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Guest Editorial

Surgical Anatomical Notes Related to the Temporal Bone

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Abstract

Temporal bones are located at the sides of the skull and lateral to the temporal lobes of the cortex. Surgical approaches through the temporal bone and also approaches to treat its fractures and pathologies, require having thorough knowledge about its anatomy for the surgeon. This is a brief review on some of the surgical anatomical notes related to the temporal bone.

Keywords: *Temporal Bone; Surgical Anatomy*

Tympanic, Mastoid, Petrous and Squamosa are the four main parts of the temporal bone. The direction of the Petrous part is antero-medially. The base of this part is lying in a lateral direction.

The direction of three surfaces of the bone would be towards the posterior, anterior and inferior.

The posterior surface of the temporal bone is bounded by the petrosal sinuses. The internal auditory canal is located in a midway position across the posterior surface. At the posteroinferior part of the temporal bone, the endolymphatic duct is located. At a location which is lateral to the operculum, vestibular aqueduct would enter the bone.

At the superior surface of the bone, arcuate eminence exists and can be seen as a projection which overlies the superior semicircular canal. In an anterolateral direction to the arcuate eminence, facial hiatus exits the bone.

At the inferior surface of the bone, in a sagittal direction and with a position which is medial to the mastoid tip, the digastric ridge is running and will be intersect with the stylomastoid foramen. Jugular foramen is at the medial position and the Temporomandibular fossa is at the anterior position to the styloid process which is located at an anterior position to the stylomastoid foramen. At the lateral wall of the jugular foramen, the mastoid canaliculus enters and the Arnold's nerve transmission would be done by that. Between the carotid and jugular canal, Jacobson's nerve enters in an inferior direction in the inferior tympanic canaliculus. Between the carotid canal and the jugular fossa, the entrance of the cochlear aqueduct can be seen. At a medial position to the styloid process and an anterior position to the jugular foramen, the carotid canal is located. At an anterior position to the vertical segment of the carotid canal, sphenoid's spine exists which at a medial position to that, the beginning of the eustachian tube's cartilaginous section can be seen. In an inferior and medial position to the jugular foramen, the hypoglossal canal exists. The basioccipital synostosis and occipital condyles, form the foramen magnum's anterior limit and lateral wall respectively.

It is important for the surgeon to have thorough knowledge about these important anatomical notes related to the temporal bone and pay enough attention to these notes during surgical approaches to get best surgical results [1-5].

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