Microanatomy of the Peripheral Facial Nerve Revisited

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ABSTRACT

Methods: Ten cadaveric hemifaces dissected under surgical microscopes. Facial nerve was identified from stylomastoid foramen to muscle. MAS measured number, length, and width at border of parotid, at level of the pes anserinus, and muscle border (frontalis, orbicularis oculi, zygomaticus major, and depressor anguli muscles). ANOVA and Student T test were performed where appropriate.

RESULTS

Figure 1. A: Cadaveric hemifaces where the facial nerve is dissected from the stylomastoid foramen. B: Endpoint innervation of the marginal mandibular nerve entering the depressor anguli muscle.

<table>
<thead>
<tr>
<th>Anastomoses appreciated</th>
<th>Temporal/Zygomatic</th>
<th>7/9 hemifaces</th>
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</thead>
<tbody>
<tr>
<td>Zygomatic/Buccal</td>
<td>8/10 hemifaces</td>
<td></td>
</tr>
<tr>
<td>Buccal/Marginal mandibular</td>
<td>7/10 hemifaces</td>
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DISCUSSION

Our gross dissection has yielded results consistent with prior anatomic studies of the facial nerve. As expected, the main trunk of the facial nerve emerged from the stylomastoid foramen, and branched into two main trunks at the pes anserinus: zygomatico-temporal and cervicofacial. In microdissection of the extraparotid course of the facial nerve, similar to published results (Lineaweaver 1997), the number of branches at the zygomatic and buccal branches are comparatively more than the mandibular or temporal branches.

CONCLUSION

Consistently fewer branches of both the marginal mandibular branch at parotid border and at muscle border, and fewer anastomoses, may be the reason for increased morbidity from surgical injury. Histologic analysis will further elucidate the number of innervations to the muscles of facial function.

REFERENCES


