

The marginal mandibular nerve in relation to the inferior border of the mandible

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Background: Injury to the marginal mandibular nerve (MMN) can occur in numerous surgeries that involve incisions near the inferior border of the mandible. Injury to this nerve can cause significant cosmetic deformity, and is one of the more common sources of litigation against oral surgeons (Potgieter et al., 2005). Thorough knowledge and understanding of the pathway and innervations of the MMN is important in order to avoid nerve injury.

Purpose: The aim of this study was to ascertain the relative position of the marginal mandibular nerve to several key mandibular anatomical landmarks, as well as identifying variations of the nerve as it approaches the inferior border of the mandible.

Materials and Methods: Human cadavers were dissected superficially to expose the marginal mandibular nerve (MMN) from the parotid gland to the mental protuberance. Upon complete exposure of the nerve, five anatomical landmarks on the inferior border of the mandible were identified and labeled. The distance between the MMN and these landmarks was recorded and averaged to deduce a common path of the MMN.

Results: It was found that the MMN runs 1.38mm below the angle of the mandible, 3.1mm inferior to the posterior border of the antegonial notch, 2.66 mm inferior to the anterior border of the antegonial notch, 1.33mm superior to the point at which facial artery reaches the inferior border of the mandible, and 12.4 mm superior to a vertical line that extends from the commissure of lip to the inferior border of the mandible.

Conclusion: Our data suggest three general paths of the MMN in relation to the inferior portion of the mandible. Further study is warranted in order to accurately predict the path of the MMN in patients prior to surgical procedures.