Myxoid Liposarcoma Metastatic to the Thoracic Epidural Space without Bone Involvement: Report of Two Cases

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Myxoid liposarcoma can frequently metastasize to extrapulmonary sites. We present two cases of myxoid liposarcoma metastatic to the epidural space. Both patients complained of back pain, but plain radiography revealed no abnormality. MR imaging clearly demonstrated metastatic tumors in the epidural space, but no involvement of vertebra. When patients with myxoid liposarcoma complain of back pain, metastasis in the epidural space should be considered even in patients without bone involvement.

Key words: myxoid liposarcoma – magnetic resonance imaging – epidural metastasis

INTRODUCTION

Spinal cord compression caused by metastatic tumors often occurs in advanced cancer. The spinal column is most frequently the site from which metastases may cause the compression. Purely epidural metastasis without bone involvement is very rare (1). We report two patients with purely epidural metastasis of myxoid liposarcoma, which is notable for its unusual metastatic patterns.

CASE REPORTS

CASE 1

A 44-year-old male presented with a 5-year history of an enlarging soft tissue mass, measuring 8 × 7 cm, in his left forearm in September 1989. A needle biopsy proved myxoid liposarcoma and the patient underwent marginal excision and postoperative radiotherapy at a dose of 55 Gy.

From August 1990 to May 1991, the patient developed metastases in the left axillary lymph nodes, left buttock and left thoracic wall. All metastatic lesions were removed with or without radiotherapy.

In November 1991, the patient reported back pain. Plain radiographs and a bone scan showed no abnormality of the thoracic and lumbar spine. In January 1992, he attended with rapidly progressive weakness and numbness in the lower limbs. A myelogram demonstrated spinal block at T11 (Fig. 1a). Post-myelogram computed tomography (CT) and magnetic resonance imaging (MRI) showed an intraspinal extradural mass without bone involvement at T8–T11, causing flattening of the spinal cord (Fig. 1b). At surgery, laminectomy of the T7–T12 was performed and a yellowish, soft tumor was removed piece-by-piece. After surgery, the patient showed improved motor function and could walk with a cane. More than 5 months after laminectomy, the patient died of multiple lung metastases. Histologically, both primary and metastatic tumors were composed of lipoblasts with myxoid stroma. There was no area of round cell pattern (Fig. 1c and d).

CASE 2

A 57-year-old female presented with a 5-year history of enlarging soft tissue tumor, measuring 20 × 10 cm, in her right thigh. A needle biopsy proved myxoid liposarcoma. Physical examination and CT revealed multiple metastases in the soft tissue and peritoneum. The patient underwent marginal excisions of the primary and metastatic tumors.

Ten weeks after the surgery, the patient reported increasing back pain. Plain radiographs and a bone scan showed no abnormality of the thoracic and lumbar spine. Four weeks later, the patient rapidly developed progressive weakness and numbness in the lower limbs. A myelogram showed spinal block at T4–T7 (Fig. 2a). MRI showed an intraspinal extradural mass posteriorly at T5–T7, causing flattening of the spinal cord, but no involvement in the vertebrae (Fig. 2a and b). The mass was surgically removed by decompressive laminectomy of T4–T7. Histological diagnosis was metastatic myxoid liposarcoma. Although her neurological symptoms partially improved, the patient died of abdominal metastases 7 weeks after the laminectomy.

Histologically, the primary tumor was composed of predominantly myxoid liposarcoma with small areas of round cell elements (<5%) (Fig. 2c). In the epidural metastatic tumor, areas...
of round cell pattern were more prominent than in the primary tumor (<30%) (Fig. 2d).

DISCUSSION

Although intensive multimodality therapy has prolonged the survival of patients with musculoskeletal sarcomas, the prognosis of patients with metastatic disease is still poor. Early detection of the metastases can affect the quality of life. It is well known that the majority of sarcomas metastasize to the lung (2). Myxoid liposarcoma, in comparison with other sarcomas, has a different pattern of metastatic spread, with a tendency toward extrapulmonary sites, such as soft tissue, retroperitoneum, chest wall, peritoneal surface and heart (3–5). The unusual characteristic of liposarcoma to develop extrapulmonary metastases has significant implications regarding clinical management. Initial staging and follow-up studies should include not only chest CT but also bone scanning, abdominal and pelvic CT and careful clinical examination.

In the past 15 years, there were 25 cases of myxoid liposarcoma in our institute and six of them had distant metastases. All of them had extrapulmonary metastases with vertebral or spinal-epidural space involvement. Two of them had thoracic epidural metastasis without bone involvement. We found only two previous reports of the epidural metastasis of myxoid liposarcoma without vertebral involvement (3,6). A negative plain radiograph of the spine or a negative bone scan does not exclude metastatic spinal lesions in myxoid liposarcoma. Since the myxoid liposarcomas have been regarded as radiosensitive tumors (7), early detection and radiotherapy with or without surgery can hopefully improve the quality of life even for patients with advanced disease. For early detection of this unusual metastasis, MRI is an appropriate examination (8). In both cases presented, negative bone scans and negative plain radiographs resulted in delay of the diagnosis of the metastasis. Both patients in this report had distant metastases in other organs. Metastasis of myxoid liposarcoma to the epidural space may occur when the patients have disseminated disease.
When patients complain of back pain, metastasis in the epidural space should be considered even in patients without bone involvement.

The reason for the high incidence of extrapulmonary metastases in myxoid liposarcoma is unclear. An abundance of fat cells in metastatic sites, such as subcutaneous tissue, peritoneum, bone marrow and epidural space, may contribute to the high incidence of these unusual metastases.

References