

# **Acute Myelomonocytic Leukemia with Abnormal Eosinophils: A Case Report with Multi-Modality Diagnostic Work-up**

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摘要

## **Abstract**

Acute myeloid leukemia (AML) with recurrent genetic abnormalities often carries a favorable prognosis. AML with *inv(16)(p13q22)* occurs predominantly in younger patients and usually shows granulocytic and monocytic differentiation with abnormal eosinophils. It is referred to as acute myelomonocytic leukemia with abnormal eosinophils (AMML Eo). We report a case in a 27-year-old man with leukocytosis ( $10.6 \times 10^3/\mu\text{L}$  with 34% blasts), thrombocytopenia and splenomegaly. Marrow aspiration showed 47% blasts and 33% eosinophils, of which 19% were morphologically abnormal with both eosinophilic and basophilic cytoplasmic granules. Cytochemically, the blasts were positive for myeloperoxidase while the granules of abnormal eosinophils were positive for naphthol ASD chloroacetate esterase. With flow cytometric immunophenotyping the blasts expressed CD13, CD33, CD117, myeloperoxidase and CD34. Marrow trephine showed 90% cellularity with 40% blasts expressing CD34, CD117, and myeloperoxidase on immunohistochemistry. Chromosomal analysis revealed a karyotype of 46, XY, *inv(16)(p13q22)*. This case illustrates a typical AMML Eo confirmed by a multi-modality diagnostic approach including morphology, cytochemistry, flow cytometry, immunohistochemistry, and conventional cytogenetic study.