Invited Comments

The authors have attempted to utilize intraoperative ultrasound to characterize criteria for malignancy of the lesions operated upon for this investigation. Of course, it was a preliminary diagnosis made on the basis of case history and preoperative imaging studies. These hypotheses, however, can be confirmed or rejected with additional information obtained by intraoperative imaging. Malignant gliomas and brain metastases were assessed. From these observations, the authors establish several criteria suggestive of malignancy during intraoperative ultrasonography. This should be useful, e.g. in an environment where frozen sections are not available. The major drawback is that nonmalignant tumours were not assessed in this study and thus, no control group is available. Ultrasonography was furthermore used to check the extent of resection. Whatever to date is the gold standard of intraoperative imaging in intrinsic brain tumours; any technique will help to more precisely document the extent of surgical resection than what the surgeon feels. Technology adds information to the surgeon’s estimate of the resection volume. Several techniques are available for intraoperative imaging. While ultrasonography, which is widely available, requires specific manual skill and expertise of the investigator; other intraoperative imaging techniques, such as computerized tomography or magnetic resonance scanning, are expensive and require additional space. Thus, only a minority of neurosurgeons have access to the latter technologies. However, it still remains to be shown that with more aggressive surgery, the patient’s prognosis will improve.

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