbon dioxide laser sclerocorticotomy and holds promise clinically using the transocular diode laser to coagulate the choroid before suture needle drainage and diode laser retinopexy. Let us look forward, then, to a prospective, randomised, controlled trial to establish the true worth of this method. In the meantime, retinal surgeons using direct sclerocorticidal perforation for SRF drainage will have to judge for themselves whether wholesale conversion to laser choridotomy is warranted from the available evidence.

DANIELLE McLEOD

Manchester Royal Eye Hospital

Transscleral drainage of subretinal fluid revisited.

D McLeod

doi: 10.1136/bjo.79.8.717

Updated information and services can be found at:
http://bjo.bmj.com/content/79/8/717.citation

**Email alerting service**

*These include:*

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

**Notes**

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/