

Unusual venous drainage of face: A case report

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ABSTRACT

Facial region has enormous blood supply. The maxillary vein, facial vein and superficial temporal vein are chief venous draining channels. There are numerous reports of unusual venous system of face, In the present case, retromandibular vein divides into anterior and posterior division soon after its formation, external carotid artery lying lateral to retromandibular vein, formation of common venous channel between internal jugular vein and anterior jugular vein where facial, lingual and submental vein drain.

Keywords: Maxillary vein, facial vein, superficial temporal vein, retromandibular vein, internal jugular vein, external carotid artery, lingual vein.

INTRODUCTION

The commonest pattern of venous drainage of face presents as union of the superficial temporal vein with the maxillary vein forming the retromandibular vein (RMV) within the parotid gland. The retromandibular vein divides into anterior and posterior divisions at the apex of parotid gland. The anterior division joins with the facial vein (FV) to form common facial vein that drains into internal jugular vein (IJV). The posterior division unites with the posterior auricular vein to form the external jugular vein (EJV). Retromandibular vein usually lies lateral to external carotid artery.

CASE REPORT

While dissecting on the right side of the face of a 45 year old adult male in the Dissection Hall of the Department of Anatomy of BPKIHS, it was found that the superficial temporal vein joined with the maxillary vein to form retromandibular venous junction which immediately divided into anterior and posterior divisions. As a normal feature, retromandibular vein wasn't formed because of immediate division of meeting point of superficial and maxillary veins. This was noted in the upper part of the parotid gland within its substance.

The posterior division received the posterior auricular vein and formed external jugular vein, which descended downwards superficial to sternocleidomastoid muscle and drained into subclavian vein.

The anterior division descended anteriorly and was crossed by external carotid artery as revealed in the photograph. Without receiving facial vein it drained into common venous arch formed between internal jugular vein and anterior jugular veins.

The lingual vein also drained into common venous arch. The facial vein descended downward and backward as a normal and usual course and received submental vein near submandibular region draining into common venous arch.

The anterior jugular arch was observed to be larger than normal and anastomosis with internal jugular vein through common venous arch was also observed.

Significant points

1. No retromandibular vein formation was found but retromandibular venous junction was observed.
2. Anterior division of the retromandibular junction was crossed by external carotid artery superficially.
3. This anterior division didn't receive common facial vein and drained into common venous arch.
4. The dimension of anterior jugular vein was comparatively larger and anastomosed with internal jugular vein through common venous arch between IJV and anterior jugular vein.
5. Facial vein received submental vein and drained into common venous arch.

DISCUSSION

Variations in the venous drainage of face have been reported in different parts of the world. Mehra *et al*¹ reported a retromandibular vein uniting with the submental vein and facial vein to form a common facial venous channel which communicated with anterior jugular vein through a communicating vein. The common facial vein ultimately joined with internal jugular vein. Kopuz *et al*^{2,3} observed that the retromandibular vein united with the facial vein at a higher level in parotid region. Peuker *et al*⁴ discovered facial vein draining into superficial temporal vein cranial to undivided retromandibular vein. Choudhry *et al*⁵ reported that facial vein drained into external jugular vein.

SURGICAL IMPORTANCE

Face is an important part of our body, which has surgical, and cosmetic values attached. During the surgery of temporomandibular joint, posterior ramus of mandible, parotid gland and surgery of upper part of neck, any inadvertent injury of retromandibular vein or its division or common facial vein can lead to profuse bleeding expectation, resulting in heavy blood loss. Therefore the knowledge of the variations of the anatomy of venous drainage of face has been found to be of immense importance from the surgical point of view.

