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Case Report

Rare Manifestation of Acute Promyelocytic Leukemia

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History and Examination – A 35 year old male patient, chronic alcoholic with no other comorbidities, came with complaints of squint, double vision and inability to walk since 2 days.

Physical Examination Revealed right third cranial nerve palsy, wide based gait and swaying towards the right side. Other systems were unremarkable. Vital parameters were within normal range.

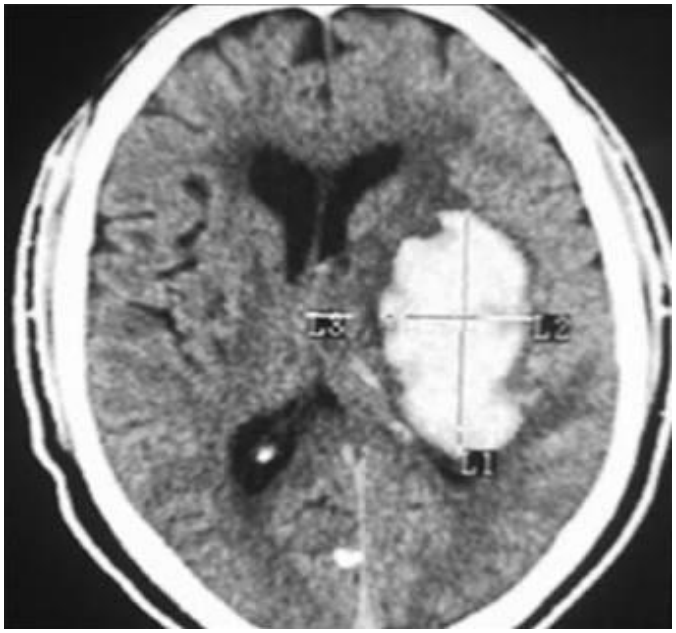
- **Investigation and Stay in Hospital –** Blood reports revealed mild leucopenia and peripheral smear (PS) showed dimorphic anemia, thrombocytopenia with atypical cells. Serum vitamin b12, folate and iron levels were normal. LFT and coagulation profile also was normal. Chest Xray, ultrasound abdomen were normal. Provisional diagnosis of wernicke's encephalopathy was made and patient was started on dextrose and thiamine. As patient's symptoms did not relieve by day 3, MRI brain was done.

MRI brain revealed acute bleed in right pons and midbrain.

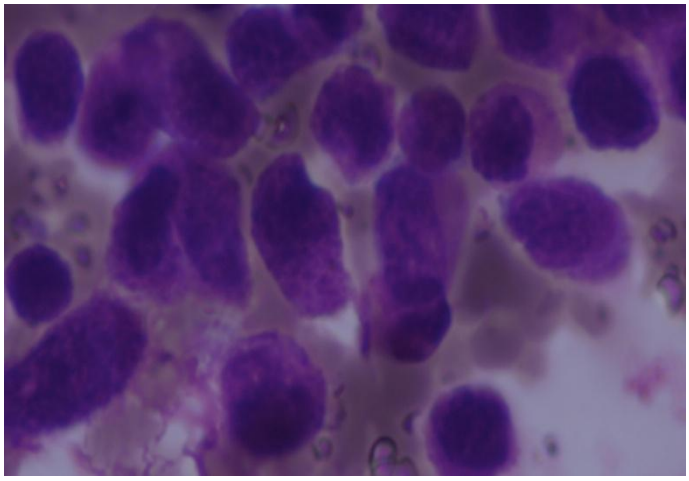
In view of atypical cells in peripheral smear, bone marrow aspiration and biopsy was done which revealed a hyper cellular marrow with predominantly promyelocytes and blasts which were strongly positive for myeloperoxidase (MPO)-hypergranular variant.

However three days later, patient developed right hemiparesis with drowsiness. Investigations revealed- deranged coagulation profile, repeat peripheral smear showed features of hemolysis and thrombocytopenia. CT brain was done which revealed a massive bleed in left cerebral hemisphere with midline shift. Patient was shifted to ICU but however succumbed due to respiratory failure.

A final diagnosis of acute promyelocytic leukemia in DIC with intracranial bleed was made.



CT Brain of the Patient



Bone marrow aspiration and biopsy- hypercellular marrow with predominantly promyelocytes and blast cells with AUER rods strongly positive for MPO stain

Conclusion

Promyelocytic leukemia is an uncommon subtype of AML and acute promyelocytic leukemia presenting with intracranial bleed and third cranial nerve palsy is an even rarer occurrence with incidence of less than 2%.

So as a part of management of intra-parenchymal bleed, rare causes such as acute promyelocytic leukemia should be kept in mind as they can lead to devastating complications like DIC, massive intracranial bleed and even death of the patient.

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