# Spinal Myeloid Sarcoma in a Non-Leukaemic Patient

Myeloid sarcoma (MS) is a rare malignant extra-medullary solid tumour derived from a haematopoietic neoplasm. It is most common in acute myeloid leukaemia (AML), chronic myeloid leukaemia (CML) or myelodysplastic syndrome (MDS) and primarily affects the bones or soft tissues. It involves the abnormal growth of cells from the myeloid line of blood cells. Herein, we present a case of MS presenting with cord compression.

A 50-year male, with a known case of insulin-dependent diabetes mellitus, presented in the outpatient clinic with numbness in both lower limbs followed by weakness for 1 week. MRI of the thoracic spine showed diffuse abnormal marrow signals in D2 vertebral bodies with extension into their posterior elements. It was associated with a large lobulated abnormally enhancing extra-dural lesion within the spinal canal extending from D1 to D4 vertebral levels which showed extension into the left neural foramina causing widening and resulting in significant indentation and displacement of the left exiting nerves. A large left paravertebral component was also noted extending to abut the left apical pleura measuring approximately 1.2 × 3.4 cm which was causing significant contralateral displacement of the spinal cord and focal buckling of cord parenchyma along its anterolateral wall. The lesion measured approximately 1.3 × 1.1 × 9.1 cm in AP, TS, and CC dimensions. Neurosurgery and orthopaedics teams were taken on board and they advised posterior spinal decompression. CT scan revealed no (other/distant) evidence of disease. The patient underwent posterior spinal instrumentation, decompression of thoracic 1-3 vertebrae, and excision of the lesion. Histopathology revealed bone fragments showing predominantly haematopoietic elements with CD 34, MPO and CD 117 immunostains being positive. Bone marrow analysis revealed trilineage haematopoiesis and less than 5% blasts. The patient was planned for induction chemotherapy as part of the initial treatment plan.

MS is rare, representing only 2.5 to 9.1% of all AML cases. The most frequently involved sites by MS are the small intestine, bone, skin, and lymph nodes.[1] MS involving the spine is a rare disease; however, it can lead to significant morbidity and disability if not detected on time and treated promptly. Symptoms of MS involving the spine can include pain, weakness, or numbness in the affected area, as well as difficulty in walking or standing and difficulty with bladder or bowel function. It is not only associated with AML, but CML and MDS are also associated with MS. In a series of 15 patients with epidural mass, four of them had spinal MS. Furthermore, it was isolated MS in one case and MS along with AML in the other three cases.[2] Another interesting study was published from Japan in which a 50-year male with recurrent lumber MS was diagnosed 3 years before he developed acute promyelocytic leukaemia.[3] MS of spinal canal is a rare, aggressive disease with poor outcomes.[4]

Zhao *et al*. reported that most patients with acute presentation of cord compression underwent upfront decompression surgery for symptom control and availability of pathological samples. Out of 15 patients, six had undergone surgical treatment and eight received combined surgery followed by chemotherapy. Five patients died within a month after diagnosis with overall median survival time of over 9 months. One of them went on receiving haemopoietic stem cell transplantation followed by decitabine as maintenance therapy.[5]

Overall, primary MS progresses to AML within five to 12 months after the diagnosis. Surgical intervention with or without radiation therapy can lead to symptom control but cannot delay progression of the disease.

**COMPETING INTEREST:**
The authors declared no conflict of interest.

**AUTHORS' CONTRIBUTION:**
HS: Performed literature-search and assisted in manuscript-writing.
AHO: Conceived the idea, performed literature-search and drafted the manuscript.

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