Management of Sinonasal Complications after Endoscopic Orbital Decompression for Graves’ Orbitopathy

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ABSTRACT

Objective: Endoscopic orbital decompression (EnOD) has proven to be safe and effective for the treatment of Graves' orbitopathy, however complications do occur. This study examines the incidence and management of sinonasal complications in EnOD.

Methods: Clinical data, surgical findings, and postoperative outcomes of patients who underwent EnOD for Graves’ disease between 2005 and 2010 were reviewed.

Results: Incidence of significant sinonasal complications was 10% (5/50): with 1 patient experiencing postoperative hemorrhage requiring operative management, 3 patients with post-operative obstructive sinusitis and 1 patient with nasal obstruction secondary to nasal adhesions that required lysis. The study consisted of 50 patients: 11 males and 39 females, mean age 48.6 yrs. 72% (36/50) underwent bilateral EnOD and 28% (14/50) underwent unilateral EnOD. The most common indication for surgery was cosmesis (exophthalmos) with 44% (22/50) of patients undergoing surgery solely for this reason (Fig 2). 54% of the patients (27/50) suffered from transient post-operative diplopia. 5 patients (10%) were found to have significant sinonasal complications (Fig 3).

Post-op bleed occurred on postoperative day#2 and bleeding from middle turbinate stump was controlled in the OR with cautery, no packing was required. One patient who had concomitant septoplasty with EnOD developed clinically significant adhesions between the septum and inferior turbinate. Nasal obstruction resolved after lysis of adhesions under neuroleptic anesthesia. 3 patients had post-obstructive sinusitis refractory to prolonged medical therapy (2 involved maxillary sinus and 1 frontal sinus). 2 of these 3 patients had pre-existing history of CRS. Maxillary sinusitis was treated by performing a mega-antrostomy; the sinus opening was further widened inferiorly to the nasal cavity floor (with resection of the inferior turbinate). Frontal sinusitis was challenging because decompressed orbital contents occupied frontal recess and prevented conventional access to ostium. Therefore, a trans-axillary approach through the agger nasi cell (above and anterior to decompressed orbit) using navigation was utilized, and this permitted cannulation of the frontal ostium. Long-term stenting was used.

Conlusion: Sinonasal complications following EnOD are uncommon.

INTRODUCTION

The traditional surgical technique for orbital decompression was the trans-antral approach1, popularized by Walsh and Ogura. EnOD was first described in the early 1990’s and has emerged as the preferred surgical technique for Grave’s orbitopathy (Fig1).2 EnOD allows for enhanced visualization of key anatomical landmarks, lower complication rate, and no orbital or facial scars.3 The most common post-operative complication following endoscopic decompression is diplopia, which occurs in 15% to 64% of patients.4 The aim of the present study was to determine the incidence of sinonasal complications following EnOD for Graves’ orbitopathy and to explore techniques used for their successful management.

MATERIALS AND METHODS

Retrospective chart review was performed of 72 patients who underwent EnOD at Saint Louis University, from 2004 to 2010. 22 patients were excluded because they had incomplete records or did not undergo EnOD for Graves’ orbitopathy. For each patient, information was recorded including demographics, specific indications for surgery, eyes operated, ophthalmic complications, history of pre-operative sinusitis, and significant sinusonasal complications requiring intervention. Standard 3-wall decompression (endoscopic medial and inferior walls, external lateral wall) was performed in all patients.

RESULTS

The study consisted of 50 patients: 11 males and 39 females, mean age 48.6 yrs. 72% (36/50) underwent bilateral EnOD and 28% (14/50) underwent unilateral EnOD. The most common indication for surgery was cosmesis (exophthalmos) with 44% (22/50) of patients undergoing surgery solely for this reason (Fig 2). 54% of the patients (27/50) suffered from transient post-operative diplopia. 5 patients (10%) were found to have significant sinonasal complications (Fig 3).

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REFERENCES