



Service Priorities and Programmes
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Fat-removal orbital decompression for disfiguring Graves exophthalmos

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Introduction

Graves ophthalmopathy is an autoimmune condition presenting with a complex of ophthalmologic manifestations including exophthalmos, periorbital edema, eyelid retraction, exposure keratopathy, ocular dysmotility, optic neuropathy and poor cosmesis. Over the past decade, it was proposed that treatment of disfiguring proptosis with fat-removal orbital decompression (FROD) could reduce proptosis, eliminate dry eye symptoms associated with proptosis, and improve cosmesis. FROD, by definition, are not associated with any bone removal, and therefore their potential for side effects such as post-operative infraorbital nerve hypesthesia, cerebrospinal fluid leak, and diplopia are theoretically reduced. The technique of FROD was first introduced to the Hong Kong Eye Hospital in 2009.

Objectives

The aim of this study was to review the clinical outcomes of FROD performed at the Hong Kong Eye Hospital over a 3-year period from 2009 to 2012.

Methodology

This is a retrospective review of 21 eyes of 11 patients who have received transnucal FROD for disfiguring Graves exophthalmos at the Hong Kong Eye Hospital from Jan, 2009 to Sep, 2012. The amount of orbital fat removed and proptosis reduction were evaluated. The incidence of visual loss, new-onset diplopia at primary gaze and oth

Result

The mean volume of orbital fat removed was 4.0 ± 1.1 ml (Range 1.6 - 5.5ml) and the mean change of Hertel value was 4.2 ± 1.3 (Range 1 - 6, Wilcoxon Signed Rank Test $p < 0.000$). None has visual loss or new-onset diplopia at primary gaze after FROD. No complication like retrobulbar haemorrhage, meningitis, sinusitis, tissue necrosis, infraorbital paraesthesia or unsightly scar was observed. There amount of orbital fat removed did not correlate directly with the resultant change of Hertel value

(Spearman's $\rho=0.30$, $p=0.19$), yet could be reasonably predicted using Liao's predictive equation taking into consideration patient's age, gender and presence of pre-operative diplopia (mean difference = -0.4mm , Bland-Altman agreement plot).