

Morphotopography of the Roots of Jugular Vein in Sheep

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Abstract. The study material was represented by 10 specimens of sheep. Mainly, it was described the maxillary and superficial temporal veins with major tributaries of each. Invariably, it was noted the presence of buccal and *profunda faciei* veins, matter which was not reported in the literature.

Keywords: jugular vein, maxillary vein, sheep, dissection.

INTRODUCTION

Research undertaken are justified by concerns of many authors to ascertain the anatomical configurations of the macrostructure of the cervico-cephalic region (2,3,4,5,6). Besides the role of drainage system, venous system is involved in thermal protection mechanisms, both directly on the brain, and indirectly by acting on the whole body through the hypothalamus (1.7).

MATERIALS AND METHODS

The study material was represented by 10 specimens of sheep. The most commonly used method was the dissection, performed bilaterally and successive plans, to limit visibility, using stereomicroscope SMZ - 2T Nikon. Vascular formations were investigated by injecting them with contrasting plastic substances. Injected parts were kept in a refrigerator, at 40⁰C for 24 hours. Study, The study, description and approval was realised in conformity with Nomina Anatomica Veterinaria - 1994.

RESULTS AND DISCUSSIONS

Jugular vein is the main vessel wich discharge the blood from the cephalic extremity. Has a diameter of 1.5-2 cm. Most of its trajectory is covered laterally only by the skin and superficial cervical fascia and is crossed from top to bottom by the branches of cervical ventral nerve II-V. Because of these ratios, the vein is easy to explore in living subjects.

Maxillary vein is short, it has the beginning in a pterigoid plexus situated at the medial side of vertical portion of the mandibular branch and the lateral side of the medial pterygoid muscle, at the origin of alveolo-mandibular and lingual nerves (Fig. 1). Rostraly, a thick buccal, vein determine the connection between this plexus and *profunda faciei* vein. The most important ventral tributary of the maxillary vein is alveolo-mandibular vein (Fig. 2). The dorsal part of the pterygoid plexus recived the maseterin vein.

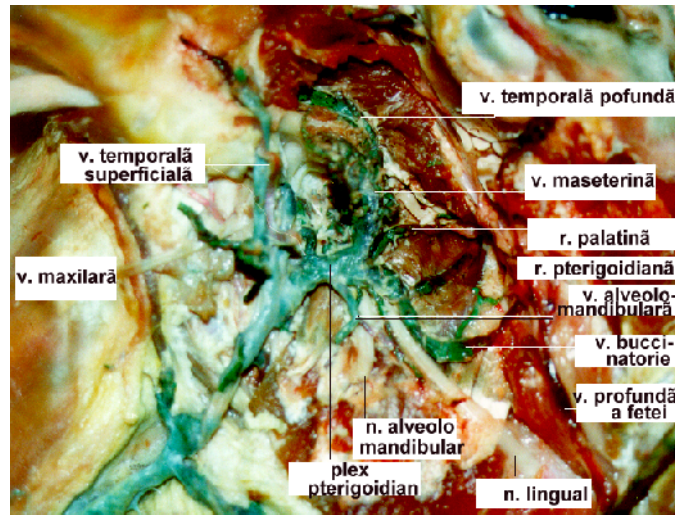


Fig. 1 Origin of the maxillary vein in sheep (original)

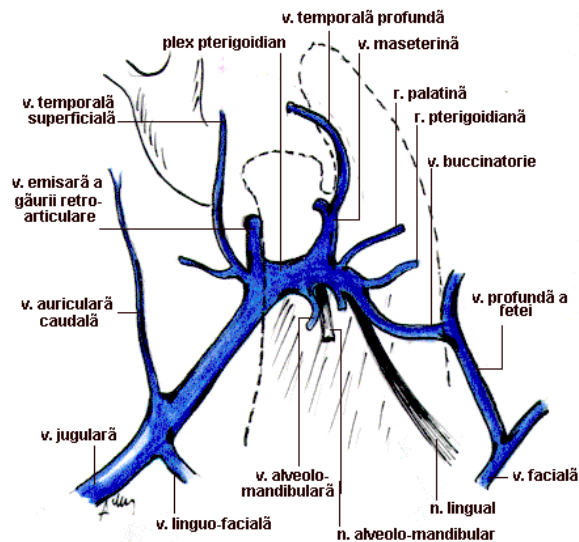


Fig. 2 Origin of the maxillary vein in sheep (original scheme)

The last also received dorso-rostrally the temporal deep vein, which come from the temporal duct. The buccal vein also receives a dorsal pterygoid branch which discharge blood from the proximal insertion of the medial pterygoid muscle.

Ophthalmic plexus draining the veins covered by the orbit by means of two main trunks, anastomosed in a complex network and regarded as two dorsal external ophthalmic vein segments, each powered by a branch of supraorbitale vein.

The first of these segments is dorsal and is extended by the superficial temporal vein after receiving two or three lacrimal veins and make a anastomosis with the emissary vein of *foramen orbitorotundum*.

The second segment is located between *rectus lateralis* and *rectus ventralis* muscles and is orientated toward *foramen orbitorotundum*. Its roots came from the lower eyelid and from the sclero-corneal limb on the lateral side of *rectus ventralis* muscle and passes under the little trochlear nerve.

Superficial temporal vein is highly developed and has its origins back zygomatic process of frontal bone by means of two roots. The rostral is an extension of the external dorsal ophthalmic vein passing under this process. Other root, caudal, is well represented only in animals with horns. This is the horny vein that drains venous plexus of the keratogene horn tissue.

At the specimens without horny processes this vein is missing, however existing a vein which result from junction of the superior lateral palpebrale vein with temporal branches. This vein joins with rostral root approximately to 0.5 cm behind the zygomatic apophysis of frontal bone. At this point the lateral superior palpebral artery passes to the outside of the vein. In 15% of the cases, veins that compose the caudal root at the animals without caudal processes are opening separately in superficial temporal vein.

Back of the mandibular condyle, temporal superficial vein received the anterior auricular vein with is twice lower than the collecting vessel. At the level of the zygomatic arch, the superficial temporal vein is then placed over the artery and then descends on the rostral side of it in order to received the *transversa faciei* vein.

CONCLUSIONS

- Maxillary vein is short and has its origins in pterygoid plexus. It is most important tributary of the alveolo – maxillary vein .
- Buccal vein and establishes the connection between pterygoidian plexus and profunda faciei vein.
- Ophthalmic venous plexus, is discharged by means of two main trunks the superficial temporal vein and profund temporal vein.
- Superficial temporal vein is developed in specimens with hornyprocesses, because, in addition to ophtalmic dorsal vein, it discharge the blood from keratogene membrane of horny process.

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