Editorial

Hypothalamic hamartomas

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It was not until the beginning of the 21st century that the feasibility of resection of hypothalamic hamartomas (HHs) was established. Rosenfeld and colleagues¹ demonstrated that utilizing what he called the “anterior intraforaminal approach” even large lesions could be removed with reasonable safety and the expectation that the patient’s quality of life could be improved. Since that time there have been a growing number of reports of successful treatment of these lesions utilizing a variety of approaches, including pterional craniotomy with removal of the lateral orbital rim, endoscopic resection through the foramen of Monro, Gamma Knife surgery, stereotactic radiofrequency lesioning, and most recently, laser ablation utilizing intraoperative MRI. The group from Tel Aviv has now added another approach to the armamentarium of techniques that may be useful in the management of these lesions. How does one decide among the various options?

The answer to that question is not straightforward, and there are many factors involved in choosing among the various surgical approaches. The most important factors in making this decision relate to size and anatomic relationships. It is not safe or even possible to work around corners within the hypothalamus, and intraoperative retraction of the deep midline structures is dangerous. There have been several classifications developed dealing with the anatomic factors that relate to the selection of the approach to treatment. Generally, in situations where the evidence of clear superiority of safety and efficacy of one approach over another is lacking, factors such as the availability of technology and the skill set of the surgeon play significant roles.

The approach presented here by Roth et al.² is a hybrid between the transcallosal interforniceal approach and a purely endoscopic transventricular approach. The procedure is analogous to the “endoscopic assisted” surgical procedures advocated by contemporary skull base surgeons. There is no need to separate the columns of the fornix, which theoretically would make this procedure

less likely to lead to severe difficulties with short-term memory than the transcallosal interforniceal approach, since you begin by entering the lateral ventricle. Depending on the anatomy of the hamartoma there may still be some risk to memory due to putting the endoscope through a small foramen of Monro, with the direction of the scope toward the contralateral mammillary body.

When the ventricles are very small, as they generally are in patients with HHs, the hardest part of the procedure is often proper cannulation of the ventricle. In my view, neuronavigation is essential for this. Once you are in the lateral ventricle, however, the foramen is found with observation, usually by sweeping back the anterior margin of the choroid plexus. Except for the fact that the procedure is now performed in air rather than CSF, the techniques are the same. The number of surgeons performing endoscopic surgery in small ventricles is still relatively small and the number of cases requiring this skill set is limited. Our previous experiences have shown that purely endoscopic approaches lead to shorter operating times and shorter hospital stays. The outcomes are quite similar in terms of extent of resection and percentages of patients who are seizure free.³ The hybrid procedure described by Roth and colleagues² may be viewed as a bridge from purely open to purely endoscopic surgery for these lesions. The techniques discussed in their paper are likely to increase the availability of treatment for HHs as their approach overcomes the stress arising from concerns about using the endoscope in very small ventricles. (<http://thejns.org/doi/abs/10.3171/2012.10.PEDS12413>)

Disclosure

The author reports no conflict of interest.

References

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Response

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We thank Dr. Rekate for his scholarly editorial. Dr. Rekate is a pioneer in endoscopic resection of HH, and his comments reflect his vast experience in treating HH.¹ As he notes, the combined approach that we described enables an easier (perhaps safer) approach to small lateral ventricles. As shown by Dr. Rekate and others,^{1,2} purely endoscopic resection of third ventricular lesions in small (lateral) ventricles is possible using neuronavigation. We agree with Dr. Rekate, however, that the combined approach serves as a bridge from a purely open to a purely endoscopic approach. Despite our group's being very active in endoscopic surgeries, we are still cautious in performing purely endoscopic resection of HHs and other ventricular lesions when the lateral ventricles are small. The combined approach reflects our personal path in

finding the safest and most controllable methodology in treating this pathology. The technique differs from endoscopically assisted surgeries performed in various skull base approaches, because once the endoscope is introduced, the procedure is purely endoscopic, with surgical tools introduced only through the endoscopic shaft. We hope that other groups may find the combined approach a practical technique, providing safety and control (through the "open" approach), together with minimizing forniceal abrasion (through endoscopic resection).

References

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