Evaluation of modified lothrop technique versus endoscopic frontal recess surgery in recurrent frontal sinusitis

Ramez Sabry Faheem , Sherif Gabr Ibrahim , Ragaie A Gamaie , Ashraf M Khaled ,
Cairo University
Giza, Egypt
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Abstract

Introduction: Chronically diseased frontal sinuses have challenged surgeons for years. The incidence of frontal sinusitis (recurrent or iatrogenic) following functional endoscopic sinus surgery (FESS) is common either due to inadequate clearance of the frontal recess, remaining cells that narrow the frontal recess (agger nasi cells and frontal cells) or supraorbital ethmoid cells which may be mistaken as frontal ostium during surgery. Also (FESS) may induce adhesions and scarring in the area of the frontal recess resulting in iatrogenic frontal sinusitis which is not previously diseased. Methods: This study was performed on 30 patients with recurrent frontal sinusitis (following previous sinus or nasal surgery) (ins) diagnosed by history, nasal examination, nasal endoscopy, and computerized tomography. Patients were divided into two groups (A) and (B). Fifteen patients in each group. Group A patients were treated with endoscopic modified Lothrop procedure (Draf type III) without stenting and group (B) patients were treated with endoscopic frontal sinusotomy (Draf type II B) without stenting with consideration of the need for external trephine approach when indicated in both groups. All patients were preoperatively subjected to symptoms scoring as part of history taking, complete Otorhinolaryngologic examination with especial attention to nasal examination, nasal endoscopy under local anesthesia, and computerized tomography for nose and paranasal sinuses. At the end of the follow up period, the postoperative results were evaluated either subjectively by 1) postoperative improvement in symptoms 2) the incidence of both intraoperative and postoperative complications, or objectively by 1) endoscopic evaluation of the ostial patency and size 2) the result of postoperative CT of the frontal sinuses. All previous data were compared between both groups. Results: Our results revealed that, endoscopic modified Lothrop procedure provides a wider common frontal sinus ostium more than the double size of the ostia created by endoscopic frontal sinusotomy (Draf type II). This wider ostium is less liable for stenosis or obstruction, provides more aeration of the frontal sinus, eradicates the frontal sinus disease, creates a wider access to deal with intra-frontal pathology (osteomas or mucocele) and provides easier postoperative follow up and endoscopic evaluation and cleaning of the frontal ostium and frontal sinus itself. The extended use of drilling in the endoscopic modified Lothrop procedure than endoscopic frontal sinusotomy (Draf type II B), increases the incidence of major complications as CSF leak, while decreases the incidence of postoperative frontal sinus ostial stenosis and obstruction and so the recurrence of the disease within the frontal sinuses. Conclusion: The endoscopic modified Lothrop procedure (EMLP) without stenting is an effective technique for the management of chronic persistent frontal sinusitis and more superior than endoscopic frontal sinusotomy (Draf type II B) without stenting. It provides a physiological communication between frontal sinuses and the nasal cavity in selected patients who have failed endoscopic frontal sinus surgery or frontal recess adhesions or scarring. The (EMLP), however, is technically difficult even in the hands of experienced endoscopic surgeons and more liable to produce major complications than endoscopic frontal sinusotomy (Draf type II B).

Keywords
Endoscopic Modified Lothrop Procedure,