An extended nasoseptal flap for coverage of frontal sinus defects
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Abstract

The pedicled nasoseptal flap (NSF) currently serves as the primary treatment option in the multilayer reconstruction algorithm for endoscopic repair of skull base defects. The flap, however, has limitations on its area of coverage. To harvest the flap, one sagittal incision is made over the maxillary crest or nasal floor and a second is made 1.5 cm below the most superior aspect of the septum. These are joined anteriorly by a vertical incision at the caudal septum. The sagittal incisions are extended posteriorly and laterally to cross the rostrum of the sphenoid sinus, preserving a narrow strip of mucoperiosteum that contains the posterior nasoseptal artery. Some groups have published ways to deal with the limitations of the area of coverage.¹,²,³ We describe a novel modification to the traditional NSF that allows for extended coverage. A sagittal, or “relaxing,” incision is made from the posterior free edge of the nasal septum along the maxillary crest to the midseptum, preserving the pedicle. The cut edge of the flap can be rotated anteriorly to cover even the most difficult to reach defects.

Case Report

A 54 year old female with an encephalomeningocele emanating through several skull base defects underwent a transnasal endoscopic repair (Fig. 2). A Draf III procedure was completed, and the encephalocele was cauterized to its skull base pedicle (Fig. 2). A NSF was raised, and the ipsilateral middle turbinate was removed. The “relaxing” incision was made along the maxillary crest from the posterior edge to the midportion of the flap (Fig. 1). The flap was rotated up to the skull base with the mucoperiosteum extending to the most distal frontal sinus defect (Fig. 3, Fig. 4).

Results / Conclusion

We have created a novel modification to the nasoseptal flap that preserves the pedicle and allows extended coverage for previously difficult to reach skull base defects. The patient described here has done well postoperatively with no evidence of a leak.

References