Obsessive-compulsive disorder and cingulotomy

To The Editor: We read with interest the article by Sheth et al.1 (Sheth SA, Neal J, Tangherlini F, et al: Limbic system surgery for treatment-refractory obsessive-compulsive disorder: a prospective long-term follow-up of 64 patients. Clinical article. J Neurosurg 118:491–497, March 2013). The authors published their results with anterior cingulotomy (cingulomotomy) for obsessive-compulsive disorder (OCD) with a long-term follow-up. Their results have been very good and comparable to those of other major studies. In this context, we would like to share the work done by Prof. V. Balasubramaniam at the Madras Institute of Neurology in Chennai, India.1–4 Stereotactic cingulotomy has been performed at the institute since 1972 for OCD and other disorders, including drug addiction. In the pre-MRI era, angiography and ventriculography were used. The target in the cingulum was localized to the area between pericallosal and callosomarginal arteries. The Madras Institute of Neurology has the largest series of cases of drug addiction treated with stereotactic cingulotomy.

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Disclosure

The authors report no conflict of interest.

References


Response: We thank the authors for their thoughtful comments regarding our paper. Functional neurosurgery continues to provide novel therapeutic options for patients with otherwise intractable medical and psychiatric conditions. As always, the enthusiasm for these procedures must be tempered with a cautious and ethical approach to patient selection and treatment.

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Petroclival tumors

To The Editor: With great interest, we read the recent article by Gupta and Salunke1 (Gupta SK, Salunke P: Intradural anterior petrosectomy for petroclival meningiomas: a new surgical technique and results in 5 patients. Technical note. J Neurosurg 117:1007–1012, December 2012), in which they presented a variation of the seminal anterior petrosectomy by Kawase et al.2,3 Gupta and Salunke1 described 5 patients affected by petroclival meningiomas who underwent an intradural anterior petrosectomy tailored according to tumor extension. They claimed significantly minimized bone removal, which was addressed in their anatomical study. As they correctly pointed out, the main limitation of all supratentorial approaches occurs when tumors extend far inferiorly to the internal auditory meatus.1 Even though technical variations for petroclival meningiomas were introduced in their work, we have been performing intradural anterior petrosectomy for chordomas and chondrosarcomas combined with an extended perional approach.2

With the coming of age of skull base surgery, the initial trend toward extensive bone resection—which has contributed enormously to improvements in surgical exposure, tumor resectability, and patient outcome—has been replaced by less invasive approaches as experience has increased. In 1983 Samii et al.4,5 introduced the retrosigmoid intradural suprameatal approach (RISA) for large petroclival meningiomas with invasion of the middle fossa. This approach is based on suprameatal tubercle drilling and eventual division of the tentorium, bringing the carotid arteries, oculomotor nerves, posterior clinoid,
posterior cerebral arteries, and even the optic nerves into surgical view. When compared with large petrous bone exposures, the RISA makes for very straightforward access, is not time-consuming or technically demanding, and reduces the risk of hearing loss, facial palsy, and CSF leakage. Seoane and Rhoton provided a detailed description of the RISA surgical anatomy.

Apart from the controversy behind the best surgical approach to the petroclival area, we believe that the approach should be tailored to the type of tumor extension. It is worth mentioning that for most petroclival meningiomas, the surgical corridor is created by the surgeon when performing supratentorial approaches, whereas access is provided by the tumor during posterior fossa approaches. As a matter of fact, the amount of bone drilling in the report by Gupta and Salunke corresponds exactly to the suprameatal bone, which is also safely resected through a RISA. Note, however, that while suprameatal bone drilling is crucial for tumor removal during supratentorial approaches, it is supplementary for posterior fossa approaches.

As experience with RISA has been gained, we have noted that small petroclival tumors are completely blocked by the suprameatal bone and the petrosal vein. In such cases, bone drilling is essential for tumor resection. Conversely, for large tumors, the role of suprameatal drilling has been overestimated. Since the tumor provides the surgical corridor, most of the surgery is performed above the cerebellum, and the middle fossa is reached after tentorial division. Thus, we hypothesize that the term “RISA” indicates a simplification of the surgical procedure. In this regard, surgical access would be better defined as a retrosigmoid intradural supracerebellar suprameatal transcortical approach (RISSTA). The term “RISSTA” seems more appropriate by illustrating a complete overview of the extension of the surgical approach. The RISSTA particularly profits from the semisitting position because of the fall of the cerebellum and facilitated CSF and blood drainage, what we have called the “Tübingen concept.”

Gupta and Salunke are to be congratulated for their minimally invasive approach and good surgical results, which demonstrate the recent trend in the literature toward easier, faster, and safer exposures. Over time, we realized that suprameatal bone drilling is part of the surgical procedure as required, but it should not be acknowledged as a sine qua non condition for complete tumor removal given that incomplete resection is frequently associated with tumor invasiveness and not with inadequate exposure.

References


Response: I appreciate the comments by Tatagiba et al. and tend to agree with most of their observations. In my clinical practice, practically all of the petroclival tumors are surgically treated with either of the 2 following approaches: 1) a frontotemporoorbitozygomatic craniotomy followed by a transsylvian transtentorial approach or 2) a retrosigmoid approach. With the first technique, the long axis of the tentorial edge is the line of approach. The technique is used for tumors that have a large supratentorial extension and are primarily anterior and superior to the internal acoustic meatus. There may be an additional need for an intradural anterior petrosectomy in some patients—and this decision is made intraoperatively—and the extent of bone drilling is need based. We have observed that the amount of bone that must be drilled is often only a few millimeters, and its removal allows tumor behind the petrous apex to be delivered into the operative field and removed under direct visualization, as we described in our article. We use the second approach, which is excellent, in most patients with petroclival and cerebellopontine angle tumors when the lesion extends inferior and/or posterior to the internal acoustic meatus. The philosophy in selecting one of these approaches is based on the desire to avoid transgressing the course of intracranial nerves. I have also described a variation of the retrosigmoid approach, which I like to call the “extended retrosigmoid approach.” In it the standard retrosigmoid craniotomy is used and augmented by either a tentorial incision or drilling of the suprameatal portion of the petrous bone. It is helpful in tumors with a supratentorial extension of the tumor along the medial side of the temporal lobe or tumor extension anterior to the petrous apex (Fig. 1). It is similar to the technique described by Tatagiba et al.

Disclosure

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