UNDIVIDED RETROMANDIBULAR VEIN AND ABSENT EXTERNAL JUGULAR VEIN-A CASE REPORT.

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ABSTRACT

Introduction: -
Normally the superficial temporal vein joins the maxillary vein in the substance of parotid gland to form the retromandibular vein. The external jugular vein then divides into two divisions. The anterior division of retromandibular vein unites with the facial vein to form the common facial vein which drains into the internal jugular vein. The posterior division of retromandibular vein unites with the posterior auricular vein to form the external jugular vein. The external jugular vein passes superficially to the sternocleidomastoid muscle and pierces the investing layer of deep cervical fascia just above the midpoint of the clavicle and drains into the subclavian vein. The external jugular vein receives blood from the scalp and face. (1)

Case report: -
During the routine dissection of the head and neck region in an 80 years old male cadaver in the department of anatomy DRPGMC, KANGRA AT TANDA, we observed multiple variations in the drainage pattern of the veins of neck on right side. In this case we found not only the absence of right external jugular vein, formation of linguo-facial trunk and undivided retromandibular vein but also anomalous vein draining into the retromandibular vein. The knowledge of such venous variations is of great concern to clinicians, surgeons, anaesthesiologists and radiologists who are dealing with this region.

Discussion
The variations of superficial veins of head and neck are uncommon especially the variations of retromandibular is exceptional. (2,3) In our case we found not only the absence of right external jugular vein but also anomalous vein draining into the retromandibular vein, formation of linguo-facial trunk and undivided retromandibular forming a common venous trunk draining into internal jugular vein.

KEY WORDS: Retromandibular vein, anomalous vein, linguo-facial venous trunk, common venous trunk.

Fig-1 & 2 Dissection of neck showing variant venous drainage pattern. AV-anomalous vein, CVT-common venous trunk, FV-facial vein, IV-internal jugular vein, LV-linguo-facial vein, MV-maxillary vein, RMV-retromandibular vein, URMV-undivided retromandibular vein STV-superficial temporal vein. In a study of 104 cases 1 case of undivided retromandibular vein draining into the internal jugular vein with absent common facial vein was reported. (7) In another case undivided retromandibular vein joining the facial vein to form the common venous trunk and draining into the subclavian vein and communication with the internal jugular vein was also reported. (8)

These variations and abnormal venous pattern results due to development defects during various stages of venous formation. Development of superficial veins of head and neck occurs immediately following skull development from superficial capillary venous plexuses during the embryonic period. It is a complex process which is initiated by formation and eventual regression of the cephalic veins which results in the formation of interconnecting venous spaces. With development, selective retention and regression of some network channels results in the definitive venous pattern. (4)

Linguo-facial venous system develops from mesoderm of frontonasal and maxillary process. Retromandibular vein develops within the mesenchyme of temporal region and opens into linguo-facial vein to form common facial vein which drains into internal jugular vein. External jugular vein develops from venous plexus in the neck region. (5,6)

Another case of undivided retromandibular vein and absent posterior auricular vein has been reported in which external jugular vein is communicated with the cephalic vein via large communicating vein. (9)

Absence of external jugular vein unilaterally or bilaterally which is a rare entity has also been reported. One case of bilateral absence of external jugular vein out of 25 cases has been reported. (10)

Absence of unilateral external jugular vein has also been reported in different studies. (11)

Retromandibular vein is used as a guide during the parotid and mandibular condylar surgeries, and external jugular vein is important for physicians and anaesthesiologist for assessing the central venous pressure for intensivist for central line cannulation etc.

Conclusion
Clinicians, surgeons, anaesthesiologists and radiologists who are dealing with this region need to aware of such type of variations, which although uncommon but do exists, and should be kept in mind to avoid any intraoperative errors and complications.
References


