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Anatomical Basis of the Zygomatic-Transmandibular Approach: Operative Video

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Abstract

Tumor growth in infratemporal fossa (ITF) and parapharyngeal space (PPS) is generally slow and generates very few clinical manifestations, so it is not uncommon for tumors to reach large dimensions at the time of diagnosis, making necessary to perform ample approaches. In zygomatic-transmandibular approach (ZTMA), the access of the ITF and PPS is obtained by a combination of a pterional craniotomy plus a zygomatic-mandibular osteotomy. Tumor excision is achieved by its initial dissection from all of the neurovascular structures of the middle fossa by the neurosurgical team and the final resection by the head and neck team from below. In the first part of this video, we present a brief anatomical–surgical description of the ITF and PPS and in the second part, we show case of a trigeminal schwannoma that could be successfully removed through a ZTMA. Using this approach, an ample and safe exposure of the ITF and PPS is achieved, without affecting the chewing or facial nerve function and with excellent cosmetic results, so it can be considered as a reliable surgical option, particularly in cases of giant tumors that affect these regions (►**Figs. 1** and **2**).
The link to the video can be found at: https://youtu.be/oxVFhzT8HsQ.

Keywords
- ► infratemporal fossa
- ► parapharyngeal space
- ► skull base surgery
- ► trigeminal schwannoma
- ► zygomatic-transmandibular approach

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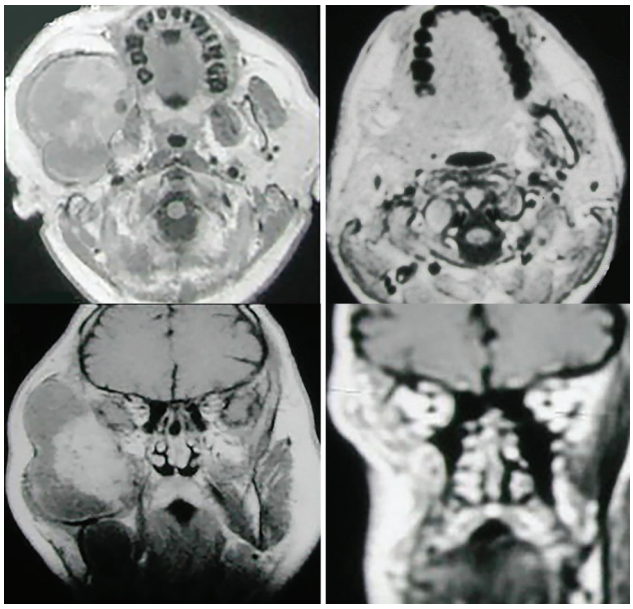

Fig. 1 Contrast enhanced preoperative magnetic resonance imaging T1-weighted (left column), in axial (above) and coronal (below) view, compared with the postoperative result (right column) in the same axial (above) and coronal (below) views.

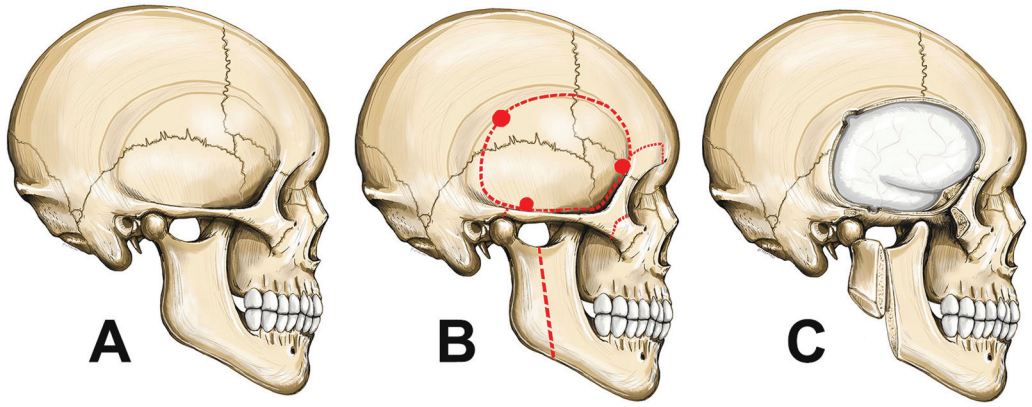

Fig. 2 Basic steps of the zygomatic-transmandibular approach. (**A**) Exposure of the lateral craniofacial region. (**B**) Pterional craniotomy plus zygomatic osteotomy (which may or may not include the orbital rim) and a subsigmoid vertical mandibular osteotomy. (**C**) The posterior half of the ascending ramus of the mandible is rotated as a hinge, so that the tumor is released from the middle cranial fossa and extracted from below.

Conflict of Interest

None declared.