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Evaluation of adjustable sutures technique in concomitant strabismus surgery

**Thesis submitted for partial fulfillment of master degree in
Ophthalmology**

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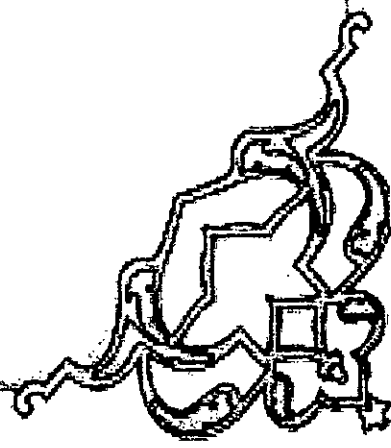
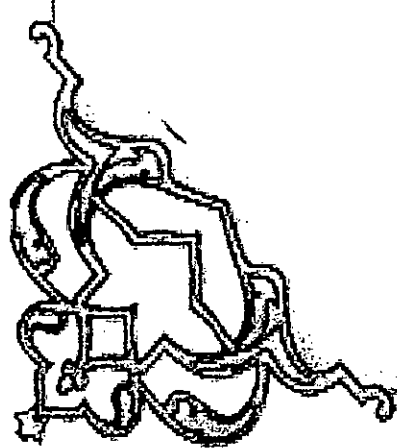
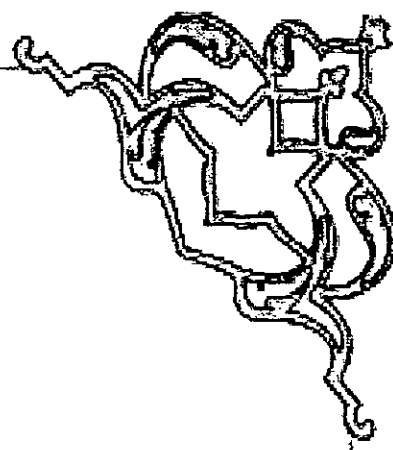
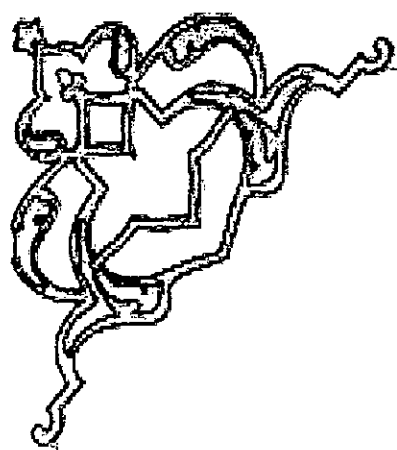
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Introduction

Introduction

Accurate ocular alignment after strabismus surgery leads to a better outcome in terms of both binocular function and cosmeses. Alignment within 10-prism diopters of straight is a commonly used definition of the accuracy of strabismus surgery (Lipton and Willshaw, 1995).

Strabismus surgery departs from other forms of ocular surgery in two distinct ways. First it is the only form of ocular surgery in which movement of tissues is the essential feature of the final goal of the surgery - Second currently and in the foreseeable future there is almost a 20% percent chance that further surgery will be necessary (Reinecke, 1990).

Such inaccuracy of the results of usual surgical procedures of strabismus due to the fact that such procedures are based on measurements of the static deviation of the eyes in various positions and do not take into account the true dynamic picture of ocular movements (Fells, 1987).

To overcome this factor, the adjustable suture technique was invented, conventional adjustable strabismus surgery involves postoperative repositioning of individual muscles anchored to the sclera via adjustable sutures (Connor et al., 1996).

The concept of adjustable suture surgery was originally developed more than 50 years ago (O'Connor, 1931) but it was not until the mid 1970s that the technique was popularized by Jampolsky, (1975).

A one stage procedure with adjustment under general anesthesia has been described (Richards, 1991) but ocular alignment depends solely on

examination of the corneal light reflexes. Furthermore, the resting position of the eyes is affected by general anesthesia (Apt and Isenberg, 1977). The majority of surgeons now prefer the two stage procedure, initial surgery being carried out under general anesthesia, with postoperative adjustment under topical anesthesia (Morris and Luff, 1992).

The benefits of the adjustable suture technique for strabismus surgery include the surgeon's ability to place the eye at the exact position desired in the immediate post operative period (Franklin and Hiatt, 1989).

A variety of techniques allow the muscle to be adjusted under topical anesthesia either at the time of surgery, a few hours or 1 day after the surgery has taken place (Reinecke, 1990).

Adjustable suture techniques have become increasingly popular over the last decade and may reduce the re-operative rate after strabismus surgery (Ward et al., 1995).

These are particularly indicated when a precise outcome is essential, and when the result with more conventional procedures are likely to be unpredictable (Kanski, 1994).

In the present study, Two -stage adjustable suture surgery using sliding knot technique was carried out to assess the results and complications of this technique in concomitant strabismus surgery.

Aim of the work

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The aim of the work is to assess the results of visual axis alignment following two-stage adjustable suture surgery for correction of concomitant strabismus.

To determine the difficulties and complications of this technique and stability of the results.

Review of Literature