Transscleral drainage of subretinal fluid revisited


INCREMENTAL DEEPENING OF A 2-4 mm LONG SCLERAL INCISION1-10 PERMITS CHOROIDAL EXPOSURE, VISUALISATION AND POSSIBLE COAGULATION BEFORE CHOROIDOTOMY, BUT NECESSARILY INVOKES A RISK OF INADVERTENT CHOROIDAL PUNCTURE, RETINAL INCARCERATION, AND POTENTIAL REOPENING OF THE SCLEROTOMY AT REOPERATION. BY CONTRAST, THE MUCH SMALLER SCLEROCOROIDAL OPENING AFTER HYPODERMIC NEEDLE OR SUTURE NEEDLE DRAINAGE11-13 VIRTUALLY ELIMINATES THE RISK OF INCARCERATION WHILE INVITING CHORIDAL HAEMORRHAGE UNLESS THE INTRAOCULAR PRESSURE IS MAINTAINED HIGH ENOUGH AND LONG ENOUGH FOR HAEMOSTASIS TO BECOME ESTABLISHED. AFTER SCLERAL CUTDOWN, THE CHOROID CAN BE COAGULATED BY CAUTERY OR DIATHERMY14-16 BEFORE MECHANICAL PUNCTURE; ALTERNATIVELY, CHOROIDAL VAPORIZATION WITHOUT INTRUSION USING EITHER DIATHERMY6 OR AN ARGON LASER (VIA A FIBROPTIC PROBE OR THE INDIRECT LASER DELIVERY SYSTEM)7-10 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 VAPORIZATION,7-6 IT ALSO LOWERS THE RISK OF FIRST TIME SUCCESS OF SRF DRAINAGE6 WHILE RETINAL PERFORATION REMAINS A POSSIBILITY.6-9 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 near the horizontal (as opposed to the vertical) recti6,17 AND THE SEQUENCE OF INDIVIDUAL RETINAL PROCEDURES—that is, with a putative benefit from drainage before cryotherapy.14-16 HOWEVER, FEW OF THESE MODIFICATIONS HAVE BEEN SUPPORTED BY SUBSTANTIVE EVIDENCE THROUGH CLINICAL TRIALS. PROSPECTIVE STUDIES TEND TO BE MORE OBJECTIVE THAN RETROSPECTIVE STUDIES, A HEALTHY SCEPTICISM ENSURING WHEN A RETROSPECTIVE SEARCH OF PATIENT RECORDS IS REPORTED TO REVEAL NO DRAINAGE COMPLICATIONS AND 100% RETAINMENT.6 FURTHERMORE, INDEPENDENT, EXTENDED USE OF A PARTICULAR TECHNIQUE (SUCH AS HYPODERMIC NEEDLE DRAINAGE12-14) 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 PROCEDURES10-14 HAVE BEEN INFORMATIVE, ALTHOUGH NONE HAS EMPLOYED MASKED OBSERVERS. NO MAJOR DISPARITY IN HAEMORRHAGING WAS OBSERVED BETWEEN LASER DRAINAGE AND NEEDLE CHOROIDOTOMY (WITHOUT COAGULATION) IN A RECENT TRIAL BY IBANEZ AND OTHERS.10 BUT, IN THIS ISSUE OF THE BJOC, AYLAIRD AND COLLEAGUES (P 724) REPORT THAT THEIR TRIAL COMPARING ARGON LASER CHOROIDOTOMY WITH SUTURE NEEDLE SCLEROCOROIDAL 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 CHOROIDOTOMY GROUP. HOWEVER, THIS WAS PERHAPS AN UNDULY precipitate conclusion to this 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 OR DEVELOPMENT OF PROLIFERATIVE VITREORETINOPATHY.3 THUS, USING THESE ALTERNATIVE CRITERIA, THEY WOULD HAVE FOUND NO SIGNIFICANT DIFFERENCE BETWEEN THE TWO TECHNIQUES AT THAT JUNCTURE. NOTWITHSTANDING PREVIOUS COMMENTS ABOUT HISTORICAL COMPARISONS, THEIR 28-3% INCIDENCE OF SUBRETINAL HAEMORRHAGE (AND 12-5% INCIDENCE OF SUBMACULAR HAEMORRHAGE IN MACULA OFF DRAINAGES) AFTER SUTURE NEEDLE DRAINAGE DIFFERS MARKEDLY FROM THE 7-4% AND 0% INCIDENCE RESPECTIVELY IN A PREVIOUS REPORT.13 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 BELOW THE MACULA) BUT ALSO ON THE METHOD USED TO LIMIT THE CHOROIDAL HAEMORRHAGE ONCE INITIATED. AYLAIRD AND COLLEAGUES CLOSED THE DRAINAGE SITE WHEN HAEMORRHAGE OCCURRED DURING SUTURE NEEDLE DRAINAGE,16 AND DIODE LASER RETINOTOPSY. LET US LOOK FORWARD, THEN, TO A PROSPECTIVE, RANDOMISED, CONTROLLED TRIAL TO ENSURE THE TRUE WORTH OF THIS METHOD. IN THE MEANTIME, RETINAL SURGEONS USING DIRECT SCLEROCOROIDAL PERFORATION FOR SRF DRAINAGE WILL HAVE TO JUDGE FOR THEMSELVES WHETHER WHOLESALE CONVERSION TO LASER CHOROIDOTOMY IS WARRANTED FROM THE AVAILABLE EVIDENCE.

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