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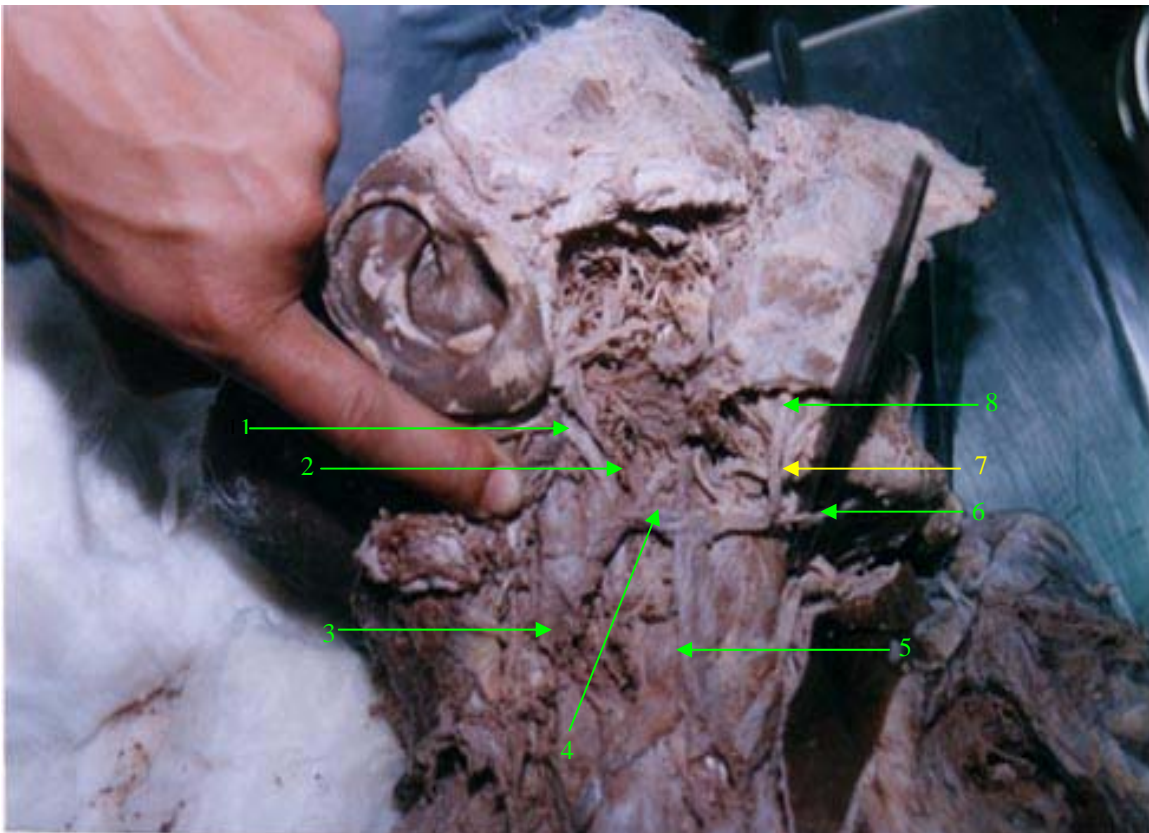


Fig. 1.

1= External carotid artery

2= Anterior division of retromandibular vein superficial temporal vein

3= Internal jugular veintrunk of retromandibular vein

4= Common jugular venous arch

5= Anterior jugular vein

6= Submental vein

7= Facial artery

8= Facial vein

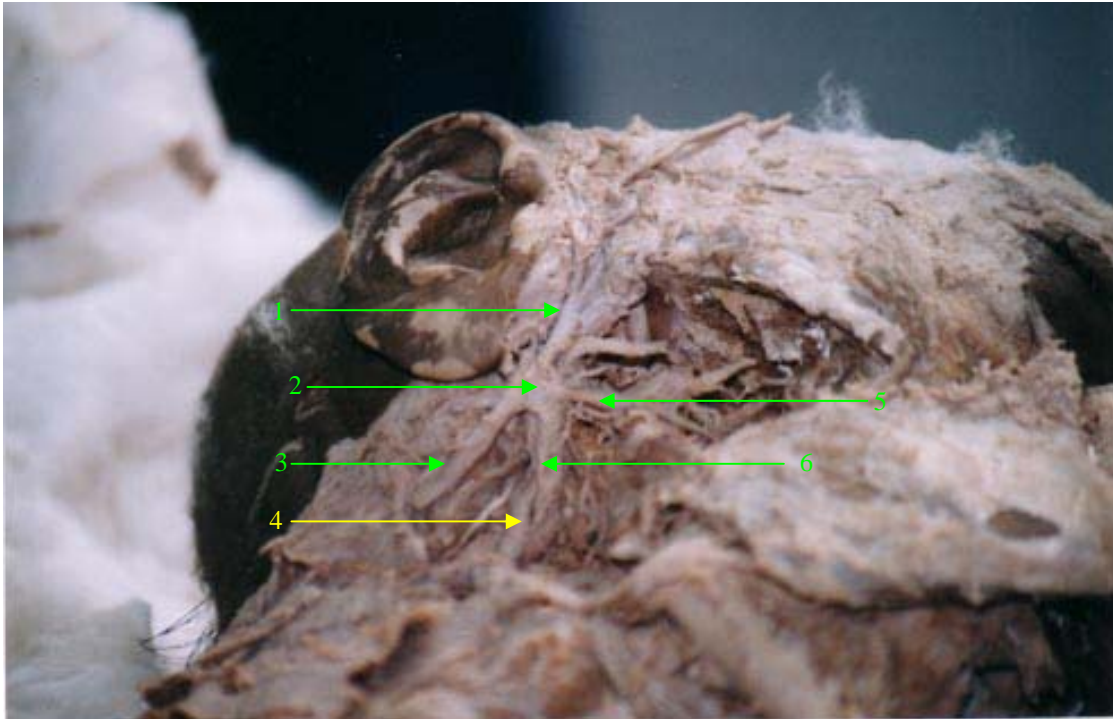


Fig.-2

1= Superficial temporal vein

2= Trunk of retromandibular vein

3= Posterior division of retromandibular vein

4= External carotid artery

5= Maxillary vein

6= Anterior division of retromandibular vein