

Case Report

EXTRAMEDULLARY GRANULOCYTIC SARCOMA AS THE INITIAL PRESENTING FEATURE IN PATIENT WITH AN ACCELERATED PHASE OF CHRONIC MYELOID LEUKEMIA

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ABSTRACT

Granulocytic sarcomas (chloromas) are rare extra medullary tumors consisting of primitive granulocytic cells. They arise *de novo*, or are associated with other hematologic disorders such as acute myeloid leukemia, myelodysplastic syndrome, or myeloproliferative disorders. We report here on a case of a 30yr old male who presented with a swelling on right thigh. During clinical examination hepatosplenomegaly and axillary lymphadenopathy was observed. The mass was confirmed by biopsy to be granulocytic sarcoma. Bone marrow examination showed myeloid bulge along with 12% blasts and 7% basophils. Cytogenetic examination showed t(9;22), indicating chronic myeloid leukemia.

Key Words: Granulocytic Sarcoma, Chronic Myeloid Leukemia

INTRODUCTION

Myeloid Sarcoma is a rare neoplastic condition consisting of immature myeloid cells, occurring at an extra medullary site that most frequently corresponds to the bone, skin, or lymph node, although any part of the body may be affected (Pileri *et al.*, 2007).

CASES

A 30yr old male presented with a 1 month history of generalized weakness and fatigability, and 10 days history of left hypochondriac heaviness along with a swelling measuring 3x3 cms on right lower limb in thigh region. During clinical examination hepatosplenomegaly and axillary lymphadenopathy was observed.

FNAC of Axillary lymph node was carried out showing – immature cells of myeloid series

Excision of swelling thigh (histopathology) revealed – fibromuscular fatty tissue showing infiltration by leukemic cells i.e.; cells of myeloid series comprising of blasts, promyelocytes, myelocytes, metamyelocytes along with features of dysmyelopoiesis. Nucleated RBCs and Megakaryocytes are also seen. Overall histomorphology suggested extra medullary Haematopoiesis – Myeloid Sarcoma.

Lab examination revealed anaemia (10.4gm%) and increased white blood cell count ($128.0 \times 10^3/\mu\text{L}$). Myeloid bulge was seen along with 12% blasts and 7% basophils in Peripheral smear. The case was reported as chronic myeloid leukaemia in accelerated phase after bone marrow aspiration and bcr-abl study.

DISCUSSION

Myeloid sarcoma (MS) is an extra medullary myeloid tumor (granulocytic sarcoma) that may develop *denovo* or concurrently with acute myeloid leukemia (AML), myeloproliferative neoplasm (MPN), or myelodysplastic syndrome (MDS) (Cristina *et al.*, 2009).

The WHO classified granulocytic sarcoma into 3 main types, depending upon degree of maturation:

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- Blastic – comprises mainly of myeloblast
- Immature – myeloblast and promyelocytes
- Differentiated – promyelocytes and more mature myeloid cells (Christopher and Youssef, 2005).

Myeloid Sarcoma frequently mistaken for malignant B-cell or T-cell lymphoma, especially when it presents without leukemic manifestation (Zekry *et al.*, 2006).

