Iron Deficiency

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Author Note

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# Question 1

## What is the Pathophysiology of Anemia of chronic disease?

The decrease in the number of circulating red blood cells (RBCs) along with the reduction in the required amount of hemoglobin present in RBCs which results in diminished oxygen-carrying capacity of blood (Doenges, Moorhouse, & Murr, 2014).

### Signs and symptoms of Anemia of chronic disease

It is associated with a number of physiological ailments, such as fatigue, dyspnea, dizziness, impaired sleep, debilitation, decreased cognition, and sexual dysfunction (Doenges et al., 2014).

### Etiology

Manifests as slow RBCs production as a result of low production of reticulocyte. It is often associated with causing anemia along with chronic conditions like Disney diseases, malnutrition and cancer (Doenges et al., 2014).

### Patient will present

The patient will present to the doctor with fatigue, lightheadedness, paleness in the skin, shortness of breath, irritability, fast heartbeat, chest pain, among other symptoms (Doenges et al., 2014).

# Question 2

## Pathophysiology of Thalassemia?

Thalassemia reduces the production of hemoglobin in the body, which is an oxygen-carrying protein in the body. Reduced production of hemoglobin results in reduced capacity of the blood to carry oxygen to various muscles and cells (NIH, 2019).

### Etiology

There are two types of alpha thalassemia, one of the more severe type and it is called Bart hydrops fetalis syndrome. It is abbreviated to Hb Bart syndrome. The other form of the disease is called HbH disease i.e. Hemoglobin H Disease (NIH, 2019).

### Signs and symptoms Alpha Thalassemia

One of the key symptoms for HB Bart syndrome is the presence of hydrops fetalis, which results in excessive fluid buildup in the body. This is followed by server anemia along with hepatosplenomegaly, abnormalities of genitalia or urinary system and heart defects. On the other hand, HbH disease is characterized by mild anemia, jaundice, and hepatosplenomegaly (NIH, 2019).

### Patient will present

Patients will present to the doctor with the signs of reduced percentage of red blood cells (RBCs), pale skin, fatigue, weakness, shortness of breath, and other serious complications (NIH, 2019).

# Question 3

## What is the Pathophysiology of Sideroblastic anemia?

Sideroblastic anemia occurs as a result of abnormal utilization of iron during the process of erythropoiesis (Ashorobi & Chhabra, 2019).

### Signs and symptoms Sideroblastic anemia

The patient suffering from sideroblastic anemia suffers from fatigue, shortness of breath, malaise, headache, and palpitations (Ashorobi & Chhabra, 2019).

### Etiology

Sideroblastic anemia has two forms, one is hereditary, as a result of mutation of the heme synthesis, iron-sulfur cluster biogenesis, while the other one occurs as a result of toxins, drugs, chronic neoplastic disease or copper deficiency (Ashorobi & Chhabra, 2019).

### Patient will present

A physical examination of the patient will reveal pale skin, conjunctival pallor, an even the bronzing of the skin due to iron overload. Furthermore, those suffering from hereditary sideroblastic anemia will be suffering from diabetes mellitus and even deafness (Ashorobi & Chhabra, 2019).

# References

Ashorobi, D., & Chhabra, A. (2019). Sideroblastic Anemia. In *StatPearls [Internet]*. StatPearls Publishing.

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NIH. (2019, July 16). Alpha thalassemia. Retrieved August 5, 2019, from U.S. National Library of MedicineâGenetics Home Reference website: https://ghr.nlm.nih.gov/condition/alpha-thalassemia