Secondary palatal defects are challenging and most patients prefer reconstruction with tissue repair over the use of a dental appliance. In the past, obturators were considered mainstay treatment. Although they offer good functional rehabilitation, leakage when swallowing has been reported in up to 30% of patients who use prostheses and difficulty in speech has been associated with increased avoidance of social situations [1].

More recently, autogenous tissue reconstructive techniques have been developed to improve functional, aesthetic, and quality of life outcomes. Several options for fistula repair have been described including tongue flaps [2], buccal myomucosal flap [3], pedicled flaps [4], free flaps [5], and free cartilage grafts [6] with varying success. Despite the multitude of techniques, there is no procedure that reliably yields successful and defects larger than 2 cm did not completely close. There were no intraoperative complications. All patients had complete intranasal healing by 6 weeks postoperatively. No postoperative bleeding, infectious, or wound complications, as well as no cerebrospinal fluid leaks.

This is a case series of 5 patients who underwent NSF for repair of secondary palatal defects at a tertiary referral center from December 2008 to August 2009. We retrospectively reviewed the demographic, surgical, and outcomes data of all patients included in the study.

In all cases, a NSF pedicled on the posterior septal artery was used for complete coverage of secondary palatal defects. The surgical technique of harvesting the nasoseptal flap has been previously described [7]. The flap is designed according to the size and shape of defect. Briefly, two parallel horizontal incisions follow the sagittal plane of the septum: inferior incision along the maxillary crest or onto the nasal floor and superior incision at least 1-2 cm below the most superior aspect of the septum, preserving the olfactory epithelium. Anteriorly, a vertical incision joins these two incisions near the mucocutaneous junction. Posteriorly, the superior incision along the inferior aspect of the sphenoid os and the inferior incision is extended along the posterior nasal septum then curved laterally along the choanal arch. The nasoseptal flap is mobilized in an anterior to posterior direction in the submucoperichondrial plane. After preparation of the defect site, the flap is rotated into place with some overlap over the boundaries of the defect. This is then bolstered with absorbable (e.g., AlloDerm, Flisoloe) and non-absorbable (e.g., obturator, palatal prosthesis) packing to hold the flap in place. Antibiotic coverage is required while the non-absorbable packing is in place. Permanent titanium spindles are positioned over the donor site of the nasoseptal flap for 3 weeks.

Five patients (5 females, mean age is 46 years old, range is 21-69 years) had nasoseptal flap reconstruction of secondary palatal defects. A variety of pathologies resulted in secondary palatal defects including excision of a mucoepidermoid cancer of the palate, resection of a benign tumor, injury from a Le Fort III advancement, septal perforation from a septoplasty, and Wegner’s vasculitis. Area of defects ranged from 0.5 to 7 cm in size. All defects less than 1 cm in width (n=3) closed successfully and defects larger than 2 cm (n=2) did not completely close. There were no intraoperative complications. All patients had no nasal or oral healing by 6 weeks postoperatively. No postoperative complications were encountered.

This is a case series of 5 patients who underwent NSF for repair of secondary palatal defects at a tertiary referral center from December 2008 to August 2009. A NSF pedicled on the posterior septal artery was used for complete coverage of secondary palatal defects. Several incisions following the sagittal plane of the septum: inferior incision along the maxillary crest or onto the nasal floor and superior incision at least 1-2 cm below the most superior aspect of the septum, preserving the olfactory epithelium. Anteriorly, a vertical incision joins these two incisions near the mucocutaneous junction. Posteriorly, the superior incision along the inferior aspect of the sphenoid os and the inferior incision is extended along the posterior nasal septum then curved laterally along the choanal arch. The nasoseptal flap is mobilized in an anterior to posterior direction in the submucoperichondrial plane. After preparation of the defect site, the flap is rotated into place with some overlap over the boundaries of the defect. This is then bolstered with absorbable (e.g., AlloDerm, Flisoloe) and non-absorbable (e.g., obturator, palatal prosthesis) packing to hold the flap in place. Antibiotic coverage is required while the non-absorbable packing is in place. Permanent titanium spindles are positioned over the donor site of the nasoseptal flap for 3 weeks.

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