GREAT AURICULAR NERVE : FAILSAFE METHOD TO AVOID INJURY

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Abstract

Background: Great auricular nerve (GAN) is the most commonly injured nerve during facelift surgery. Although rare, injury can result in long term sequelae. Previous authors have described the location of the great auricular nerve as it emerges from underneath the sternocleidomastoid muscle (SCM) and as it courses along the midbelly of the muscle. From a practical point injury can also occur in closer proximity to the ear. The purpose of our study was to identify the superior course of the great auricular nerve as it applies to facelift.

Methods: Dissections were performed in 26 hemi-necks. A vertical line through the mid-lobule was drawn perpendicular to the Frankfort`s horizontal acting as a reference to the course of the nerve. Transparent paper overlay tracings were then done to record each nerve`s location. The distance from the bony external auditory canal to the nerve was measured at its emergence from under sternocleidomastoid muscle, at midbelly of sternocleidomastoid muscle and at anterior muscle border. Branching patterns of the nerve and relation to external jugular vein were identified.

Results: In 100% of the dissections the distal course of the great auricular nerve fell within a 30 degree angle constructed using the vertical limb perpendicular to the Frankfort`s horizontal and a second limb drawn posteriorly from the midlobe. The distance from the bony external auditory canal to the nerve was found to be 9.8±1.2cm at its emergence from under sternocleidomastoid muscle, 7.3±1.0cm at midbelly of sternocleidomastoid muscle and 4.9±1.1cm at anterior muscle border. Four types of branching patterns were identified and will be presented.

Conclusion: The 30 degree angle described above accurately identifies the nerve`s distal course in 100% of our dissections.

References

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