Intramedullary Solitary Fibrous Tumor of Cervicothoracic Spinal Cord

Ui Seung Hwang, M.D., Sung Bum Kim, M.D., Dae Jean Jo, M.D., Sung Min Kim, M.D.
Department of Neurosurgery, Kyung Hee University Hospital at Gangdong, Seoul, Korea

Solitary fibrous tumor is rare benign mesenchymal neoplasm. The spinal solitary fibrous tumor is extremely rare. The authors experienced a case of intramedullary solitary fibrous tumor of cervicothoracic spinal cord in a 48-year-old man with right lower extremity sensory disturbance. Spinal MRI showed intradural mass lesion in the level of C7–T1, the margin between the spinal cord and tumor was not clear on MRI. A Left unilateral laminectomy and mass removal was performed. Intra operative finding, the tumor boundary was unclear from spinal cord and it had intramedullary and extramedullary portion. After surgery, patient had good recovery and had uneventful prognosis. Follow up spinal MRI showed no recurrence of tumor.

Key Words : Solitary fibrous tumor · Intramedulla · Spine · Benign.

INTRODUCTION

Solitary fibrous tumor is rare lesion that arises commonly in the visceral pleura, submesothelial connective tissue. Carneiro et al., reported the first two cases of spinal solitary fibrous tumor in 1996. Nowadays, wider understanding of this type of tumor has led to the discovery of its occurrence in various extrathoracic and nonserosal site. From Carneiro’s first report, through our literature review, only 30 cases have been reported. So far, we report a new case of a patient with intramedullary solitary fibrous tumor occurring in the cervicothoracic spinal cord.

CASE REPORT

A 48-year-old man was admitted to our hospital in due to right lower extremity sensory disturbance which was started one month prior to admission. On general appearance, this patient looked healthy. However, his neurological examination revealed right sided paresthesia and hyposthesia to touch sensation below T5 dermatome. Right knee and ankle jerk were hypoactive. Babinski sign was present bilaterally. There was no motor weakness.

A magnetic resonance imaging (MRI) revealed an intradural extramedullary (IDEM) mass that was an isointense lesion on T1-WI and a slightly hyperintense on T2-WI, lying dorsal and left lateral to the spinal cord in the level of C7–T1. Spinal IDEM mass showed an intense enhancement on MRI after gadolinium administration (Fig. 1). Since the margin between the spinal cord and tumor was not clear on MRI, we preoperatively, could not get confidence about location of tumor, whether the tumor was intramedullary or extramedullary.

The operation was performed in the prone position. Intra-op-

Fig. 1. Preoperative axial (A and B) sagittal (C) MRIs demonstrating a left-sided intra-du ral spinal cord tumor at the level of C7–T1. The tumor is homogenously enhanced after gadolinium injection. The tumor margin is unclear to spinal cord.
operative neuromonitoring was done. A rigid head holder was used to secure the head in a neutral position. A left unilateral laminectomy was performed with drill and Kerrison punch at the C7–T1 level. The exposed dura mater was found to be taut. With the aid of microscope, the dura was then opened straightly in the midline. A hypervascular white-yellowish hard tumor was found. The tumor was located on the left posterolateral surface of spinal cord compressing and shifting and shifted to the right of the spinal canal (Fig. 2). The internal debulking was done. The intraoperative examination of the frozen sections revealed a preliminary diagnosis of a benign tumor with a suspicion of neurogenic tumor with hypercellularity. The tumor boundary was unclear from spinal cord and it had intramedullary and extramedullary portion. The internal debulking was performed as much as possible to decompress the cord. After resection and hemostasis, the dura was then closed primarily in a watertight fashion. The histopathological diagnosis was spindle cell tumor without necrosis and mitosis, immunostaining was positive only for CD34, while S-100 protein, epithelial membrane Ag (EMA) were negative (Fig. 2).

Initial follow-up MR image was done at 2 weeks after surgery and showed remnant tumor. There is, however, no evidence of tumor recurrence on further MRI scan at 6 months after operation (Fig. 3). The patient had good recovery after operation and had uneventful prognosis without any sign and symptoms suggesting recurrence of tumor.

DISCUSSION

Solitary fibrous tumor is rare benign mesenchymal neoplasm and has been reported arising in soft tissues elsewhere. The spinal solitary fibrous tumor is extremely rare. This case report, hence adds one additional case of reported spinal solitary fibrous tumor. Clinically, the patient was middle-aged man without any medical history who sought medical care for neurologic symptoms caused by medullary compression.

We found 30 reported cases of spinal fibrous tumor in various published literature. Muñoz et al. reported that mean...
Surgical excision of Ki-67 has been suggested if the solitary fibrous tumor resection is incomplete. Radiation therapy for inoperative malignant solitary fibrous tumor has been reported in two cases. However, these systemic therapies have not yet been proven to be effective. For our case, we did not perform adjuvant therapy, because the histopathological finding of tumor was benign and follow up MRI did not show recurrence of tumor.

In conclusion, the spinal solitary fibrous tumor is extremely rare neoplasm among spinal cord lesions. These tumors usually have stationary growth rate but cause neurological symptom early due to compression of the spinal cord. Unfortunately, investigations, including MRI studies, do not differentiate from other primary intraspinal tumors. Hence, in clinical setting, when we meet intraspinal tumor, we must consider possibility of solitary fibrous tumor and perform careful surgical planning for meticulous total resection.

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