Use of Cardiac Suture Organizer for Difficult Trans-Cervical Pharyngeal Insets for TORS defects

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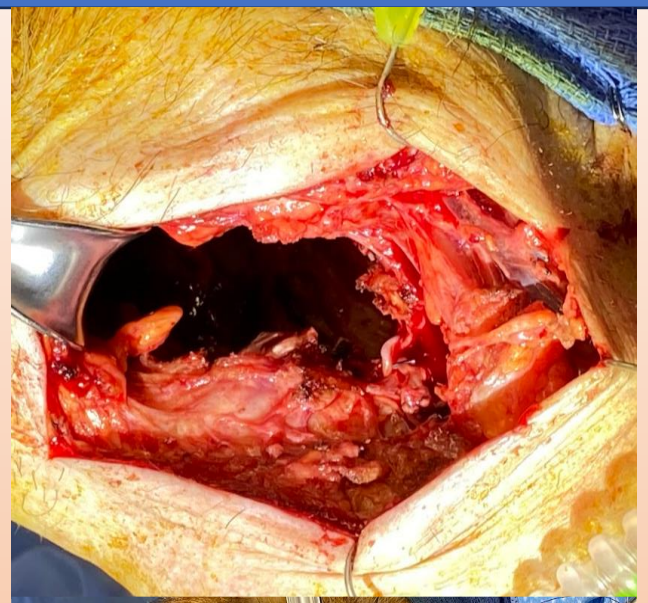
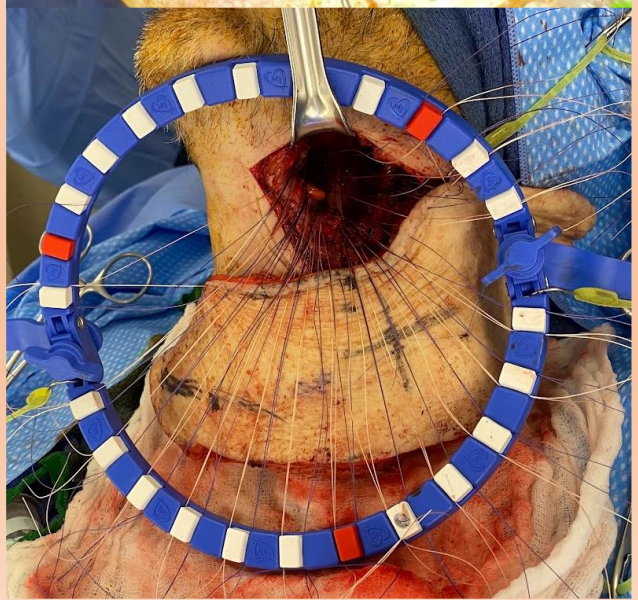
Background and objective

Background: As trans-oral robotic surgery (TORS) becomes more widely utilized in the treatment of oropharyngeal cancer, reconstruction of TORS defects with free tissue transfer has become more commonplace. [1] Free flap inset, however, can be challenging due to limited access, especially in cases of defects extending inferiorly to or below the hyoid.

Problem: Flap inset is often difficult when performing reconstruction for TORS defects due to limited exposure through the neck paired with flap bulk impinging upon the field of view.
Objective: Facilitate flap inset in post-TORS defects. This method must be efficient, organized, and effective.

Solution: The cardiac suture organizer is a device designed for cardiac valve replacement procedures, where sutures must be placed before the valve is set into location and knots are tied. [1] We find this device allows for easier flap inset in challenging oropharyngeal cases where resection is accomplished via TORS. The suture organizer allows many sutures to be placed and held in position prior to tying, so that the flap can then be passed through the neck and into the defect.





Discussion

Advantages: Increased visibility, organization, and efficiency of flap inset.

Method: The flap is placed on the neck and the suture organizer is placed over the defect. Sutures are then passed through the flap and the corresponding areas of the defect. Needles are released and the sutures placed in the holder before untied. Suturing begins at the inferior-most aspect of the pharynx and proceeds superiorly along the base of tongue and posterior pharyngeal wall until sutures can be seen trans-orally. Alternating colored sutures are used to avoid confusion. Visualization is improved because the flap is maintained external to the wound until most of the sutures are placed. The flap is then parachuted into the defect and sutures are then tied. The remainder of the defect is sutured trans-orally.

Conclusion: Free tissue reconstruction for TORS defects can be challenging due to a difficult inset. The cardiac suture organizer can be used to improve visualization during the trans-cervical portion of the inset. This technique seems to improve the efficiency of the reconstruction [2]

References

[1] Louis-Xavier, et al. Reconstruction following transoral robotic surgery for head and neck cancer: Systematic review. Head & Neck volume 44, issue 5, p 1246-1254
[2] Attawar Sandeep, Shivkumar Nair. Simple, cost-efficient valve suture organizer, The Annals of Thoracic Surgery. 1996.