

Foramen Caecum: The Polyseme...!!!

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The first thing that pops hearing foramen caecum is the foramina in the skull but one might be surprised to know that foramen caecum is the polysemy about which few of us are aware of. Knowing about it is of importance to all medical and dental practitioners as four structures called foramen caecum exists in our head and neck region. This short communication aims to discuss various foramens caecum about which must be aware of.

The moment one hears the word foramen caecum, what comes to our mind is the foramen which is placed immediately posterior to the frontal crest that may transmit emissary veins connecting the cavity of nose with the superior sagittal sinus present in the human skull. One would be astonished to know that not only is the word foramen caecum, a polysemy but there are around 4 structures in human body referred as foramen caecum all of which are in the head and neck region.

Various foramen caecum's in the human body are

1. In tongue
2. In frontal bone
3. In medulla oblongata
4. In dental anthropology.

The dorsum surface of the tongue is convex and is marked by a median sulcus that divides the tongue into symmetrical halves. This sulcus then ends posteriorly at about 2.5cms from the root of the tongue in a depression that is called foramen caecum. From here a superficial groove that is sulcus terminalis sprouts laterally and also anteriorly at both sides of the margin of the tongue (Figure 1). It is also the point of attachment of the thyroglossal duct that is created during the embryological descent of the thyroid gland [1,2].

Hedlund described the location of foramen caecum in the frontal bone (Figure 2). Anteriorly this foramen is limited by the frontal bone while posteriorly by the front part of crista galli. The lateral margins are limited by the ethmoid ala [3]. One of the various structures passing through this foramen is the emissary vein that attaches the extra cranial venous system with the intracranial venous sinuses. It

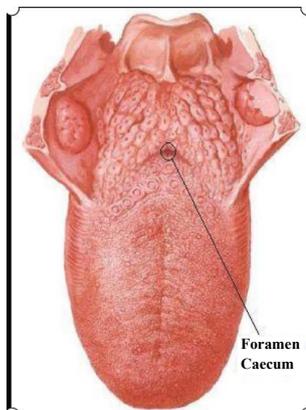


Figure 1: Foramen caecum in tongue.

also connects veins outside and inside the cranium. Different types of emissary veins are posterior condyloid, mastoid, occipital and parietal emissary vein [4]. And these emissary veins have an imperative role in selective cooling of the head. It also serves as route for the transfer/carry infections into the cranium.

The anterior median fissure of the medulla oblongata encloses a fold of pia mater, which extends along the entire length of the medulla oblongata and concludes at the lower border of the pons in a small triangular expansion called as the foramen caecum (Figure 3).

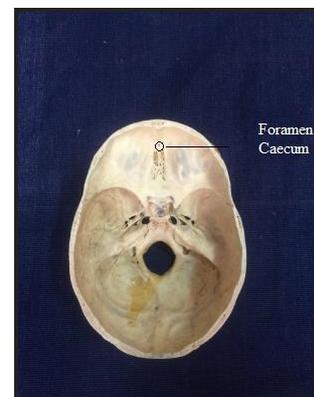


Figure 2: Foramen caecum in frontal bone.

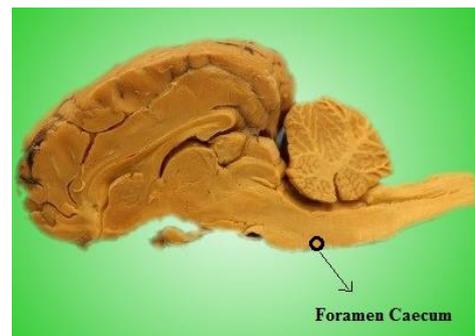


Figure 3: Foramen caecum in medulla oblongata.

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Forensic odontology is a branch of dentistry dealing with the appropriate management and assessment of dental evidence and also with the correct assessment and presentation of dental findings in concern of justice [5]. Forensic odontology embraces all the dental specialties and forensic dental field work that necessitate an interdisciplinary knowledge of all the branches of dental sciences [6].

Human teeth show morphological variations in size and shape and in both deciduous and permanent dentition. In dental anthropology, the foramen caecum (Figure 4) is a trivial appearance of the protosylid of the tooth. It is related to five non-metric tooth crown traits. According to dental and biological studies, racially mixed populations bare malformed foramen caecum's, resulting in inimitable tooth groove



Figure 4: Foramen caecum in the tooth.

patterns. Few dentists and scientists have reported foramen caecum's to be a trait occurrence that demonstrates sexual dimorphism [7].

Foramen caecum has become rare findings in recent times. Most populace suffers from furrows in the cusps, though they do not build up problems due to the protosylid. It is of prime concern to recognize that

the protosylid occur in low frequencies and should not be classified as abnormal which is a viewpoint common in clinical dentistry. They are normal morphological features of the dentition. These morphological variations are evidenced by the diverse trait frequencies among world populations. This variability often is capitalized on the processes of an individuals forensic identification [8].

Because its prevalence varies with race, it is a frequent object of anthropological studies. Dahlberg in 1950 was the first one who noted it as an accessory or supernumerary cusp on the primary maxillary molars of an Eskimo skull [9].

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