FOR EDUCATIONAL PURPOSES ONLY

The individual clinician is in the best position to determine which tests are most appropriate for a particular patient.
Artifactual macrocytosis, determined by automated counters, may be caused by cold agglutinins, hyperglycemia, marked leukocytosis, RBC clumping, intracellular hypersensitivity.

Some drugs that may cause macrocytosis: alcohol, chemotherapy drugs, zidovudine, anticonvulsants, oral contraceptives, triamterene, sulfasalazine, sulfamethoxazole, trimethoprim, colchicine, PASA, neomycin, nitrous oxide.

Abbreviations:
FEP: Free Erythrocyte Protoporphyrin
MCV: Mean Corpuscular Volume
BCB: Brilliant Cresyl Blue

Rule out drug exposure***

Reticulocyte Count

Normal or Increased

Suspect early release of reticulocytes as in hemolysis, bleeding or hematologic malignancy.

Normal or Decreased

B₁₂ / Folate

Normal

Consider bone marrow aspirate / biopsy, cytogenetics

Low

Evaluate appropriately

Consider:
- Alcoholism
- Hypothyroidism
- Pernicious Anemia
- Dietary Deficiency
- Malabsorption
- Pregnancy
- Drugs

Primary marrow disorders - Myelodysplasia, Aplastic Anemia

If marrow is normal, consider rarer causes

References:

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