Comprehensive neurosurgical strategy for the cranio-vertebral junction (CVJ) tumors

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Surgical management of cranio-vertebral junction (CVJ) tumors continues to present as a challenge to neurosurgeons especially in cases at the anterior aspect or involving neighboring neurovascular structures. We here describe our surgical strategy and results of CVJ tumors in our institute. Of the 146 patients with CVJ lesions surgically treated since 2000 in our institute, tumors included 36. The series consist of 17 males and 19 females; their ages ranged from 6 to 76 years old. Tumor types were neurinoma in 14; meningioma in 10; hemangioblastoma in 5; ependymoma in 4; astrocytoma and chordoma, and medulloblastoma in one patient each. Surgical approach were posterior in 26 and extreme lateral approach in 10 cases. The operations were done under intraoperative neurophysiological monitoring in all cases; somatosensory evoked potentials (SEP) and motor evoked potentials (MEP). Temporary pacemaker was inserted in 4 cases in the tumor located in or around the medulla oblongata. No operations required fusion. Total removal of the tumors could be accomplished in 30 and subtotal in 6 cases. No deaths occurred in the perioperative period, but complications include postoperative hemorrhage in 2, cerebellar infarct in 2, swallowing disturbance in 2, sore throat in 3, CSF leakage in 6 and infection in 2. In conclusions, we concluded, from our experiences, that we have to make surgical strategy for CVJ tumors in consideration of the anatomical complexity and postoperative instability as well. Also, neuromonitorings were effective to decrease the morbidity.

Biography

Hiroyuki Nakase has completed his MD and PhD in 1989 from Graduate course of Medicine, Nara Medical University. He is the Professor and Chairman at the Department of Neurosurgery, Nara Medical University. He has published more than 100 papers in journals and has been serving as an Editorial Board Member. He will be a President of The 29th annual meeting of the Japan Geriatric Neurosurgery Society in 2016, the 40th annual meeting of Epilepsy Surgery of Japan in 2017, the 27th annual conference on Neurosurgical Techniques and Tools and the 33rd annual meeting of the Japanese Society of Spinal Surgery in 2018.

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