



CADAVERIC STUDY ON RELATION OF EXTRACRANIAL COURSE OF FACIAL NERVE TO RETROMANDIBULAR VEIN

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ABSTRACT Intimate knowledge of relation of facial nerve to retromandibular vein is vital in order to reduce the postoperative morbidity related to facial nerve injury during surgery. The present study is a descriptive observational study done by dissecting 50 cadavers (100 facial halves). The variations were documented and analysed. Retromandibular vein was related medial to facial nerve in 100% cadavers. These variations in relation of facial nerve to retromandibular vein can explain the different consequences of facial nerve injury, which may occur after various surgeries involving face. Therefore, knowledge of relation of facial nerve to retromandibular vein is essential, if the nerve is to be preserved during surgery.

KEYWORDS : Facial nerve; Retromandibular vein; Lateral

INTRODUCTION

Expression of face has a unique power to depict our inner feelings. Facial muscles are supplied by the facial nerve, which is the seventh cranial nerve. Successful surgical interventions in the parotid region depend on the accurate dissection and preservation of facial nerve. Therefore, knowledge of topographical and surgical landmarks of nearby structures is essential if the nerve is to be preserved during surgery. Reliable, fixed landmarks to this nerve and its branches are needed to predict the exact location of important structures, guarantee safe margins, prevent aesthetic and functional complications, avoid morbidity and avert legal issues.

SUBJECTS AND METHODS

The present study was conducted on 100 facial halves of 50 embalmed and formalin-fixed adult cadavers in the Department of Anatomy in the year 2020 – 2022. The dissection was carried out according to Cunningham's Manual of Practical Anatomy 16th edition, volume 324. The trunk of facial nerve and retromandibular vein was exposed by removing more of the parotid gland. The parotid gland was removed as piecemeal during the dissection. Dissected facial nerve and retromandibular vein was painted and photographs were taken to document the important findings. Quantitative data were expressed as frequencies. For statistical analysis, all qualitative data obtained were quantified according to the frequencies. Frequencies were calculated as percentages. Tables were used to describe the frequency distribution of the important parameter. The findings were compared with the previous study.

RESULTS

In the study, the facial nerve was identified from its exit through the stylomastoid foramen. Its relation with retromandibular vein was noted in 100 facial halves of 50 embalmed adult cadavers.

In the present study, the facial nerve trunk was found lateral to the retromandibular vein in 100 specimens (100%)

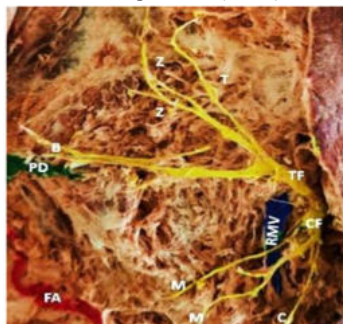


Figure 1 : Left side of the face showing facial nerve trunk lateral to retromandibular vein

TF – Temporofacial, CF – Cervicofacial,
T – Temporal, Z – Zygomatic, B – Buccal, M – marginal mandibular,
C – Cervical,

RMV – Retromandibular vein, PD – Parotid duct, FA – Facial Artery

DISCUSSION

The maxillary vein and superficial temporal vein unite to form the retromandibular vein in the parotid gland. In the present study, the facial nerve trunk was found lateral to the retromandibular vein in 100 specimens (100 %). In no specimen, the facial nerve was observed medial to the retromandibular vein. The present study is compared with various studies and was tabulated.

Tardy et al and Savary et al reported that the retromandibular vein was related medial to the facial nerve in 100% of specimens.^[3,4]

According to Dingman, Kopuz, Kim DI, Alzharani, Rajesh Asthik, Kalai anbusundar and Thamaraiselvi et al in the majority of cases retromandibular vein was found medial to the facial nerve.^[1,2,5,7,8,9]

The present study coincides with the results of Tardy et al and Savary et al where the retromandibular vein was related medial to the facial nerve in 100% of cases.^[3,4]

Table 1: Relation of Facial nerve to Retromandibular vein

Author	RMV lateral to FN	RMV medial to FN
Dingman et al (1962) ¹	2	98
Kopuz et al (1995) ²	10	90
Tardy et al (1995) ³	0	100
Savary et al (1997) ⁴	0	100
Kim DI et al (2009) ⁵	17	83
Rajesh .Asthik et al (2011) ⁶	10	90
Alzharani et al (2012) ⁷	17	83
Kalai anbusundar et al (2013) ⁸	4	96
Thamaraiselvi et al (2021) ⁹	2	98
Present study	0	100

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