

How To Select An Appropriate Approach In Surgery For Cerebellopontine Angle Tumors?

Michihiro Kohno

Tokyo Medical University, Tokyo, Japan

Objective:

Surgery for cerebellopontine angle (CPA) tumors is very difficult to obtain good surgical results, and it requires tips and devices to achieve both high resection rate and high preservation ratio of cranial nerves function.

Methods:

My personal surgical experience of cerebellopontine angle tumors is 1705 cases including 1235 vestibular schwannomas. Retrosigmoid approach was used in vestibular schwannoma surgery in 96% of our series, in contrast with the other CPA tumors, in which various approaches were selected (retrosigmoid: 32%, transmastoid: 29%, middle cranial fossa: 30%, para- / transcondylar: 9%).

Results:

In vestibular schwannoma surgery, overall functional preservation rate of the facial nerve (House and Brackmann grade 1 or 2 at 1 year after surgery) was 98% and hearing preservation rate was 62% with a 98% mean resection rate. In most of all meningioma cases, tumor was removed extensively, and functional facial nerve preservation rate of 1year after surgery was 97%, hearing function improved in 34%, and worsened in 18% of patients postoperatively.

Conclusions:

Selecting an appropriate surgical approach and using intraoperative continuous monitoring of evoked facial nerve EMGs are useful to increase the tumor excision rate while avoiding severe postoperative facial nerve palsy in CPA tumor surgery. Even in a case in which preoperative hearing function was poor, we should avoid selecting a translabyrinthine approach, with a hope for postoperative hearing improvement.