"Par" for the Course: An Interesting Case of Anemia in an Immunocompromised Patient

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Introduction

- Anemia is a commonly encountered lab abnormality in the outpatient setting. Often, a thorough history and physical, iron and nutritional studies are adequately revealing. However, as we demonstrate, a simple lab abnormality can often be more complex.

Clinical Presentation

- A 30-year-old female with noncompaction cardiomyopathy, on chronic immunosuppression with mycophenolate, tacrolimus and prednisone developed subacute progressive anemia two months after orthotopic heart transplant

- History negative for melena, hematochezia or hematuria; positive for heavy menses with 10-12 days of bleeding which subsequently resolved following transplant

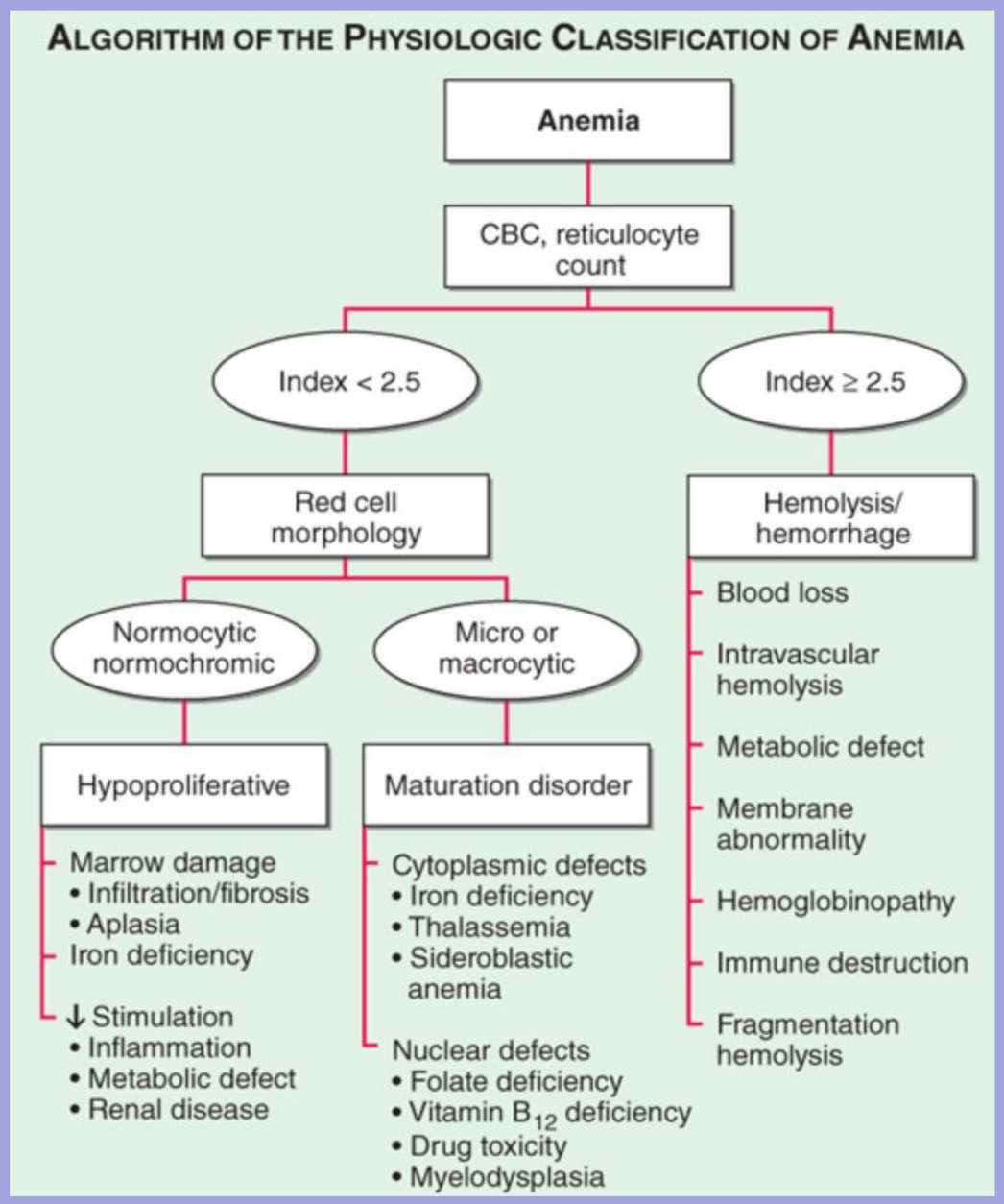
- On presentation: afebrile, HR 99, BP 132/72, RR 16, normal oxygenation. Physical examination was unremarkable.

