Lecture summaries

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What is the relevance of anemia in critical illness?

This lecture will review the physiology of erythrocyte production, hemoglobin formation and degradation processes and iron metabolism. We will also explore the clinical significance of in house blood smear findings, such as heinz body anemia, ghost cells, spherocytes, polychromasia, reticulocytosis, ansiocytosis, and we will also discuss the usefulness of CBC scatter plots. We will then dive into the literature behind anemia in the ICU- incidence, timeline for development hospital acquired anemias, when does it resolve post discharge, is it worse in cats than dogs, what are the causes and diseases associated with anemia of critical illness, how is this linked to inflammation in disease states. We will also discuss treatments for anemia of critical illness- are older units of blood products appropriate? What is the evidence behind iron and vitamin B12 supplementation in critical illness? Would anti-oxidant therapy help? Are there novel therapies?

Learning goals

- Understand the physiology of hematopoiesis
- The frequency of and physiology of anemia in critical illness
- What can we do to manage/address anemia in critical illness?