

## **Clinical Vignette: Abstract**

# **ALWAYS EXCLUDE THE REVERSIBLES: VITAMIN B12 DEFICIENCY MIMICKING ACUTE LYMPHOMA**

**Roshan Jha, MD<sup>1</sup>, Mohammad Talal Khan<sup>2</sup>**

1 Department of Internal Medicine, 2 Department of Hematology and Oncology, Rochester General Hospital, Rochester, NY.

### **Introduction:**

Vitamin B12 deficiency can cause extensive hematologic alterations such as pancytopenia and hypercellular bone marrow with blastic differentiation. These dysplastic changes can sometimes be so profound that they mimic hematological malignancies like lymphoma or leukemia, leading to extensive workup and aggressive treatment measures.

### **Case description:**

37 year old female without any significant past medical and family history presented to hospital with complaints of dull aching abdominal pain for a week, loss of appetite and fatigue for 3 months with profuse sweating without fever or night sweats along with history of heavy menses for 6 months. She had an intentional weight loss of 60 pounds in 6 months. Her basic labs showed pancytopenia with hemoglobin of 6.6 g/dl with MCV of 105, leucopenia 3300/ul and thrombocytopenia 78,000/ul. Her blood counts 6 months prior to this presentation were normal. Peripheral smear had anisopoikilocytosis, occasional teardrop shaped cells, pencil cells and normal neutrophils, no blasts or immature cells. Significant abnormalities in chemistry revealed LDH of 3300. She underwent further evaluation including CT abdomen which revealed marked splenomegaly of 17cm with prominent retroperitoneal and mesenteric lymph nodes concerning for malignancy. CT chest showed enlarged epicardial lymph node measuring 1.6 cm and prominent mediastinal and epigastric lymph nodes. Further workup revealed Vitamin B12 level of 150 pg/ml, normal folate and methyl malonic acid was elevated at 1.7 nmol/ml. Intrinsic factor antibodies were positive on evaluation.

Given these findings, hematologist deferred getting a bone marrow and started on Vitamin B12 injection replacements and close follow up with counts. Labs done in 3 months revealed normal Hb 12.4 g/dl, leucocyte 7000/ul and platelet count 299,000/ul. Repeat CT chest and abdomen had stable lymph nodes and spleen 13 cm. She reported resolution of her symptoms with improved appetite.

### **Discussion:**

Vitamin B12 deficiency has diverse presentations including anemia, pancytopenia and myelodysplastic abnormalities. Our patient had clinical presentation and lab abnormalities highly concerning for hematological malignancy like lymphoma along with imaging finding further intriguing for the same. Conventional rule of medicine is always to rule out reversible causes for any condition and as a part of the workup, it revealed Vitamin B12 deficiency due to pernicious anemia. This avoided the need for an invasive bone marrow study. This presentation helps us in recognizing that presentations in patients with vitamin B12 deficiency can be diverse and misleading and hence we should always rule out all differentials with special focus being on identifying and treating reversible causes.