Initial Labs

- Normal white count, hemoglobin of 6.7 with progressive downtrend to 4.4, Hct 20.7, MCV 79.9, RDW 47.1, reticulocyte count of 0.2, and platelets of 444.

- Ferritin of 1532 and iron sat of 65%. Homocysteine and MMA levels were within normal limits. EPO was appropriately elevated at 762, with normal LDH and haptoglobin

- EBV and CMV negative. Parvovirus-B19 PCR was positive with a quantitative PCR of > 100,000,000 IU/mL



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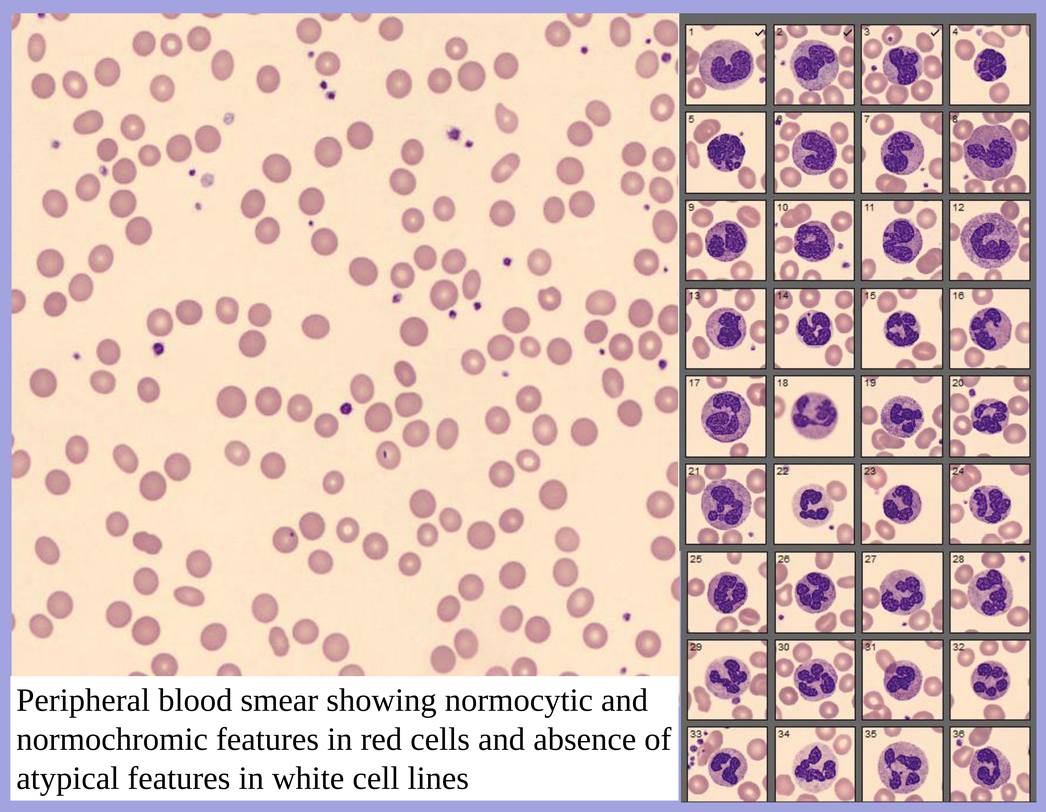

Peripheral blood smear showing normocytic and normochromic features in red cells and absence of atypical features in white cell lines

Discussion

- Anemia is a commonly encountered lab abnormality in the outpatient setting with an extensive workup

- Parvovirus-B19 is a single-stranded DNA virus that replicates in erythroid progenitor cells

- Parvovirus-induced red cell aplasia is classically reported in patients with increased red cell turnover (sickle cell disease) but has been reported in immunosuppressed patients post-transplant

- Diagnosis involves serologic analysis of IgM and IgG antibodies recognizing viral capsid antigens (VP1 and/or VP2) or nucleic acid detection (NAAT)

- Treatment involves supportive red blood cell transfusion and in patients with chronic infection more aggressive therapy with IVIG

Learning Points

- Anemia is a common diagnosis, especially in the outpatient setting, and is often attributed to chronic disease or benign causes.

- When faced with a rapidly progressive red cell aplasia, and a negative workup for textbook etiologies, continue to keep a broad differential in mind, especially in the setting of a complex medical substrate

References

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