

Clinical Green Boxes : Dr. Balliett : "Yeah, she's eating celery... That's good for you. Yeah..."

GREEN BOXES KRS STYLE SUMMARY

1. PYRUVATE DH COMPLEX DEFICIENCY
 - a. Delayed development in infancy with reduced muscle tone, ataxia, and seizures. No mitochondrial oxidation therefore lactate-anaerobic glycolysis results (poor ATP production).
2. 6GP DH DEFICIENCY CAUSES HEMOLYTIC ANEMIA
 - a. Dark urine & Weakness. Low hematocrit & elevated bilirubin. Anti-malarial drugs oxidizing hemoglobins and resulting bilirubin overwhelms the hepatic system resulting in jaundice and dark urine.
3. PYRUVATE KINASE DEFICIENCY
 - a. Jaundice & splenic tenderness. Low hemacrit & hemoglobin, elevated bilirubin. Autosomal disorder. Inability to synthesize ATP required for maintenance of RBC metabolism, cell shape, and ION gradients.
4. CYANIDE AND CO
 - a. Bind to hemoglobin preventing O₂ transport, also inhibit ET & production of ATP.
5. MITOCHONDRIAL ENCEPHALOMYOPATHY
 - a. Muscle weakness, headaches, and seizures. Elevated lactate, mutated mitochondria resulting in lack of ATP via failed mitochondrial oxidation pathways.
6. COPPER DEFICIENCY IN NEONATES
 - a. Usually in infants, anemia and cardiac problems, failed synthesis of heme and distrusted ET for reduced ATP.
7. CoQ10 DEFINENCY
 - a. Seizures, muscle weakness, and encephalopathy. Elevated lactate in CSF. Complex II-III & I-III chains not working.
8. IRON DEFICIENCY LEADS TO ANEMIA
 - a. Tiredness & pale. Hematocrit & hemoglobin low. Common in menstruating/pregnant women, or poor vegetarian diets.
9. DEFICIENCIES IN PYRUVATE METABOLISM IN THE TCA CYCLE
 - a. Loss of coordination and muscle tone. Acidosis. Elevated lactate. Pyruvate DH and α -keto DH deficient. E₃ is defective gene component. Leigh's Disease.

