Nasal Dorsum Reconstruction Using Rigid Internal Fixation Plates

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Introduction

Standard nasal reconstruction after cancer resection states that deficient mucosa, bone/cartilage and skin be replaced with like tissue to ensure the best chance at recreating form. Internal lining options range from advancement of nasal mucosa to free tissue transfer. Skin is classically replaced with the melolabial or paramedian forehead flap. For bone or cartilage, the surgeon may use auricular, rib or septal cartilage grafts. Common to all of these reconstructive options is the presumption that there is adequate support to serve as a structural platform or scaffold on which to build. In this paper, we aim to describe a novel technique for complete nasal dorsum reconstruction after cancer resection, in which there was inadequate septum or nasal bone left after tumor extirpation for dorsal support. In these patients standard maxilofacial rigid internal fixation plates, made of titanium, were used to recreate and rebuild the nasal dorsum.

Materials and Methods

Methods: A retrospective analysis was performed of three patients who were diagnosed with cancer of the nose and underwent subtotal or total rhinectomy between August 2012 and June 2014. Each patient had extensive resection of the nasal dorsum structural support consisting of cartilage, bony and internal lining. Their charts were reviewed for preoperative diagnosis, extent of oncologic resection, postoperative complications and length of follow-up. Consent was obtained for all photographs.

Results

A total of 7 surgeries were performed on three adult patients (2 females and 1 male) with subtotal or total rhinectomy for cancer between August 2012-2014. Each patient had extensive resection of the nasal dorsum structural support consisting of cartilage, bony and internal lining. Two patients were reconstructed using 2.0mm locking plates and one patient had a 1.5mm plate. All patients underwent paramedian forehead flap reconstruction at the same time. Two of the patients underwent postoperative radiation. All patients were disease free at 12 months and there were no complications associated with the use of the rigid fixation plates.

Discussion and Conclusion

The use of rigid internal fixation plates is a reliable option for reconstruction of the nasal dorsum when structure and support is needed after cancer resection.