Submucosal Inferior Turbinoplasty: Evaluation of Functional Recovery and Complications

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ABSTRACT

Objective:
1. To describe our technique for the surgical treatment of inferior turbinate hypertrophy: the submucosal inferior turbinoplasty (SMIT)
2. To evaluate the rate of patient recovery and postoperative complications associated with this procedure and implications for clinical practice.

Study Design: Case series

Methods: Chart review from a single surgeon's practice from 2005-2012. 110 patients were included in our analysis. Inclusion criteria were patients older than 15 years of age who underwent elective SMIT as a single procedure or in combination with concurrent nasal procedures (septoplasty, septrhinoplasty, FESS, UPPP). Patients with less than 3 month follow-up were excluded. Functional outcomes were measured as duration of nasal packing, number and timing of crust debridement (as a reflection of mucosal functional recovery), and complications (bleeding, synechiae, mucosal atrophy, scarring and revision rate).

Results: Surgical packing was removed POD #0 for 58% of patients, POD #1 for 39% of patients, and POD #2 for 3% of patients. 55% of patients underwent 1 postoperative debridement, 32% underwent 2 postoperative debrideaments, and 9% underwent 3 postoperative debrideaments. The average duration of nasal crusting was 13 days (SD 10 days). Complications were measured as follows: synechiae (0.09%), bleeding (3.6%), revision surgery (0.09%), mucosal atrophy (0.09%) and scarring (0%).

METHODS AND MATERIALS

Data was obtained from chart review of a single surgeon’s adult rhinology and facial plastic surgery practice in Brooklyn, NY. All patients who underwent elective inferior turbinoplasty between 2005 and 2008 were reviewed. Inclusion criteria were patients older than 15 years of age who underwent elective SMIT as a single procedure or in combination with concurrent nasal procedures (septoplasty, septrhinoplasty, FESS, UPPP). Patients with less than 3 month follow-up were excluded. Functional outcomes were measured as duration of nasal packing, number and timing of crust debridement (as a reflection of mucosal functional recovery), and complications (bleeding, synechiae, mucosal atrophy, scarring and revision rate). SMIT technique and post-operative care is described in Figures 1-3.

RESULTS

110 patients were included in our evaluation. Subjects’ mean age was 38 years, with 60% male and 40% female patients. Procedures performed included Turbinoplasty (3.6%), Turbinoplasty + Septoplasty (36.3%), Turbinoplasty + Functional Septorhinoplasty (56.3%), Turbinoplasty + FESS (9%), and Turbinoplasty + UPPP (2.7%).

Outcome measures are reported in Graphs 1-4.

DISCUSSION

Inferior turbinectomy is the gold standard for addressing the role of turbinate hypertrophy in nasal obstruction. However, turbinectomy requires prolonged nasal packing and carries the risk of postoperative bleeding and prolonged nasal crusting. Alternative techniques of inferior turbinate reduction, such as laser ablation, microdebrider and radiofrequency ablation aim to provide short and long term improvements in patient recovery compared to turbinectomy. However, these procedures require special equipment and substantial cost. The SMIT technique described here minimizes the need for postoperative packing and special equipment. Compared with historical data reported for alternative techniques, SMIT demonstrates a low rate of complications and measures favorably in terms of duration of nasal packing, frequency of debrideaments, length of nasal crusting, complication rates and reoperation rates.

Our study is observational and is therefore limited by its descriptive nature. Further evaluation of the SMIT technique should include direct comparison to alternative methods as well as incorporation of validated outcome measures to assess the functional efficacy of this procedure.

REFERENCES


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