Outcomes of Concurrent Septal Perforation Repair and Endoscopic Sinus Surgery

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Abstract

Objectives: Repair of septal perforation performed concurrently with endoscopic sinus surgery (ESS) for chronic rhinosinusitis has not been evaluated. Surgical outcomes of patients undergoing simultaneous ESS and septal perforation repair are presented.

Methods: Adult patients who underwent ESS combined with septal perforation repair from January 1997 to September 2015 were identified. Medical records were reviewed for demographics, clinical findings, perforation size, operative technique, histopathology, complications and outcomes. Septal perforation repair was performed using a combination of bipedicled advancement or rotational mucosal flaps allowing a tension-free closure. An interposition graft was placed and the repair protected by thin silastic sheeting in all cases.

Results: Thirty-eight patients underwent concurrent ESS and septal perforation repair. Maxillary antrostomy and anterior ethmoidectomy were the most common procedures performed. Revision ESS accounted for 57% of procedures. Average perforation size was 15.4 mm (range 3-45 mm) by 10.7 mm height (range 3-25 mm). In the first 7 years of the study, 3 of 8 surgeries resulted in reperforation, while no patient had reperforation in the last 11 years. Overall, successful septal perforation closure was achieved in 35 of 38 patients (92.1%).

Conclusions: Septal perforation repair is a delicate operation with a wide range of historical success rates. Concurrent ESS, with additional nasal instrumentation/manipulation both intra- and postoperatively, may seem contraindicated. However, this study demonstrates that septal perforation repair and ESS can be performed simultaneously with high probability of success. In our series, this held true for even large perforations measuring greater than 2 cm.

Introduction

Chronic rhinosinusitis (CRS) may be present in a substantial proportion of patients presenting with septal perforation. Though the incidence of coexistent CRS and septal perforation has not been evaluated in any large population study, a small investigation involving patients with newly diagnosed septal perforations found 57% of these patients had radiographic evidence of CRS. While there is some overlap in symptoms caused by septal perforation and CRS, each can be uniquely symptomatic, and the two conditions can be a significant quality of life issue. Both CRS and septal perforation should therefore be addressed for complete restoration of nasal form and function.

Methods

Adult patients who underwent ESS combined with septal perforation repair from January 1997 to September 2015 were identified. Patients with follow-up of 4 weeks or greater were included. Medical records were reviewed for demographics, symptoms, CT and endoscopy findings, septal perforation size, operative technique, histopathology, complications and outcomes.

ESS was typically performed prior to septal perforation repair, though a septal deformity complicated access to the sinuses. Septal perforation repair was performed using an endonasal approach with loupe magnification.

Discussion

Septal perforations often cause symptoms such as stuffiness, bleeding, and whistling. While CRS has separate well-established symptoms that can overlap between the two conditions. Surgery, along with medical management, plays an important role in treatment of both perforations and CRS. Prior to undertaking such surgery, patient factors such as perforation size, location, and etiology should be considered.

Conclusions

• Septal perforation repair and ESS can be safely and successfully performed in a single-stage procedure, saving time, expense, and the need for additional surgery.

• After the initial 8 perforation repairs in our series, the long-term perforation closure rate was 100%. This emphasizes the learning curve involved in septal perforation repair.

References
