Head and Neck Surgery



(A615) Reconstruction of Radiation-Induced Oropharyngeal Soft Tissue Necrosis Using a Pedicled Nasoseptal Flap: A Novel Approach

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Introduction: To present a case of radiation-induced oropharyngeal necrosis repaired with a pedicled nasoseptal flap and review the literature on its use for oropharyngeal reconstruction.

Methods: Study

Design: Case report and literature review.

Methods: Examination of medical records from August 2024 to January 2025; review of surgical and post-operative outcomes.

Results: A 57-year-old male with cT2N3M0 P16+ tonsil squamous cell carcinoma completed chemoradiation therapy with cisplatin (70 Gy in 2 Gy fractions) in August 2024. A November 2024 PET scan showed residual right tonsillar activity (SUV 8, down from 16.4). In December 2024, he presented with large-volume oropharyngeal bleeding, requiring emergent airway management and control of hemorrhage from an observed right tonsillar fossa defect. Intraoperatively there was necrotic debris within a larger ulcer of the lateral oropharyngeal wall and the base of tongue. Biopsies and a NavDx assay were negative for residual disease. Post-operative CT angiography demonstrated vascular proximity to the defect without active extravasation. He subsequently underwent tracheostomy. In January 2025, he underwent endoscopic-assisted reconstruction of the oropharyngeal defect using an ipsilateral pedicled nasoseptal flap. Necrotic debris from within the tonsillar fossa and glossotonsillar sulcus was debrided, and the nasoseptal flap was delivered from the nasopharynx into the oropharynx and transorally inset to repair the defect. The patient is recovering well post-operatively.

Conclusions: While pedicled nasoseptal flaps are commonly utilized in skull base surgery and described for usage in TORS tonsillectomy defects, this case represents a novel, effective technique for reconstructing radiation-induced oropharyngeal soft tissue necrosis. This approach offers a shorter operative time and eliminates the risk of fistula compared to the alternative approach of free flap reconstruction, which in this case could only be accomplished via a mandibulotomy given severe trismus.This case underscores the versatility of nasoseptal flaps in head and neck reconstruction.