Surgical Correction of Extreme Strabismus

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Extreme strabismus of long duration, either divergent or convergent, is usually associated with a contraction of the muscle adnexa, in particular Tenon's capsule and the conjunctiva. In these cases a combined operation of the internal and external muscle to be lengthened or shortened, is insufficient. The new position of the eye is partially counteracted by the muscle adnexa, which remains too short. In particular the lack of conjunctival length is unfavourable. It stands to reason that in these cases the shortened conjunctiva must be lengthened. Some methods have been advanced by, among others, Callahan [1], Papolczyk [2], Cole and Cole [3], and Goldstein [4], Callahan indicates that buccal mucosa can be used to cover the conjunctival defect, or a conjunctival transplantation from the other eye. Papolczyk has advocated closing the vertical incision in a horizontal manner. Goldstein advocates a partial horizontal closure. Cole and Cole have published a paper in which they show the advantages of leaving bare sclera, and suturing the conjunctival edges to it.

When an eye with extreme squint, taking a divergent strabismus as an example, is treated by means of a resection of the internal rectus muscle and a large recession of the external muscle, a conjunctival defect will be produced on the temporal side. Furthermore, one will notice that, due to a long time stretching of the conjunctiva, an excess of conjunctival and subconjunctival tissue is present medially. It seems rational therefore to use the medial conjunctiva for covering the lateral conjunctival defect by means of free transplantation.

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The result will be: (1) a relaxation of the traction by the lateral conjunctiva; (2) traction from the shortened conjunctival and sub-conjunctival tissue on the medial side. In practice this definitely contributes to obtaining a cosmetically satisfactory position. Furthermore, we found that sufficient elasticity is present in the caruncular area to prevent considerable reduction of movement in the extreme positions. Some reduction of movement in the extreme positions might be produced. These reduced movements in practice are cosmetically unimportant.

The technique as advocated produces a concomitant parallel position, within conversational range. The combination of shortening and lengthening of the muscular adnexa is a technique which can be applied to any type of cosmetically disfiguring strong strabismus. The free conjunctival transplant will take without complication.

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