BINOCULARITY AFTER RETINAL DETACHMENT SURGERY

by

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'Al Mestre Professor Burian com a prova d'admiració, afecte i agraïment'.

ABSTRACT

Study of ocular motility and of the relative visual acuity in patients who have been treated for retinal detachment emphasize the need for early treatment, especially when the macula is involved, and for selection of the simplest method of retinopexy that is thought to be adequate. It is important to avoid unnecessary trauma to the motor and suspensory system of the eye. Prismatic correction should be employed without delay in those patients who develop heterotropia after re-attachment of the retina.

'I seldom treat strabismus cases, but I often cause oculomotor trouble. When my operation is successful, my patients often get double vision', an outstanding retinal detachment surgeon once wittily remarked.

Lack of binocularity is not uncommon after retinal detachment surgery and is more likely to occur with the more frequent use of operative methods that may considerably modify the shape of the eye. Yet diplopia and asthenopia are less common complaints in patients cured from retinal detachment – and with good vision in both eyes – than one would expect from the frequency of postoperative imbalance from damage to the motor and suspensory system of the eye, from irregular changes of the eyeball, or from macular heterotopia.

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MATERIAL AND METHODS

Ninety cases of cured retinal detachments (six of them bilateral) with useful vision in both eyes, were studied from the viewpoint of binocular balance. Coordimetric tracings, haploscopic measurement of the angle and of cyclodeviation in the nine positions of gaze, and prismatic determination of the deviation were performed. In sixty-one of these cases the ‘relative-visual-acyuity/absolute-visual-acyuity’ relationship was determined for each eye**.

The series included cases of retinal detachment treated with light coagulation, simple methods of retinopexy (diathermy, cryopexy) – applied close to or away from the areas of muscular insertion –, scleral resection (with or without recession of the lateral rectus, when the resection was in the sector of its insertion), sector indentation methods, and encircling techniques. Four cases are included (one of them a retinal dehiscence consecutive to scleral rupture) that were cured with rest alone.

Diathermy, cryopexy, or both, were practically always used in ‘cerclage’, scleral resection and sector indentation operations, except for a few cases, were light coagulation was used instead.

At the time of the binocular tests, at least five months had elapsed since the time of retinal surgery. The longest follow-up was twelve years.

RESULTS

Significant incomitant motility imbalances occurred after scleral resections (five out of nine cases), sector indentations close to the area of insertion (two cases) and simple diathermy in the area of insertion of a superior oblique (one case).

Of nine cases of large but relatively comitant deviations (deviations with small variation in the different positions of gaze, exceeding $10^\Delta$ vertically, or $20^\Delta$ horizontally) three had sector indentation operations, three had simple diathermy, two had ‘cerclages’, and one had a scleral resection.

Of twelve patients with medium sized motility imbalances (up to ca. $8^\Delta$ vertically or $20^\Delta$ horizontally) four had scleral resections (one with recession of the lateral rectus), three had ‘cerclages’, three had simple diathermies and one had a sector indentation. The twelfth case was one of bilateral operation, a ‘cerclage’ having been performed in one eye and a simple diathermy in the other eye.

Fourteen cases had small horizontal (up to $10^\Delta$) or small or minute vertical tropias. Of these, six had a ‘cerclage’, four had simple diathermy, two had a

** Relative visual acuity = Uniocular visual acuity in the binocular act. Absolute visual acuity = Uniocular visual acuity in the uniocular act.