The landscape of surgery for vestibular schwannomas is changing. Durable, consistently good outcomes have been achieved in patients with small-to-medium sized tumors treated with stereotactic radiosurgery. In addition, the “learning curve” effect on surgical outcomes has been documented to involve a greater number of cases than many previously thought, even in the hands of meticulous, dedicated surgeons. For this reason, many (if not most) patients with radiosurgically appropriate tumor volumes are being managed without surgery. At Penn State University, as in many other centers, vestibular schwannoma surgery is performed almost exclusively on patients with large tumor volumes who are not radiosurgical candidates.

It has long been recognized that tumor size is directly related to the risk of complications in VS surgery. Larger tumors are more likely to cause significant brainstem compression and the potential for decompression and dissection related brainstem injury if greater than with small tumors. Hearing and facial nerve function preservation are both inversely related to tumor size. In addition, blood loss and operation duration increase with larger tumors, both importing additional risk.

This article reports on the remarkable surgical results of a group of surgeons in India caring for patients with large vestibular schwannomas. The selection mechanisms for large tumors in this series are presumably more related to difficulty gaining access to medical care rather than radiosurgical bias. The authors clearly outline the patient population and discuss the causes for such large tumors and delayed medical attention. Aside from delayed diagnosis and healthcare access, these patients were treated in a fashion different from many centers elsewhere. The CUSA, routinely used in many centers for VS surgery, was rarely used. Facial nerve monitoring was not employed, and one assumes that more extensive monitoring was not used. In my practice, I have found neurophysiological monitoring to be of greater importance in resection of large tumors with significant brainstem compression. We routinely employ ABR, SSEP, and facial nerve monitoring on all VS cases. I have found these to be helpful when extensive brainstem compression exists pre-operatively, although certainly there is debate about the utility of such monitoring.

The authors are to be commended on their excellent surgical results overall and in particular in facial nerve preservation without monitoring. Many patients in this series had significant pre-operative deficits likely affecting overall health and perhaps contributing to the 6% mortality rate.

As patients with small/medium tumors are treated more frequently with non-operative techniques, vestibular schwannoma surgeons will find themselves facing larger tumors. The results of this study, along with other series of large tumors, confirm that although the risks are greater than for small tumors, large VS can be operated upon through the conventional suboccipital or translabyrinthine routes with acceptable results.