

EXTRAMEDULLARY MYELOID SARCOMA (GRANULOCYtic SARCOMA), AS AN INITIAL PRESENTING FEATURE OF CHRONIC MYELOID LEUKEMIA – CASE REPORT

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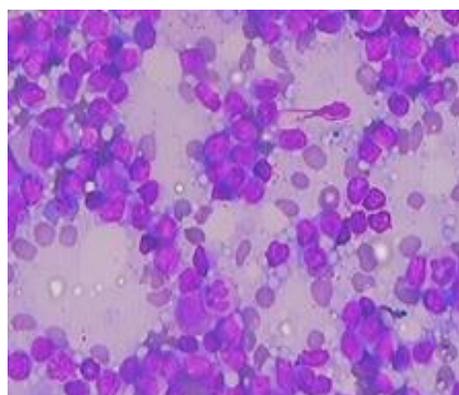
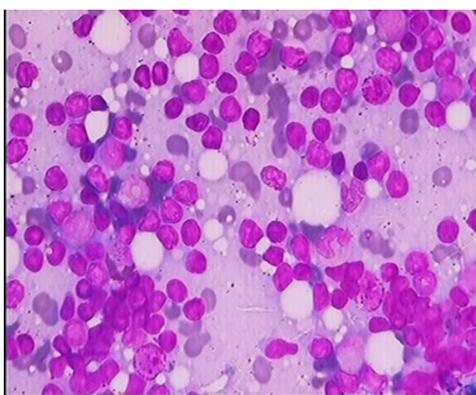
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ABSTRACT

Granulocytic sarcomas are rare extramedullary tumors consisting of granulocytic precursor cells. Rarely may it precede peripheral blood or bone marrow involvement, presenting as a diagnostic challenge (Pileri *et al.*, 2007). Aims and objectives were to study the diagnostic utility of FNAC in making the correct diagnosis of myeloid sarcoma. We report cases of myeloid sarcoma, who presented with right Axillary lymphadenopathy since five months along with swelling on right lower limb thigh region since 4 month duration. Fine needle aspiration (FNAC) was performed and a diagnosis of myeloid sarcoma was offered. Subsequently, peripheral blood smear examination and complete blood counts did, which revealed features of chronic myeloid leukemia (CML) with accelerated phase. Myeloid sarcoma (granulocytic sarcoma) that may develop denovo or concurrently with acute myeloid leukemia (AML), myeloproliferative neoplasm (MPN), or myelodysplastic syndrome (MDS) (Cristina *et al.*, 2009). Easy and rapid diagnosis of myeloid sarcoma is possible by FNAC in fairly accessible lesions and clinicians should consider FNAC as a diagnostic tool for early diagnosis.

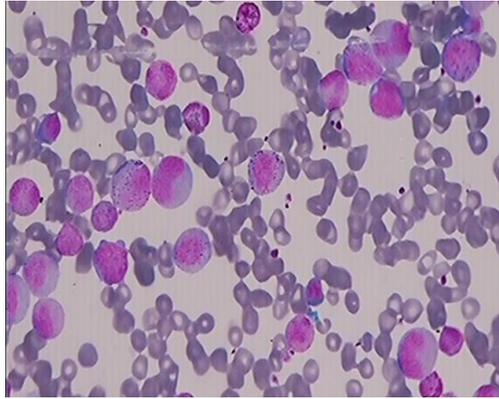
CASES

30yr old male presented with right axillary lymphadenopathy since five month along with swelling on right lower limb in thigh region since four months. **CLINICAL PRESENTATION:** Patient presented with a visible swelling in axillary region that is discovered during routine examination. **ON EXAMINATION:** General examination: Normal. Systemic examination: Axillary Swelling measuring 2x2 cm in size, firm, mobile, non-tender and Right Lower Limb swelling measures 3x2 cm. **ON FNAC:** Was done on OPD basis showing –Immature myeloid cells, few neutrophils and many large round cells with high nuclear cytoplasmic ratio and prominent nucleoli. “Cytomorphology suggestive of leukemic infiltration”.



FNAC of Axillary lymph node showing – immature cells of myeloid series

Work Up: Further patient advise for complete blood count and biopsy for swelling thigh and bone marrow aspiration for further evaluation of case. Hematological examination: Hb – 10.4 gm%, WBC – $128.0 \times 10^3 / \mu\text{L}$, Platelet – $157 \times 10^3 / \mu\text{l}$. Peripheral smear – myeloid bulge present along with 11% blasts and 7% basophils (Blast 11 %, Promyelocyte 04%, Myelocyte 19%, Metamyelocyte 10%, Stab 12%, Neutrophils 24%, Basophils 07%, Lymphocytes 02%, Eosinophils 01%, nRBC 10%).

