

S8-Delayed Facial Palsy in Patient with Hemifacial Spasm

박영석, 김희진, 김태곤, 조경기, 정상섭

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Introduction: Delayed facial palsy (DFP) after microvascular decompression (MVD) in patients with hemifacial spasm (HFS) is not an uncommon, but the cause of this still remains unsolved. To assess the prevalence and clinical characteristic of DFP, we reviewed our MVD patient registry, EMG findings.

Patients and methods: A total 1796 patients with HFS underwent MVD from Sept; 1978 to Feb; 2011. We excluded patients with secondary to tumor or vascular malformation. We assess the prevalence and clinical characteristics from our MVD patient registry and compare EMG finding between DFP and non-DFP groups.

Results: Delayed facial weakness was found in 111 (6.2%) patients. Among them, 98.9% of patients improved to complete recovery, and the mean time to recovery was 8.6 weeks. There are no significant changes in EMG finding between DFP and non-DFP group.

Conclusion: The relevant explanation have been introduced such as reactivation of herpes simplex virus, delayed facial nerve edema due to unwanted inflammation, and microcirculation disturbance due to ischemic result. However, none of them explain the cause of DFP in our study. The usefulness of intraoperative facial EMG was limited to expect the DFP.

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S9-Microvascular Decompression for Vago-Glossopharyngeal Neuralgia - Clinical Analysis of 12 Cases

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Objective: To examine microsurgical findings and results of microvascular decompression (MVD) for glossopharyngeal neuralgia (GN).

Methods: Between 1996 and 2010, twelve consecutive patients affected by intractable GN underwent MVD. A retrospective analysis was performed. The intraoperative monitor was introduced to avoid damage to the 8th cranial nerve.

Results: A vascular compression at vago-glossopharyngeal root entry zone was found in all cases. The most common compressing blood vessels were the ipsilateral posterior inferior cerebral artery (PICA) and/or the vertebral artery. The typical severe paroxysmal neuralgic pain disappeared in all twelve patients immediately after surgery and maintained pain free without medication at follow-up (3 months - 15 years). We observed no mortality and did not find any surgical morbidity.

Conclusion: MVD is a safe and effective treatment for GN.

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S10-Injury of the Spino-Thalamo-Cortical Pathway Is Necessary for Central Post-Stroke Pain

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Objectives: We investigated the relationship between injury of the spino-thalamo-cortical pathway (STP) and central post-stroke pain (CPSP) in patients with intracerebral hemorrhage, using diffusion tensor tractography.

Methods: 30 consecutive chronic patients, in whom integrity of the STP and the medial lemnisco-thalamo-cortical pathway (MLP) were spared in both hemispheres, were recruited. We classified the patients into two groups according to the presence of the CPSP. DTTs were obtained using the FMRIB Software Library. Fractional anisotropy (FA), mean diffusivity (MD), and tract volume were measured. A laterality index (LI) was used to determine asymmetry of DTT parameters between the hemispheres.

Results: The LI for tract volume of the STP in the CPSP group was lower than that of the non-CPSP group ($p=0.000$). However, there were no differences between the CPSP group and non-CPSP group for the LIs of FA or MD of the STP or for the LIs of FA, MD, or tract volume of the MLP ($p>0.05$).

Conclusion: Decrease of tract volume without changes in the STP FA or MD values in the CPSP group indicates partial injury of STP. Therefore, injury of the STP seems to be a requirement for the development of CPSP in patients with intracerebral hemorrhage.

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S11-Gamma Knife Radiosurgery for Trigeminal Neuralgia: The PNUH initial Experience

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Objective: Trigeminal neuralgia can be classified into idiopathic and secondary according to the cause. Gamma Knife surgery (GKS) could be a good treatment modality in selected cases. We assessed the clinical outcomes in patients treated with gamma knife radiosurgery for trigeminal neuralgia.

Methods: PNUH Gamma Knife Center has been operation since October 20, 2003. A total of 1,113 patients have been treated, 26 for trigeminal neuralgia. This study includes the initial 24 trigeminal neuralgia with follow-up exceeding 6 months and composed of 17 females and 7 males. None of the patients had multiple sclerosis and only two patients were secondary trigeminal neuralgia associated with brain tumor. The median patient age was 61 and their mean symptom duration was 81 months. Patients were treated through the routine process using a single 4-mm isocenter targeting the trigeminal nerve at its junction with the pons with or without plugs. The maximum dose range was 70 Gy to 85 Gy. Patients were followed for a minimum of 6 months and a maximum of 7 years (Median follow-up was 1.4 years).

Results: Six months after GKS, 10 patients reported an “excellent” response as defined by a complete relief of pain without medication or remained occasionally pain but no longer taking any medication, and 13 patients had “good” response as defined by a decreased pain in the amount of pain medication required. At time of last follow up, 8 patients had an “excellent” response, and 15 had a “good” response. One patient did not show improvement. Mean intervals to symptoms improvement were 1.4 months and there is no severe complication after GKS.

Conclusions: As the least invasive option, GKS maintains facial sensation in the vast majority of patients and can be used in all patients regardless of age or medical condition. GKS could be safe and effective in the treatment of medically refractory trigeminal neuralgia and is of value for initial or recurrent pain management.

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S12-Large Vestibular Schwannomas Treated by Gamma Knife Radiosurgery: Long-term Clinical Outcomes

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Objective: Although Gamma knife radiosurgery (GKRS) has been well accepted as a treatment for small- to medium-sized vestibular schwannomas (VS), the role of GKRS in the treatment of large VS remains controversial because of unfavorable effects such as tumor swelling and potential compression of the brainstem. The authors present a retrospective study to evaluate the long term morbidity and tumor-control rate in the treatment of large VS (>10 cc in volume) after GKRS in our institute.

Methods: From 1992 to 2010, two hundred sixteen consecutive patients with VSs were treated by GKRS in our institute. Among them, fifteen patients had large VSs (>10 cc) being followed for more than 5 years. Ten of these patients had undergone 1 or more craniotomies previously to remove the tumor. Five patients underwent GKS alone because of patient preference or a poor medical condition that precluded microsurgery with general anesthesia. The mean maximal and minimal radiation dose were 24.3 Gy, 12.5 Gy, and the mean target volume was 15.6 cc (range: 10-24.8 cc). The mean follow-up period was 108 months (range 60- 82 months).

Results: Eleven of 15 tumors were stable or decreased in size. Tumor progression occurred in four of 15 (26.7%) patients after GKRS. Microsurgery was performed in these patients. No deterioration in facial nerve or trigeminal nerve was noted. Disturbances in balance occurred in 4 patients. Five of the 15 patients developed hydrocephalus due to initial tumor swelling, which required minor surgical interventions, including placement of a ventriculo peritoneal shunt. All 5 patients recovered satisfactorily after ventriculoperitoneal shunt placement. One patient died during the follow-up period by accident, and no GKRS related morbidity was existed.

Conclusion: Control of tumor growth and preservation of neurological function are the main goals of treatment of large VSs. Although increased morbidity rates were found in patients with large VS treated with GKRS compared to the published series on regular sized VSs and other smaller retrospective studies on large VSs, the satisfactory tumor control rate and excellent preservation of facial, and trigeminal nerve function are the great advantages of GKRS. GKRS is not only a practical treatment for patients with small- to medium-sized VSs, but GKRS also plays an important role in treating large VSs with satisfactory results in selected cases.