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Combined Surgery: Corneal Transplant And Cataract Cure About 34 Cases

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I. Introduction

The existence of a cataract is very common during the management of corneal pathologies, hence the interest of combined surgery on both the cornea and the lens. If a total corneal transplant is chosen, two solutions are possible: either perform the cataract surgery and the transplant at the same time (we speak of a triple procedure), or transplant the cornea without touching the lens and then operate the cataract a few months later (this is called sequential surgery).

The aim of our work is to share our experience in triple procedure (extraction+ implantation+ corneal graft) and to report it's anatomical and functional results

II. Materials And Methods

This is a retrospective study including 34 patients who underwent combined surgery at the pediatric ophthalmology department of the August 20, 1953 Hospital in Casablanca between January 2009 and September 2018.

III. Results

The average age of our patients was 52 years with a male predominance. Bilaterality was marked in a single patient. The operative indications found in our series were, in order of frequency, post traumatic cases in 27% of cases, infectious keratitis in 26% of cases, corneal dystrophies in 17% of cases and keratoconus in 11% of cases. The average trephination diameter was 7.5 mm. The patients benefited from an implantation in the sulcus of a PMMA implant with an average of 16 diopters. All our grafts were sutured with separate stitches.

The best corrected visual acuity (BCVA) before the transplant was less than 1/10th in 95% of patients, while the average final postoperative BCVA was 4/10th.

By studying the various astigmatogenous factors: the most astigmatogenous etiology was trauma. The selective ablation of the astigmatogenous threads was started after 6 months and allowed a decrease in the average values of astigmatism. Total suture removal was performed 13 months after surgery on average. The mean final astigmatism was 4.25 diopters. The mean time to re-epithelialization was 11 days.

Over a mean follow-up of 30 months, seven rejections were observed and recovered after treatment combining hospitalization, reinforced local corticosteroid therapy and general intravenous bolus of corticosteroids. Preoperative intraocular pressure (IOP) measured by applanation was less than 18 mmHg in all patients. 7 eyes (20%) showed ocular hypertension postoperatively controlled by local treatment alone or in combination. No case of endophthalmitis or keratitis has been reported.

IV. Discussion

The triple procedure consists of trepanning the full-thickness cornea, then operating the cataract extracapsularly and finally implanting it in the sulcus (1). This triple procedure will treat all of the corneal and lens pathology in a single operation. It therefore allows faster visual recovery than an intervention carried out in two stages and also avoids trauma to the graft when removing the lens. On the other hand, it is a provider of refractive inaccuracy because the power of the implant cannot take into account a reliable keratometry, which is then unknown. According to Gruenauer (2) and collaborator, it is preferable to use a standard keratometry of the order of 42.5 or 43D.

Visual recovery is often difficult to predict after keratoplasty. With the exception of patients with severe macular pathology, postoperative visual acuity is influenced by the patient's preoperative visual acuity,

the initial pathology and the state of the lens, the existence of glaucoma, astigmatism postoperative. Visual recovery is very gradual and visual acuity may improve during the first 2 or 3 years following the intervention. Overall, good visual acuity (> 5/10) is obtained in 50% to 70% of patients with a clear graft, while 10% to 20% of these have a disappointing result (visual acuity < 1/10). In our study, 40% of cases had better corrected visual acuity greater than or equal to 4/10. Data from the literature show an increase in the frequency of keratoplasty for bullous keratopathy from the 1980s, corresponding to complications of intraocular implants (3).

Perforating traumas represent a major indication for keratoplasty, because of their sequelae and the frequency of accidents in our context. According to the indications: the survival rate is 98% at 5 years for keratoconus, 86% for corneal dystrophies, 75% pure herpetic keratitis, and 70% for corneal trauma (4). . The prognosis is generally catastrophic with functional or even anatomical loss of the eye. Attempts at retinovitreal surgery after this accident often end in failure. 7 cases (20%) of rejections were observed in our series against 8.71% in the series of Sarah Belmaighdi(5), our results are comparable with the data of the literature which finds that approximately 1/3 of penetrating keratoplasties undergo at least one episode of rejection. The curative treatment of rejection must be as early as possible in order to minimize the endothelial cell loss induced by rejection and thus increase the chances of recovery of the transparency of the graft after treatment. Corneal allograft rejection is the leading cause of full-thickness keratoplasty failure (1). In our experience, early treatment has recovered all the grafts. A case of graft abscess complicated by endophthalmitis which occurred on unbalanced diabetes.

V. Conclusion

The triple procedure appears to be an intervention giving good anatomical and functional results. The results should not obscure close and regular postoperative monitoring to detect any complications in time, in particular transplant rejection. The selection of indications and the preventive treatment of rejection would improve the results of this surgery.

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