For this Discussion, you examine a case study and explain the disease that is suggested. You examine the symptoms reported and explain the cells that are involved and potential alterations and impacts.

To prepare:

By Day 1 of this week, you will be assigned to a specific scenario for this Discussion. Please see the "Course Announcements" section of the classroom for your assignment from your Instructor.

An 83-year-old resident of a skilled nursing facility presents to the emergency department with generalized edema of extremities and abdomen. History obtained from staff reveals the patient has history of malabsorption syndrome and difficulty eating due to lack of dentures. The patient has been diagnosed with protein malnutrition.

Day 3 of Week 1

Post an explanation of the disease highlighted in the scenario you were provided. Include the following in your explanation:

- The role genetics plays in the disease.
- Why the patient is presenting with the specific symptoms described.
- The physiologic response to the stimulus presented in the scenario and why you think this response occurred.
- The cells that are involved in this process.
- How another characteristic (e.g., gender, genetics) would change your response.

Week 1 DB: Main Post

Protein Malnutrition

In the scenario, an 83-year-old skilled nursing facility (SNF) resident is diagnosed with protein malnutrition. Malnutrition involves impaired absorption and altered nutrition utilization along with an imbalance between nutrient requirements and deficits (McCance & Huether, 2019). Protein-energy malnutrition (PEM), "is the involuntary loss of lean tissues such as muscle, viscera, and blood and immune cells, with or without loss of subcutaneous fat, as a result of inadequate energy, protein and other nutrients over time" (Marshall et al., 2018, p.1903).

Genetic Role

It is noted that the patient has a history of malabsorption syndrome. According to McCance and Huether (2019) malabsorption refers to the failure of the intestinal mucosa to absorb digested nutrients. The number one cause for malabsorption in The United States is the inherited disease of Cystic Fibrosis (CF) (John Hopkins Medicine, n.d.). In the case of CF, malabsorption is seen due to the thickened secretions from the pancreas causing clogged ducts and a decrease in enzyme secretion from the pancreas. There is not enough information presented in the scenario to identify if this patient has a history of CF but it could explain a genetic component to the history of malabsorption.

Patient Presentation

The patient is presenting with the symptom of generalized edema of extremities and abdomen (anasarca). This type of PEM is classified as Kwashiorkor, or PEM with edema (Marshall et al., 2018). Albumin, the main plasma protein responsible for regulating the oncotic pressure of attraction in the capillaries is deficient. PEM results in low plasma protein, causing