Editorial

Transnasal endoscopic surgery for craniopharyngiomas

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Dr. Campbell and colleagues¹ report on a series of 14 adults who underwent transnasal endoscopic surgery for craniopharyngiomas, in which one of the goals was to preserve the pituitary stalk while removing as much tumor as could be safely removed without causing new neurological or endocrinological deficits. In 4 patients (29%) a gross-total resection of the tumor was performed, while in 10 (71%) tumor removal was incomplete. In 5 of these 10 patients at least 95% tumor removal (near-total resection) was achieved, and in the other 5 subtotal resection was attained. The pituitary stalk was preserved in all 14 patients, including 9 patients who had some anterior pituitary function before surgery, most of whom retained this pituitary function after surgery. As the authors indicate, these are commendable results and they compare favorably with the results of previous reports of endonasal endoscopic surgery for craniopharyngiomas. It is unclear why they limit their discussion only to endoscopic surgery, rather than transsphenoidal surgery in general, because excellent results have been reported with transsphenoidal microscopic surgery for craniopharyngioma. For instance, Chakrabarti et al.² achieved complete tumor removal in 61 (90%) of 68 patients using transsphenoidal microscopic surgery, and found overall endocrine results comparable to those achieved in the current report, with the exception of diabetes insipidus, which occurred in 71% of their patients. It should be emphasized that finding only 7% of patients (1 of 14) with diabetes insipidus undergoing surgical removal of craniopharyngiomas may be linked to the relatively small fraction of patients in whom complete removal was performed, as similar experience has been observed in patients with limited surgery combined with radiation therapy.³

These authors emphasize the minimally invasive aspects of the endoscopic transsphenoidal approach, although considering the degree of removal of the posterior aspect of the midline nasal structures (see Fig. 2E), few today would agree that this approach is as minimally invasive as any of the mucosal sparing approaches used with the operating microscope.

Although it is becoming widely accepted, particularly in children, that incomplete tumor removal followed by modern irradiation techniques is associated with ac-

ceptable tumor control and side effects (when complete tumor removal cannot be performed without producing neurological deficits or risking hyperphagia), the most effective prevention of tumor recurrence is complete surgical removal. Modern endocrine replacement of pituitary function is easily accomplished today. Thus, if the difference in complete and incomplete tumor removal is based on anatomical preservation of the pituitary stalk, the preservation of which does not always retain pituitary function, in my view it is best to choose complete tumor resection and accept pituitary replacement therapy.

There are many important unanswered issues in the treatment of adults and children with craniopharyngiomas, several of which are raised by the current report. What is the clinical difference between near-complete removal (at least 95%) and subtotal removal of a craniopharyngioma? Are the rates, or timing, of recurrences likely to be different between these groups? What thresholds of percentage tumor removal influence rates and timing of recurrence, with or without irradiation after surgery? Will use of the endoscope or the operating microscope, or a combination (endoscopic-assisted surgery) for the surgery yield superior results? Is the optimal management of craniopharyngiomas the same for children (> 7 years old) and adults? We will address these issues in the years ahead only if we carefully document, analyze, and report our results, as Dr. Campbell and colleagues¹ have done in this report. (DOI: 10.3171/2010.2.FOCUS104)

References

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