In Reply: How Mini Can Mini-Pterional Craniotomies Get?

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We would like to thank Cabrilo et al for their comments regarding our recent manuscript on the mini-pterional craniotomy. Cabrilo et al report on their very interesting experience using an augmented reality based system to aid in their surgical planning. The use of such technology enabled the authors to perform clipping of an MCA aneurysm through a very small craniotomy. We too have found neuronavigation useful in attempts to precisely localize burr-holes to allow for minimally invasive approaches for cerebrovascular pathology. As these technologies improve and become more commonplace in the future, there is no doubt that surgical approaches will become increasingly individualized. Cabrilo and coworkers reiterate the important principle that we discuss in our article: that attempts to decrease incision and craniotomy size should not be performed at the expense of safe and appropriate surgical corridors purely for the sake of cosmesis. As we emphasize, in no instances did we feel that operative exposure for safe aneurysm clipping was compromised as a result of the mini-pterional approach. Appropriate patient selection is vital to ensuring that surgical exposure is not compromised. For this reason, we did not attempt the mini-pterional approach for anterior communicating artery (ACommA) or internal carotid artery bifurcation aneurysms, as we believe that the reduced bony exposure could be limiting for aneurysms in these regions. However, Figueiredo et al recently communicated their use of the mini-pterional for some ACommA aneurysms.

Regardless of stereotactically guided placement of an incision or craniotomy, a basic understanding of anatomic principles underlying the pterional-based approach will remain crucial for surgery of anterior circulation aneurysms. Our clinical series on the mini-pterional craniotomy will hopefully serve as a proof of concept that in appropriately selected patients, a familiar surgical approach (the standard pterional craniotomy) can be sufficiently tailored so as to provide a “minimally invasive” option, while retaining the comfort of familiarity to most neurosurgeons.

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