

VARIATIONS OF THE FACIAL NERVE SURGICAL ANATOMY IN PAROTID SURGERY

Vladimir Popovski, Professor, University Clinic for Maxillofacial Surgery, Skopje, Macedonia

ABSTRACT:

The relationship of the parotid gland to the facial nerve is of major surgical importance in parotid surgery procedures. The facial nerve may be injured in its extratemporal course as a result of facial trauma and laceration, or iatrogenic trauma during surgery involving the parotid gland, submandibular gland, open access to the temporomandibular joint and during facelift procedure. Anatomical peculiarity of the parotid compartment and evident high percentage of facial nerve (FN) branching variations create the necessity of competent surgical approach. Parotid gland surgically is often referred to as superficial and deep lobes, but anatomically it is referred to as unilobular gland with numerous processes and no true superficial and deep lobes separated with facial nerve branching. There are three surgical zones regarding the structures. We have analyzed the records and measurements about surgical anatomy variations of facial nerve variations on randomized group of patients who underwent various types of parotid surgery at our institution with attention to imaging findings, operative trunk distance, type of peripheral pattern of facial nerve branching and interconnections. Additional comparative analyze was made with anatomists on 20 cadaver dissections with accent on facial nerve extraglandular variations until the level of lateral palpebral line. Mean distance from the pointer to the facial nerve trunk and bifurcation was 13 mm, ranging from 12.0 mm and 13.5 mm respectively. Hypoplastic or hyperplastic main trunk was rarely present. Greatest parts of variations were in upper division of five level branching. On cadaveric cervicofacial dissections marginal mandibular branch was below the mandibular border in half of dissections included. The frequency of peripheral pattern and connections of the facial nerve were type III (32.1%), type I (27.1%), type IV (23.5%), type II (17.3%). In every distinctive type subsequent subtype was included. The conclusions are confirmative that extratemporal facial nerve branching pattern is extremely variable. Well-defined knowledge of the facial nerve extratemporal anatomy and its variations is essential to enable safe dissection through the plane of the face particularly during parotid surgery, or intermittently in TMJ surgery and rhytidectomy.