

Observed Anatomical Variations in the Relationship between the Retromandibular Venous System and Facial Nerve Branches

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The retromandibular vein (RMV) as well as facial nerve (FN) are contents within the parotid gland where FN branches are running lateral to RMV. RMV holds dual importance in radiology and surgery, acting as a navigational guide and a critical anatomical landmark. Radiologically, it aids in localizing parotid gland tumors relative to FN. In surgical contexts like superficial parotidectomy, the RMV assists in dissecting the FN and its branches. This study reports of observations of the relationships between FN and the RMV among ten dissected cadavers at the Faculty of Dental Science, University of Peradeniya. There were four male and six female cadavers with a mean age of 75 years. Eight were bilaterally dissected on the parotid region and two were unilaterally dissected, having twelve sides of dissected specimens.

Three cases (25%) displayed laterally running FN branches in relation to RMV. In one case (8.3%) FN branches were medial to RMV and in another (8.3%) temporofacial (TF) branch was medial and cervicofacial (CF) was lateral to RMV. Additionally, distinct patterns included the facial nerve forming rings around the superficial temporal vein in four cases (33.3%) and around the RMV in two cases (16.6%). The RMV also formed a ring, housing facial nerve branches, in two cases (16.6%).

These variations hold significant surgical implications, shedding light on the relationship between the FN and RMV. Moreover, the identification of facial nerve rings around the superficial temporal vein and RMV suggests a need for their inclusion in existing classification systems.

In summary, this study enriches our understanding of head and neck surgical procedures by uncovering crucial anatomical insights. The acquired knowledge benefits surgeons, radiologists, and researchers, aiming to enhance patient outcomes and mitigate surgical risks hence further studies on the region and reconsidering existing classifications are recommended.

Keywords: Retromandibular vein, Facial nerve, Variation, Parotidectomy