



The mini-pterional approach and the atrophy of the temporal muscle

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We read with great interest the article entitled *Comparison of postoperative temporalis muscle atrophy between the muscle-preserving pterional approach and the mini-pterional approach in the treatment of unruptured intracranial aneurysms*, recently published by Tsunoda et al. [2]. We congratulate the authors for this very well-written work that presents interesting results. The authors evaluated the occurrence of temporal muscle atrophy by comparing the modified pterional craniotomy (described by the authors) with the mini-pterional craniotomy (MPT) originally described by Figueiredo et al. [1].

The mini-pterional craniotomy performed by the authors is a little different from the original MPT technique, including the size of the bone flap. In the original MPT, the craniotomy is completely located below the upper temporal line. However, this fact warrants that the frontal sinus is not violated, what may prevent post-operative infections. In addition, temporal muscle dissection was different in both groups, like interfascial in the modified pterional craniotomy and single layer in the mini-pterional. We routinely performed the interfascial dissection when carrying out the MPT approach [3, 4]. It is possible that the results of this study may have been influenced by these different methods. How could we eventually compare atrophy if the muscle was dissected in different ways?

Additionally, in our original description, we performed interfascial temporal muscle dissection with inferior and posterior retraction of the latter. Despite the controversial results of which mode of opening the temporal muscle is responsible for greater atrophy, in our opinion, the single-plane flap in MPT craniotomy may require greater coagulation of the temporal muscle base, especially in patients

with more hypertrophied muscles, to not harm the surgical exposure and working angles.

Other point that is important to notice is how the comparison of the muscle volume was performed. It was not clear if it was made comparing CT scan or MRI, or both for each patient. Comparing volumes measured by CT with those quantified by MRI may have introduced additional bias.

Despite these remarks, we emphasize that the work was very well carried out, with an adequate context, especially concerning the possible need for a bypass that had not been previously planned.

References

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