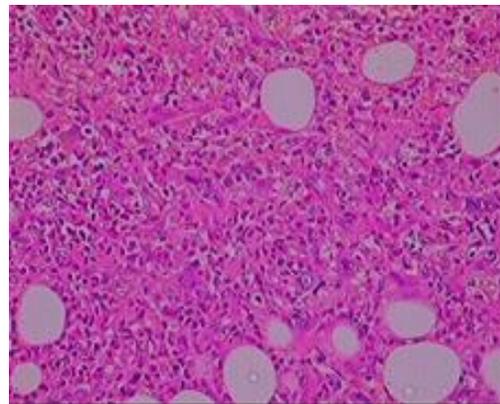
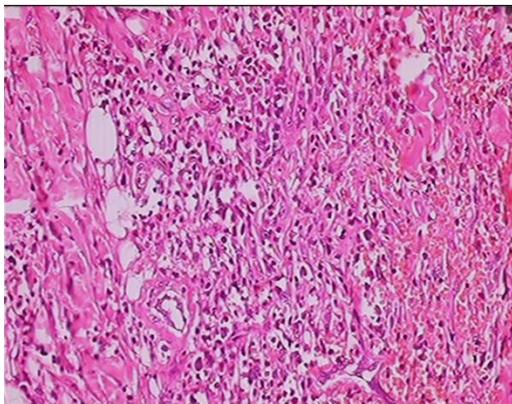


Blood smear – Shows myeloid bulge

Pathologic Features: Gross Features: Excision of swelling thigh revealed - Soft to firm swelling measuring 3x2 cm in size. External surface grey white. Cut surface grey white.



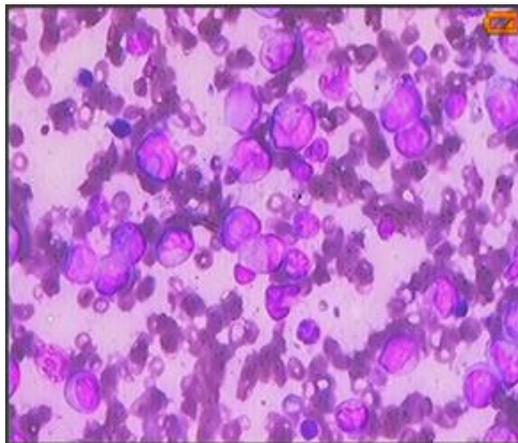
Microscopic Features: H & E section shows Fibromuscular fatty tissue showing infiltration by leukemic cells- cells of myeloid series comprising of blast, promyelocyte, myelocyte, metamyelocyte along with features of dysmyelopoiesis. Nucleated RBC and megakaryocytes are also seen. Overall histomorphology is suggestive of EXTRAMEDULLARY HAEMATOPOEISIS- “MYELOID SARCOMA.



Picture showing (10x) shows cells of myeloid series comprising of blast, promyelocyte, myelocyte, metamyelocyte along with features of dysmyelopoiesis. Megakaryocytes are also seen

Case Report

Bone Marrow Aspiration: Show particles and is hypercellular for age. Myeloid series show marked hyperplasia with increase in immature precursor. Few of the cells show features of dysmelpoisis. Erythroid series is markedly suppressed but show normoblastic reaction. Megakaryocytes seen.No haemoparasite seen. Blast 11%, Promyelocyte 02%, Myelocyte 16%, Metamyelocyte 14%, Stab 14%, Neutrophils 20%, Basophils 07%, Lymphocytes 03%, Eosinophils 01%, nRBC 12%. M: E=7:1.
Impression: Chronic myeloproliferative disorder.



Myeloid series show marked hyperplasia with increase in immature precursor

DISCUSSION

Myeloid sarcoma (MS) is an extramedullary 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: Blastic – comprises mainly of myeloblast, Immature – myeloblast and promyelocytes, Differentiated – promyelocytes and more mature myeloid cells (Christopher *et al.*, 2005). This is an unusual case of extramedullary leukemic infiltration in axillary lymph node and muscle thigh.

Conclusion

This is an unusual case of extramedullary leukemic infiltration. Easy and rapid diagnosis of myeloid sarcoma is possible by FNAC in fairly accessible lesions and clinicians should consider FNAC as a diagnostic tool for early diagnosis. The blood, bone marrow and bcr-abl study met the criteria for accelerated phase of CML. However, the Extramedullary Myeloblast Proliferation classifies the CML as Blastic phase.

REFERENCES

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