



Pernicious Anemia in an Unlikely Patient

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Introduction

Pernicious anemia is a term used to describe megaloblastic anemia that results from lack of intrinsic factor causing Vitamin B12 deficiency. B12 deficiency can result in ineffective erythropoiesis and neurologic complications. This condition is typically found in elderly women of Celtic or Scandinavian ethnicities.

Case Report

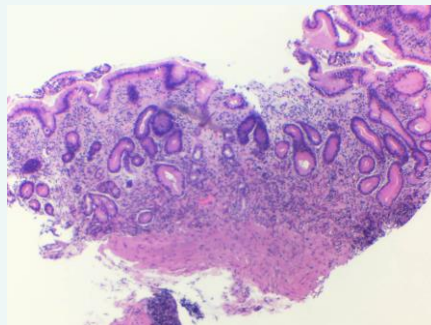
A 30-year-old African American female with a past medical history of iron-deficiency anemia and acid reflux presented with abnormal hemoglobin value and transferred from urgent care. She was having difficulty performing her daily activities due to progressively worsening fatigue. She went to an urgent care center after having repeated emesis leading to weight loss. She used to drink a glass of wine daily for last eight years but hadn't done so in months due to her symptoms. She was prescribed omeprazole without relief and she had not been taking her iron supplements lately. She appeared lethargic and jaundiced with scleral icterus. Her vitals were significant for tachycardia.

On admission, her hemoglobin was noted to be 4.5 with an MCV of 101.4 requiring blood transfusions. Her B12 level was noted to be less than 80, requiring repletion. Fecal occult blood test was negative. She had a peripheral smear showing severe macrocytic anemia, prominent anisocytosis and poikilocytosis with numerous dacrocytes, and frequent hypochromic microcytosis. This was concerning for concomitant macrocytic and microcytic anemia, and raised a concern for myelofibrotic or myelophthitic process. She had an esophagogastroduodenoscopy with biopsies significant for chronic gastritis with moderate atrophy. Currently, she is under the care of a gastroenterologist as an outpatient.

Lab Studies

	Patient	Reference
AST	53	10-36 U/L
ALT	22	6-29 U/L
Total Bilirubin	2.8	0.2-1.2 mg/dL
Direct Bilirubin	0.70	0.00-0.30 mg/dL
Hemoglobin	4.5	12.0-15.5 g/dL
Platelets	101	x100/mm3
MCV	101.4	81.6-98.3 fL
Hematocrit	14.1	34.9-44.5%
Reticulocyte count	2.9	0.5-1.5%
Vitamin B12	<80	180.0-914.0 pg/mL
LDH	2368	122-222 U/L
Haptoglobin	<10	33-278 mg/dL
MMA	1482	0-378 nmol/L
IF Antibody	269.2	0.0-1.1 AU/mL
Urine ketones	4+	Negative
Urine bilirubin	2+	Negative, trace
Urobilinogen	4.0	<0.2 E.U./dL

Stomach Biopsy



Discussion

Pernicious anemia (PA) in black individuals has strikingly different pathophysiology when compared to the more common demographic of Caucasian individuals. One significant difference is the presenting age group; black women become ill at a much younger age¹. Majority of reports involving PA in black women exhibit intrinsic factor antibody as opposed to the more common parietal cell antibody². Intrinsic factor antibodies are generally noted after pernicious anemia is diagnosed whereas parietal cell antibodies appear with atrophic gastritis without pernicious anemia³. This is an important distinction as aside from subacute combined degeneration of spinal cord, 4-7% of patients with pernicious anemia develop carcinoid tumors⁴. Early recognition, treatment with intramuscular B12, and monitoring of cobalamin levels are essential to successful treatment and avoidance of long term complications.

Conclusion

Long term complications of B12 deficiency can be dire, especially in women of child bearing age⁵. As the demographic profile of this disease is changing, thorough workup should be considered in African American women presenting with macrocytic anemia.

References

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