

Anatomical Variations in the Drainage of Retromandibular Venous System: A Case Study on Sri Lankan Cadavers

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Understanding the Retromandibular venous system holds significant importance in both, diagnostic and therapeutic procedures, especially in oral-maxillofacial, vascular, and plastic surgery, interventional radiology, as well as in intensive care. Retromandibular vein (RMV) is formed by the union of superficial temporal vein (STV) and maxillary vein (MV) within the parotid gland which splits into anterior and posterior divisions towards the inferior pole of the gland. The anterior division joins with the facial vein (FV), and forms Common facial vein (CFV) which drains to the internal jugular vein (IJV). The posterior division, along with the posterior auricular vein, contributes to the external jugular vein (EJV), which drains to the Subclavian vein (SCV). However, variations in venous drainage is possible due to their complexity in development. This reports such variations observed during anatomy dissection classes conducted for dental undergraduates using ten cadavers. Excluding the damaged specimens, we selected seventeen sides for the study, which includes one unilateral and eight bilateral specimens. Normal venous drainage was observed in six (35.2%) and out of these, two had double RMV after a short communication between STV and MV and in another two, RMV was forming a ring. Notably, in ten specimens (58.8%), CFV drained into EJV instead of IJV where seven EJV drained to the junction between SCV and IJV, and three drained to SCV. In one case (5.9%), FV was connected to both EJV and IJV by two branches. Such variations likely arise from the regression or retention of anastomosing venous channels formed during embryological development of the venous system. Therefore, it is recommended to confirm the venous pattern before any intervention. This study underscores the importance of understanding Retromandibular venous system variations to ensure safe and effective medical procedures.

Keywords: Retromandibular vein, Facial vein, External jugular vein, Internal jugular vein