

Histological Studies on Muscles of the Nasal Wing

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The nasalis muscle (the transverse and alar parts), the depressor septi muscle, and some muscle-fiber bundles of the levator labii superioris alaeque nasi muscle constitute the muscles in the nasal region. Since these muscles and muscle-fiber bundles intermix with subcutaneous connective tissues, they are extremely difficult to dissect out using gross anatomical techniques. In this study, we histologically examined the nasal wing, which is the most difficult to dissect, elucidated the composition of the muscle-fiber bundles, and discussed their function.

The main component of the alar part of the nasalis muscle was the muscle-bundles (A-fiber bundles) proper to the alar part, which arose from the subcutaneous tissue and ran obliquely downwards, to be inserted into the tunica propria. A few cross-sections of B-fiber bundles (running medially downwards) and C-fiber bundles (running toward the midline) were also seen. Their course suggested that they were medial muscle-fiber bundles of the levator labii superioris alaeque nasi muscle and the alar part of the nasalis muscle.

It appears that dilatation of the nostrils is accomplished by the raising of the nostril mucosa toward the skin side by the A-fiber bundles and simultaneous pulling of the alar part laterally upwards by the B-fiber bundles, while constriction of the nostrils is accomplished by the relaxation of the two muscle-fiber bundles involved in nostril dilatation and simultaneous pulling of the nasal wing and septum posteriorly by the C-fiber bundles and the depressor septi muscle.

Key words : nasalis muscle, levator labii superioris alaeque nasi muscle, depressor septi muscle, nasal wing