

Could Vitamin B12 Deficiency Mimic Erythroleukemia?

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Erythroleukemia is a rare form of acute myeloblastic leukemia (AML) as described by the World Health Organization (WHO); the condition represents less than 5% of all AML cases. It is a great challenge to establish the diagnosis. One of the principal differential diagnosis is megaloblastic anemia due to vitamin B12 deficiency.

A fourteen-year-old Bahraini female was initially diagnosed with vitamin B12 deficiency based on the clinical history, blood count, smear findings and vitamin B12 level. The lack of response to supplementation with vitamin B12 injections raised suspicion of bone marrow disease. A subsequent bone marrow biopsy confirmed the diagnosis of erythroleukemia. After establishing the diagnosis with bone marrow biopsy, the patient was referred to the oncology center to receive chemotherapeutic treatment.