



Rebekah Teel 3-10-22

Evaluation and management of (Iron-Deficiency Anemia in Pregnancy)

1. Definition or Key Clinical Information: *Defined generally as decreased oxygen capacity of the blood due to deficiency of iron. Hemoglobin less than 11 g/dL and hematocrit less than 33% in the 1st and 3rd trimesters, or hemoglobin less than 10.5 g/dL and hematocrit less than 32% in the 2nd trimester. Affects 18 % of pregnant women in the U.S. Can cause increased vulnerability to maternal infection, increased cardiovascular burden, reduces peripartum blood loss reserves, increased risk for transfusion, maternal mortality, preterm birth, fetal growth restriction, low birth weight, prematurity, low fetal iron stores, infant infection, cognitive impairment, and infant mortality.*

2. Assessment

i. Risk Factors

1. *Multifetal gestation, multiparity, short interval between pregnancies, anemia in prior pregnancy, poor nutrition/restricting diet, poor socioeconomic status, eating disorders, heavy menses, sickle cell trait, smoking/vaping, infection/parasite, malabsorption syndrome*

ii. Subjective Symptoms *Client reports:*

1. *Feeling tired all the time, feeling weak, feeling dizzy/lightheaded, heart racing, can't catch their breath, headaches, legs keep twitching/won't stay still, feels cold all the time, feels irritated all the time, doesn't feel like themselves, wants to eat things that aren't food (detergent, dirt, etc.)*

iii. Objective Signs *Upon examination:*

1. *Pale skin, bags under the eyes, cold hands and feet, brittle, spoon-shaped fingernails, orthostatic hypotension, pale mucous membranes, tachycardia, dyspnea, peripheral edema, jaundice, splenomegaly*

iv. Clinical Test Considerations

1. *Basic lab tests at initial prenatal and again at 28-30w gestation*
 - a. *CBC or H&H and MCV*
 - b. *Normal levels in 1st and 3rd trimesters Hgb greater than 11.0 and hematocrit greater than 33%, 2nd trimester Hgb greater than 10.5 and hematocrit greater than 32%*
 - c. *Normal for Black birthing people in 1st and 3rd trimesters Hgb greater than 10.2 and hematocrit greater than 31%, 2nd trimester Hgb greater than 9.7 and hematocrit greater than 30%*
 - d. *For high altitude or smokers see references*
2. *Other tests*
 - a. *Serum ferritin – normal 10-150*
 - b. *Serum iron – normal 40-175*

- c. *Total iron binding capacity – normal 216-400*
- d. *Hemoglobin electrophoresis*

3. Management plan

i. Therapeutic measures to consider

1. *Elemental iron supplementation 30-120mg/day or 1-3x/week with ferrous gluconate/fumerate/sulfate (Hemaplex, Floradix, Pure Absorb, Vital Nutrients Iron, Ning Xia Red)*
2. *Increase effectivity by adding folate, cobalt, copper, phosphorous, B12, Vitamin C, hydrochloric acid*
3. *Avoid antagonists to assimilation including antacids with calcium, aspirin, EDTA, Vitamin E, sugar, and caffeine*

ii. Complementary measures to consider

1. *Increase intake of iron-rich foods such as organ meats, eggs, fish, poultry (especially dark meat), dark leafy greens, wheatgrass juice, blackstrap molasses (1T/day), brewers yeast, cherry juice, dried fruits, and quinoa*
2. *Cook everything in cast iron or copper pots and pans*
3. *Herbs – Alfalfa, Dandelion, Nettle, Red Raspberry Leaf, Yellow Dock, Pumpkin seeds*

iii. Considerations for pregnancy, delivery and lactation

1. *Increased risk for - hemorrhage during delivery, need for transfusion, preterm birth, cesarean, low birth weight, fetal growth restriction, infections, low iron stores in infant, cognitive impairment, and mortality*

iv. Client and family education

1. *Discuss nutrition, causes, risks, implications, and treatments available*
2. *Encourage proper nutrition (handout with iron rich foods and herbs) and iron supplementation*
3. *Offer community resources – nutritional counseling, food pantries, WIC, food stamps*

v. Follow-up

1. *Recheck in 3-4 weeks in 1st and 3rd trimester, 1-2 weeks in 3rd trimester (improvement as soon as 5 days)*
2. *Check levels again at 36 weeks gestation*

4. Indications for Consult, Collaboration or Referral

1. *Severe anemia – Hgb < 7.0 g/dL*
2. *If lab values are inconsistent with iron deficiency anemia*
3. *If no improvement in 7-14 days*
4. *Ongoing signs and symptoms not explained by lab values*
5. *Moderate to severe anemia at term depending on community standards*
6. *Personal cutoff, Hgb must be 9.5 or higher at term.*

5. References

Delaney, S. (2022, March 9). Anemia in Pregnancy [Live Conference]. MDWF 2010, Midwives College of Utah.

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King, T. L., Bruckner, M. C., Osborne, K. & Jevitt, C. M. (2019). Varney's Midwifery (6th ed.). Jones & Bartlett Learning, LLC.