Paraneoplastic Polyarthritis: a Rare Presentation of AML

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PARANEOPLASTIC ARTHRITIS

- Paraneoplastic polyarthritis is an immune mediated paraneoplastic syndrome as a manifestation of both solid and hematologic malignancies.
- It is more commonly seen in lung, melanoma, and lymphomas.
- It can mimic other rheumatologic types of arthritis, but management involves treatment of the underlying malignancy.

CASE DESCRIPTION

An 84-year-old man with history of Parkinson's disease presented to the emergency room with fever in the setting of polyarthralgia and left knee swelling for two weeks.

Symptoms precipitated after sustaining a left knee injury. His arthralgia eventually progressed to the right upper extremity and bilateral wrists.

Lab studies showed new leukocytosis with 23% peripheral blasts. The peripheral blood smear confirmed the presence of blasts, dysplastic neutrophils, and pseudo Pelger-Huet cells concerning for AML. Rheumatologic workup was nonspecific. Synovial fluid analysis was unrevealing for infectious etiology.

Bone marrow biopsy was consistent with the diagnosis of AML and showed hypercellular marrow at 80% with 33% blasts with expression of CD34, CD13, and CD33. FLT3 mutation was negative.

The patient was started on empiric steroids, and treatment options were discussed. Ultimately the patient and his family decided on a transition to hospice care.

BONE MARROW BIOPSY

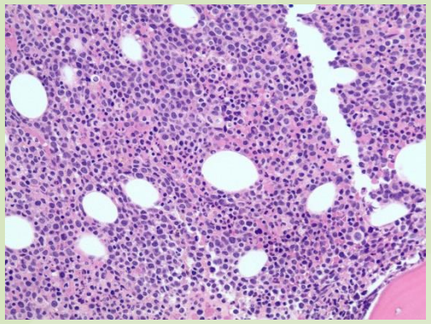

Fig. 1: Immature mononuclear cells seen at 20x magnification. Marrow is markedly hypercellular at 80% for the patient's age (84).

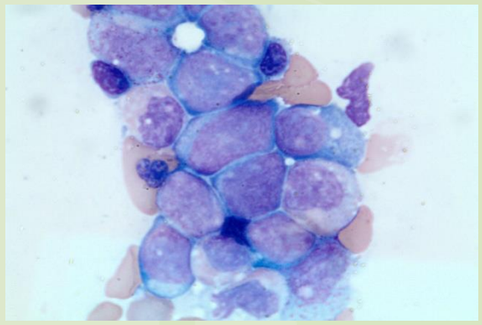

Fig. 2: Blasts seen at 100x oil immersion. Granular and multivacuolated blasts pictured on bone marrow core biopsy.

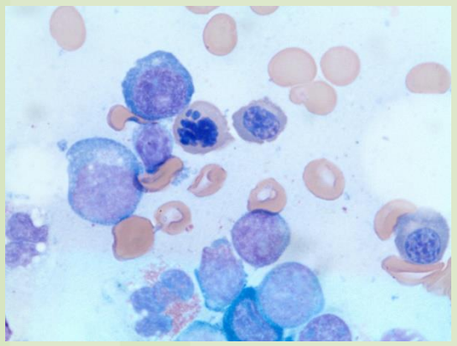

Fig. 3: Blasts and dysplastic erythrocytes seen at 100x oil immersion. Pseudo-Pelger-Huet cell, polychromatic normoblast, and granular blasts again noted.

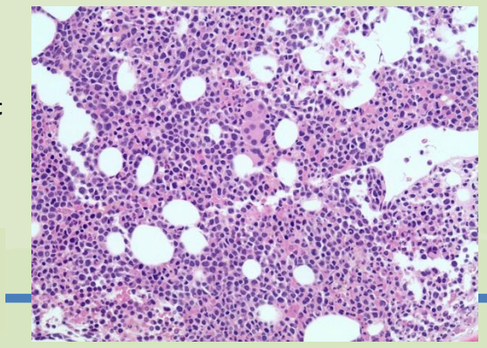

Fig. 4: Dysplastic megakaryocytes noted at 20x magnification.

Special thanks to hematopathologist Dr. Sharon Swierczynski for bone marrow biopsy images.

LABORATORY DATA

On presentation:

WBC: 28,000, 23% blasts
Hgb: 9.0 g/dL, **Plt:** 116,000
Rheumatoid Factor: 17IU/mL (Nl<14IU/mL)
ESR: 112mm/hr (Nl 0-20mm/hr)
LDH: 338 IU/dL
Rheumatologic/Infectious workup: Anti-CCP, anti-Sm, anti-SSB, anti-SSA, ANA, anti-dsDNA, parvovirus-B19 antibodies were negative.

DISCUSSION

In this clinical case, paraneoplastic polyarthritis was diagnosed by the following characteristic presentation:

- Low-level rheumatoid factor positivity
- Male sex
- Asymmetric polyarthritis
- Elevated markers of inflammation, and absence of infectious etiology

This is rarely seen as the presenting symptom of AML in the absence of other classic symptoms of hematologic malignancy.

We describe this case to highlight the importance of high clinical suspicion in the diagnosis of unusual initial presentations of malignancy.

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