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Loss of sensation in both upper and lower extremities without motor deterioration resulting from spinal cord edema after cervical laminoplasty: A case report

We present the first case of loss of sensation in both upper and lower extremities without motor deterioration resulting from spinal cord edema after cervical laminoplasty. A 42-year-old man with 6 months-history of progressive numbness and clumsiness on the bilateral fingers and minor dysfunction of the coordinated gait visited our hospital. Radiographic examination revealed mixed type of the OPLL from C2 to C6. He underwent C2-6 French-door laminoplasty under an intra-operative spinal cord monitoring with both motor-evoked potentials (MEP) and somatosensory-evoked potentials (SSEP). Immediately opening the spinous processes, 30% decrease on the right lower limb in SSEP amplitude only, with no change in MEP amplitude, was observed. Immediately after the operation, he recognized complete loss of sensation on the bilateral upper and lower extremities and the trunk without motor deterioration. Postoperative MRI on the day of the operation demonstrated intense intramedullary hyperintensity of the posterior funiculus and dorsal horn on the both sides on T2WI from C2 to C4. MRI on the 5th day p.o., demonstrated massive expansion of the intramedullary hyperintensity area in the entire spinal cord from C2 to C7 on T2WI. By 11 days p.o., the thermal nociception on the trunk and bilateral upper extremities were recovered into the normal level. MRI 4 weeks p.o., demonstrated further signal reduction of the intramedullary hyperintensity area in the cervical spinal cord on T2WI. Eight weeks p.o., he started walking alone with two Lofstrand crutches. Five months p.o., he gained independently. Two years p.o., he regained sensory recovery to the level as far as no major disturbance of the daily life except for the impending incontinence. Since spinal cord edema after cervical laminoplasty is an unpreventable complication, we recommend informing patients it before cervical decompressive surgeries even this type of the complication is extremely rare.

Biography

Hiroshi Nomura is a Medical Doctor (Ph.D. Medicine). Currently, he is the Director of Department of Rehabilitation, Hiroshima Red Cross Hospital & Atomic-bomb Survivors Hospital. He is an Orthopedic Surgeon, specializing in spine surgery. He has Graduated from Kurume University in 1996. He has studied in Graduate School of Medical Sciences, Department of Neuropathology, Kyushu University, and obtained the degree of PhD in 2002. He has studied abroad as a Postdoctoral fellowship at Division of Cellular and Molecular Biology, Toronto Western Research Institute, Canada from 2003 to 2006. He has worked for Hiroshima Red Cross Hospital & Atomic-bomb Survivors Hospital since 2008. He was obtained Postdoctoral Fellowship awards in Spinal Cord Injury Research, Ontario Neurotrauma Foundation in 2004. He was selected as a Member of the 9th Asia Travelling Fellowship by the Japanese Society for Spinal Surgery and Related Research.

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