

LOCATION OF THE FACIAL NERVE TRUNK - CLINICAL SIGNIFICANCE

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Accurate knowledge of the location of the facial nerve trunk is necessary during surgeries of the parotid, mastoid, and the temporomandibular joint regions, and also during approaches to the cranial base and in surgeries to reconstruct the facial nerve. These procedures involve manipulation of the facial nerve. In order to avoid any iatrogenic damage to the facial nerve a precise knowledge of the location of the facial nerve with reference to the plane, depth, and its branching pattern is mandatory. The present study was conducted with an aim of providing information, which will be useful in locating the facial nerve with higher accuracy during surgery.

Twenty-eight cadaver head halves of both genders in the age range of 28 to 85 years were dissected and evaluated for the study. The position of the bifurcation of the facial nerve trunk was observed. The distance from several anatomical landmarks to the facial nerve were collected to access the depth at which the facial nerve lies. The anatomical landmarks were selected as determined by Al Kayat et al. (1990) and Salame et al. (2002). These include the tragal point, tip of the mastoid, most caudal point of external auditory meatus and the lowest point of the postglenoid tubercle.

The facial nerve emerged from the stylomastoid foramen in all the cases we examined and it was seen to lie medial to the posterior belly of digastric muscle. In twenty-six head halves (93%) the bifurcation of the nerve was located within the parotid gland. Only in two cases (7%) the bifurcation was proximal to the parotid glandular substance and it was not the same on the both sides in the same individual.

The shortest distance from the tragal point to the facial nerve trunk and to the bifurcation were 10.08 ± 2.34 mm and 13.97 ± 2.72 mm respectively. Distance from the bifurcation to the mastoid tip was 16.28 ± 2.87 mm, from the bifurcation to the most caudal point of the external auditory meatus was 19.64 ± 2.98 mm, and from bifurcation to the lowest point of the postglenoid tubercle was 23.83 ± 3.28 mm. The length of the facial nerve trunk from the stylomastoid foramen to the bifurcation was 18.51 ± 3.80 mm and the diameter of the nerve at its emergence from the stylomastoid foramen was 1.78 ± 0.31 mm.

In many surgical interventions in the head and neck region the surgeons come across the facial nerve. As the facial nerve is located in an area of complex anatomy, to prevent any iatrogenic damage to it during surgeries the precise location should be understood.