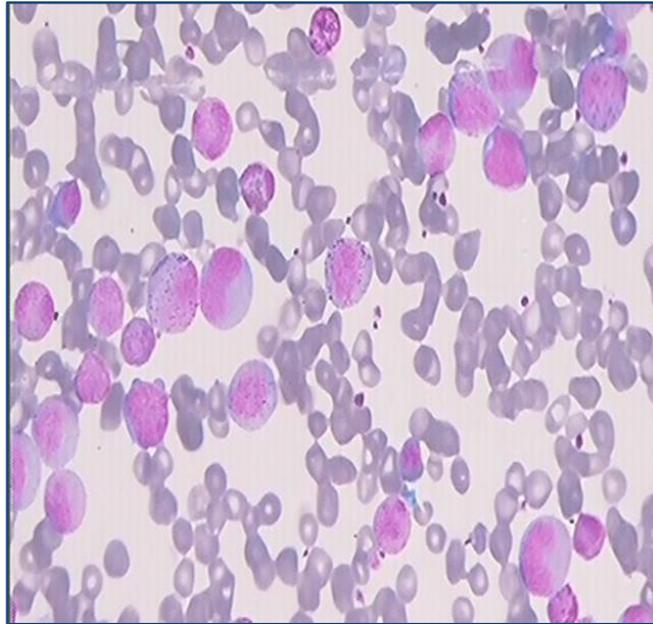


Figure 1: Peripheral smear – myeloid bulge seen along with blasts and basophils

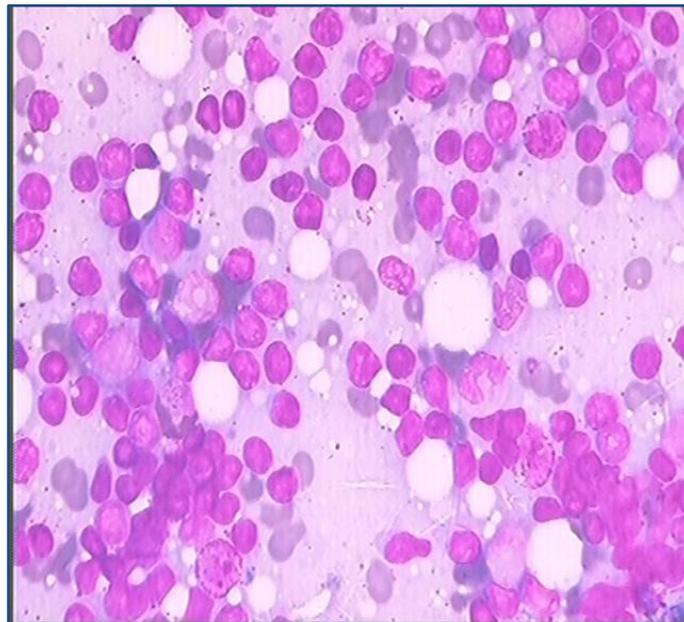


Figure 2: FNAC of Axillary lymph node – showing immature cells of myeloid series

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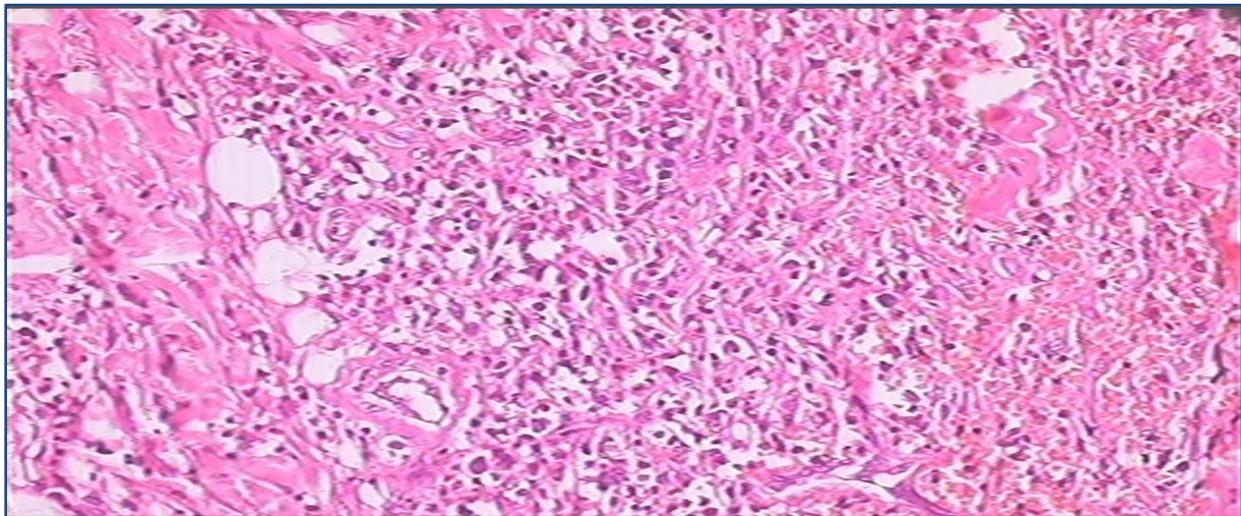


Figure 3: BIOPSY swelling thigh – Fibromuscular fatty tissue showing infiltration by leukemic cells – Myeloid Sarcoma

In children, myeloid sarcoma can mimic small round cell tumors, including various types of lymphoma, Ewing sarcoma, rhabdomyosarcoma, and medulloblastoma. In adults, myeloid sarcoma can be misdiagnosed as various types of lymphoma, carcinoma, and sarcoma as well as neuroendocrine tumor and melanoma (Brunning *et al.*, 2001).

Conclusion

This is an unusual case of extra medullary leukemic infiltration of muscle of thigh. The blood, bone marrow and bcr-abl study met the criteria for accelerated phase of CML. However, the extra medullary Myeloblast Proliferation classifies the CML as Blastic phase.

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