Editorial: Non-drainage of subretinal fluid

The operative technique developed by Gonin (1934) for retinal detachment resulted from his appreciation of the aetiological significance of a retinal tear and the necessity to seal it. Drainage of subretinal fluid (SRF) was for many years an essential and integral step in retinal detachment surgery. Before the introduction of scleral buckling it was important to position the hole in the detached retina in contact with the area of choroid and pigment epithelium which had been inflamed by the galvano-cautery. The practice of SRF drainage was later continued as an adjunct to diathermy, and subsequently, to scleral buckling procedures whether local or encircling. Such techniques combined with precise methods of examination (indirect ophthalmoscopy with scleral depression and slit-lamp examination (Schepens, 1947, 1951)) produced a dramatic improvement in success rates of retinal detachment surgery.

Cibis (1965) recognized that the results of drainage of subretinal fluid were far from predictable and sometimes disastrous complications ensued such as choroidal haemorrhage, retinal incarceration, and vitreous loss. These complications contributed significantly to failure (Norton, 1964) by the production of fibrous membranes leading to fixed retinal detachments. Attempts to avoid these complications led to the initiation of the non-drainage technique. Custodis (1953) using polyviol implants and diathermy was the first to appreciate that a buckle raised immediately underneath a hole resulted in spontaneous absorption of subretinal fluid. This work was developed by Lincoff, Baras, and McLean (1965) who combined the use of silastic sponge implants and cryotherapy. This combination facilitated the use of full-thickness buckles with minimal damage to the underlying sclera and reduction in ocular infection. The operation became entirely extraocular and thus involved less postoperative morbidity.

It was also realized that if the buckle fails to close the tear at the time of surgery, spontaneous absorption of subretinal fluid between tear and buckle rapidly occurs in the postoperative period. This absorption is prevented only if the overlying retina is immobile and cannot fall back against the indent. Such immobility may be caused by preretinal membrane formation or static vitreous traction in the vicinity of the tear.

Lincoff and Kreissig (1972) have now extended the use of the non-drainage operation to 87 per cent of all detachments. There are still some situations, however, in which drainage must be performed, such as when localization of tears is uncertain because of cloudy media, a detachment is fixed, or as a preliminary to intravitreal injections. The paper presented on page 252 shows that buckling without drainage may be successful even after initial unsuccessful surgery. Accurate localization of all retinal holes and precise placing of the buckle are of course essential, and confidence in the success of the procedure is necessary to outweigh a fear of failure induced in the surgeon by the presence of fluid under the retina at the end of the operation. The temptation to drain and 'make sure' must be resisted. Yielding may well court complications.

References


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