

Arterial branches to the temporal muscle

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SUMMARY

The temporal muscle is greatly used for forming myofascial flaps and transposition in cases of reconstructive and reparative plastic surgery of the face and neck. Despite this important application, lack of success has been reported, probably because of lack of knowledge of the anatomical characteristics of this muscle, such as variations in its blood supply. Objectives: To investigate the blood supply of the temporal muscle in order to provide an anatomical basis for reconstructive and reparative surgery of the face using flaps from the temporal muscle. This study was conducted by dissecting 21 half faces from cadavers of children (13 male and 8 female) that had been injected with neoprene latex through the common carotid artery. The temporal muscle usually received three or four arterial branches coming from the maxillary and superficial temporal arteries. The branches of the maxillary artery could be separate (anterior deep temporal, posterior deep temporal and accessory deep temporal arteries) or together with other branches of the maxillary artery, forming trunks. The branches of the superficial temporal artery were always separate (middle temporal artery). The anterior deep temporal artery originated in front of the coronoid process and the posterior deep temporal artery behind it. The numbers of arterial branches in the anterior and middle thirds of the muscle were similar and slightly greater than the number in the posterior third. The most frequent arterial branch in the anterior third was the anterior deep temporal artery; in the middle third, it was the posterior deep temporal artery; and in the posterior third, it was the middle temporal artery. The most frequent patterns of arterial branch presence in the temporal muscle were: a) anterior deep temporal, posterior deep temporal and middle temporal arteries; and b) anterior deep temporal, posterior deep temporal, accessory deep temporal and middle temporal arteries. The accessory deep temporal artery is a direct branch from the maxillary artery that originates at the level of the coronoid process of the mandible and participates in irrigating the anterior and middle thirds of the muscle.

INTRODUCTION

The use of surgical flaps from the temporal muscle for reconstructive and reparative purposes in the face (Mani & Panda, 2003), oral cavity (Thomson & Allison,