



An interesting case of backache due to AML

ANIRUDH J SHETTY

Department of General Medicine,
STANLEY MEDICAL COLLEGE AND HOSPITAL

Abstract :

Metastatic epidural spinal cord compression (MESCC) is a devastating complication of cancer seen in 5 to 15 of patients. MESCC due to AML is a rare event. We report a case of 24 year old female who presented with severe backache due to MESCC caused by chloroma due to AML M4. Granulocytic sarcomas also known as the chloroma are rare extramedullary tumor-like proliferates of myelogenous precursor cells that may precede acute leukaemia or may be the first manifestation or relapse of acute myeloid leukaemia. Chloroma is a uncommon presenting manifestation of undiagnosed AML, but only rarely it is the primary clinical manifestation. MESCC caused by chloromas due to AML is very uncommon in adults.

Keyword :Chloroma, AML, MESCC (Metastatic Epidural Spinal Cord Compression)

Introduction:

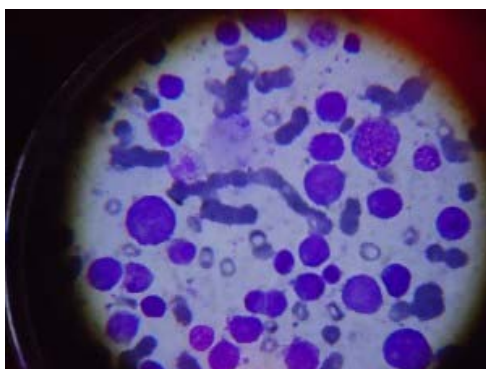
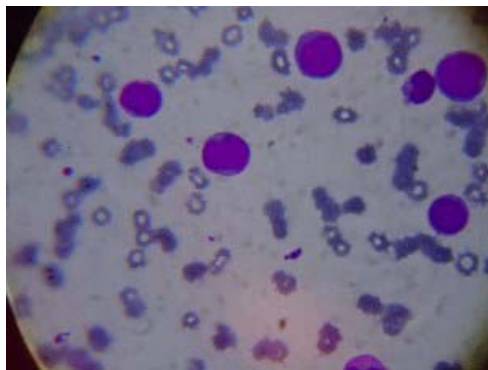
Metastatic epidural spinal cord compression (MESCC) is a devastating complication of cancer seen in 5 to 15% of patients. MESCC due to

AML is a rare event. We report a case of 24 year old female who presented with severe backache due to MESCC caused by chloroma due to AML M4. Chloroma is a uncommon presenting manifestation of undiagnosed AML, but only rarely it is the primary clinical manifestation. However, it is an important cause of morbidity among patients with leukemia. MESCC caused by chloroma's due to AML is very uncommon in adults. Spinal epidural granulocytic sarcoma is not common, and spinal cord compression caused by a granulocytic sarcoma is even rarer [[2](#), [3](#)].

Case History:

A 24-year-old female had localized back pain in the lumbo-sacral region with right lower limb weakness, increased urinary frequency, urinary incontinence and bowel incontinence for about 5 days. The pain was stabbing in character and radiating to her right lower limb. She had history of menorrhagia for the past two months. Her medical history was otherwise unremarkable. General examination revealed pallor and sternal tenderness was present. Her vitals were normal. Systemic examination revealed LMN type weakness in her right lower limb with a power of 3/5

There was hypotonia and absent ankle reflex on the right lower limb and her anal reflex was also absent. The plantar was mute. She had saddle anaesthesia and diminished sensation over the lateral aspect of her right leg and lateral aspect of her right foot. The cardiovascular and respiratory system was unremarkable. There was mild hepatomegaly.



