

Outcomes after Complex Head and Neck Reconstruction Using Chimeric Flap vs One Component Flaps: Matched Cohort Study

BACKGROUND - Composite head and neck defects that need more tissue offered by one component autologous free flaps may require chimeric flaps for reconstruction. The aim of the study is to determine if chimeric free flap reconstruction of composite head and neck defects is associated with higher complications rates compared with one component free flaps.

METHODS - We performed retrospective cohort study and included all chimeric free flap reconstruction in our institution from 2005-2013. We identified a matched cohort of patients who underwent one component free flap reconstruction. We identified preoperative variables using univariate analysis to allow matching and performed multivariate regression analysis to identify factors predicting complications.

RESULTS - Of 467 patients who underwent head and neck free flap reconstruction, forty-two patients had chimeric free flap reconstruction. Matching algorithm yielded similar cohort of patients who underwent one component reconstruction. The most common types of chimeric flap used were fibula flap and anterior lateral thigh flap, using the facial artery and branch of internal jugular as recipient vessels. There was no flap loss and all patients had a stable airway and were receiving enteral feeds upon discharge. Surgical complication rate was 32% with wound infection being the most common. Medical complication rate was 16% and there were no perioperative mortality. Multivariate regression analysis showed the use of chimeric flaps was not associated with increased complication rates.

CONCLUSIONS - For composite head and neck defects, chimeric flaps provide reliable and versatile reconstruction without additional morbidity compared to standard flaps.