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SURGICAL TECHNIQUE

Operative technique: Superficial temporal artery biopsy



J. Cahais*, R. Houdart, R.M. Lupinacci, A. Valverde

Groupe hospitalier Diaconesses-Croix-Saint-Simon, 125, rue d'Avron, 75020 Paris, France

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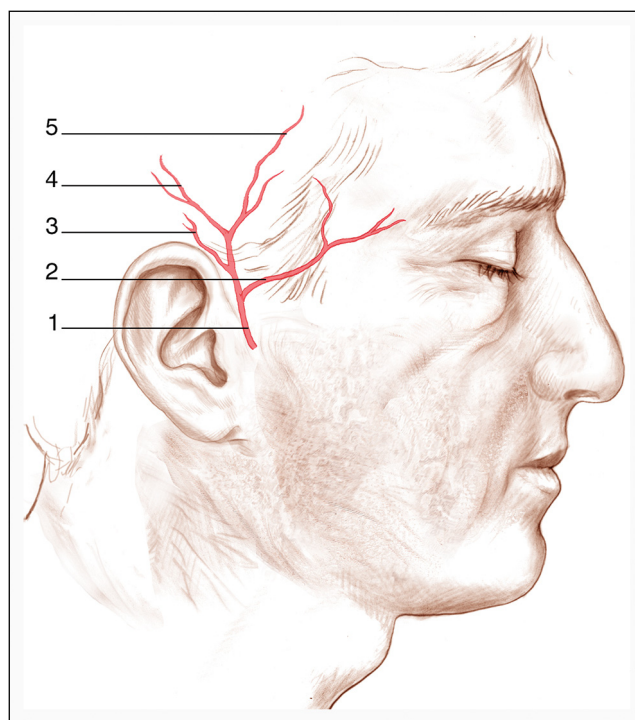
Introduction

Horton's Disease (HD), or temporal arteritis, or giant-cell arteritis, usually affects patients over 50-years-old. Superficial Temporal Artery Biopsy (STAB) in patients with suspected HD is of diagnostic value only when positive. The biopsy identifies segmental and focalized vasculitis, with lymphocyte and macrophage infiltration of the boundary of the media and intima. Presence of giant cells is suggestive but is not found routinely. The value of contralateral STAB is low, because in 97% of cases, the findings are identical in both arteries. When the biopsy is negative, continual sampling and examination along the specimen must be made until no tissue is left because lesions can be patchy. The technique of superficial temporal artery biopsy should be part of every surgeon's armamentarium.

* Corresponding author.
E-mail address: jcahais@hopital-dcss.org (J. Cahais).

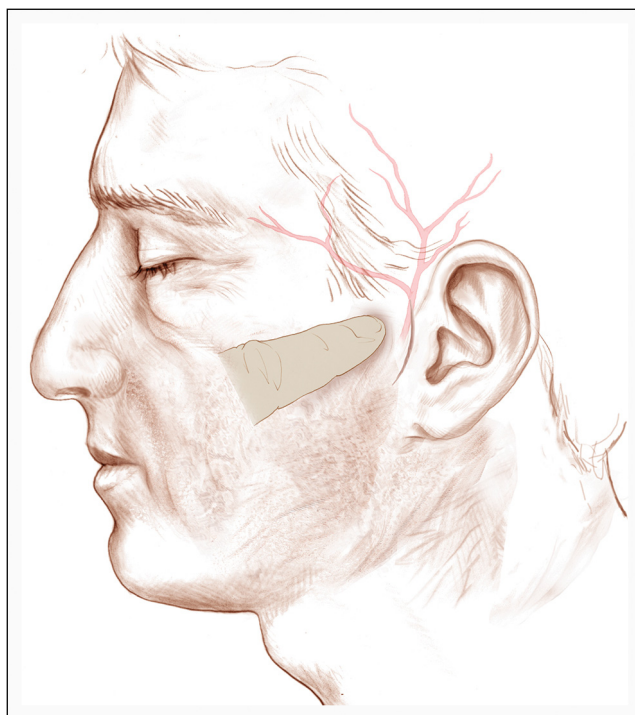
1 Anatomy

The STA courses vertically between the tragus and the temporo-mandibular articulation. The STA (1) is one of the terminal branches of the external carotid artery. It arises within the parotid, above the mandibular head, gives rise to the middle temporal and zygomatico-orbital (2) arteries anteriorly, and the anterior auricular branch posteriorly (3). Higher up, it divides into a frontal anterior (5), and parietal dorsal (4) branch. The exact site of this division is variable. The superficial temporal vein runs anterior to the artery and follows the same direction. The auriculotemporal nerve lies deeper, behind the STA.



2 Surgical approach and local anesthesia

The artery is easily landmarked by palpation although sometimes the pulsations are difficult to perceive when there is local inflammation due to HD. The best point of reference is the pre-tragal crease, nearly constant, as seen in the Figure. This is where the incision should lie. It is sometimes necessary to shave some hair along a few centimeters. Local anesthesia with Xylocaine® or Ropivacaine® (longer duration of action) is injected into and beneath the overlying skin until obtaining a slight swelling, which attests to the infiltration of the deeper planes. As for any other procedure under local anesthesia, it is important to communicate with the patient, especially because the procedure takes place very near his or her ear. A piece of cotton or gauze can be inserted into the external auditory meatus for protection.



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