The peripheral smear picture shows Blast cell

The bone marrow aspiration picture shows vacuolated blast cells suggestive of AML M4



The MRI picture shows paraspinal mass compressing the neural foramina

Laboratory evaluation revealed a white blood cell count of 25,000/mm³, with 80% blasts, Platelets were 60,000/mm³, a hemoglobin level of 6.2 g/dl, and an hematocrit of 25%. The peripheral blood picture revealed a Microcytic Hypochromic Anaemia, Leucocytosis with Blasts and Thrombocytopenia suggestive of Acute Leukaemia. Bone marrow aspiration showed a hypercellular marrow, abnormal promyelocytes were seen with 40% Myeloblasts, Vacuolated blasts were also seen. Erythroid progenitors with occasional megakaryocytes suggestive of AML TYPE4 with dysplasia. Magnetic resonance imaging (MRI) of the lumbosacral spine showed Prevertebral soft tissue lesions with intraspinal extension at D11, D12, L5 TO S3 vertebral levels. Psoas muscle infiltration was present suggestive of metastatic deposits.



The MRI picture shows Prevertebral soft tissue lesion at D11 and D12

The MRI picture shows psoas muscle infiltration by the tumour

The patient was diagnosed to have MESCC (Metastatic epidural spinal cord compression) due to Granulocytic Sarcoma also known as the Chloroma. She was started on Chemotherapy with Cytosine Arbinoside 150 mg OD for 7 days, Adriamycin 30 mg OD for 3 days, Etoposide 100mg OD for 3 days and Dexamethasone 8 mg BD. Radiotherapy was started, a total dose of 180cGY in 10 fractions was given. After completing the course the patient recovered completely and was able to walk normally.

Discussion:

Metastatic epidural spinal cord compression (MESCC) is a devastating complication of cancer. It is estimated to develop in approximately 5% to 14% of all cancer patients. [4] If left untreated, virtually 100% of these patients would become paraplegic; therefore, it is considered a true medical emergency. Physically, MESCC occurs in one of the three ways, continued growth and expansion of vertebral bone metastasis into epidural space, destruction of vertebral cortical bone, causing vertebral bone collapse with displacement of bony fragments into the epidural space and neural foramina extension into the epidural space by paraspinal mass. Back pain is the most common presenting symptom (88% to 96%) followed by weakness, sensory deficit and autonomic disturbance.[1] The most common level of MESCC involvement is thoracic spine (59% to 78%) followed by lumbar. [1] A myeloid sarcoma (chloroma, granulocytic sarcoma, extramedullary myeloid tumor), is a solid tumor composed of immature white blood cells called myeloblasts. A chloroma is an extramedullary manifestation of acute myeloid leukemia; in other words, it is a solid collection of leukemic cells occurring outside of the bone marrow. The incidence of chloroma is 2% - 10% in AML. It is a uncommon presenting symptom of undiagnosed AML but only rarely is the primary clinical manifestation. MESCC caused

by chloroma's due to AML is very uncommon in adults. MRI is the gold standard It has a very high sensitivity (93%), specificity (97%), and (95%) accuracy. Treatment options are surgical decompression, chemotherapy, radiation therapy or any combination of these treatment methods. Surgery is generally preferred for cases of acute spinal cord compression. Histopathological examination of the tissues obtained from the mass is very important in diagnosis especially in cases without systemic evidence of leukemia.[2],[3] Granulocytic sarcomas are radiosensitive and are often treated by local radiotherapy and systemic chemotherapy.

References:

- 1 Gilbert RW, Kim JH, Posner JB. Epidural spinal cord compression from metastatic tumor: diagnosis and treatment. *Ann Neurol* 1978; 3 (1): 40–51.
- [2] Neiman RS, Barcos M, Berad C, et al. Granulocytic sarcoma: a clinicopathologic study of 61 biopsied cases. *Cancer* 1981; 48:1426–1437
- [3] Balleari E, Panarello S, Capello E, et al. Granulocytic sarcoma: an unusual cause of spinal cord compression. *Int J Clin Oncol* 2007; 12:234–237
- [4] Byrne TN. Spinal cord compression from epidural metastases. *N Engl J Med* 1992; 327: 614–9.