Case Study 1: Edema

Ms. Rand is a 65-year-old woman who spends most of her day sitting on her porch and recovering from a recent surgery involving the removal of suspected cancerous lymph glands in the inguinal area. She is now complaining that her shoes are fitting too tightly, and she has developed poorly healing sores on her legs and ankles. A closer examination also shows distention in her varicose veins. Blood tests reveal a low level of proteins in the plasma.

Based on the patient history and the signs and symptoms, identify the fluid imbalance the patient is experiencing, and state the rationale for your answer.

Discuss the four general causes of edema and how they apply in the case of this patient.

Discuss the swelling, sores, varicose vein distention, and other effects that edema can have on a patient.

Additional information:

https://www.youtube.com/watch?v=l1NjEoeXU2M

Case Study 2: Pernicious Anemia

Mr. Alvis, age 57, presented to his physician with marked fatigue, nausea with occasional diarrhea, and a sore, swollen tongue. Lately he also has been experiencing a tingling feeling in his toes and a feeling of clumsiness. Microscopic examination of a blood sample indicated a reduced number of erythrocytes, many of which are megaloblasts, and a reduced number of leukocytes, including many large, hypersegmented cells. Hemoglobin and serum levels of vitamin B12 were below normal. Additional tests confirm pernicious anemia.

Relate the pathophysiology of pernicious anemia to the manifestations listed above.

Discuss how the gastric abnormalities contribute to vitamin B12 and iron deficiency and how vitamin B12 deficiency causes complications associated with pernicious anemia.

Discuss other tests that could be performed to diagnose this type of anemia.

Discuss the treatment available and the limitations.

Additional information:

https://www.youtube.com/watch?v=LtlodYLm8fc

https://www.youtube.com/watch?v=1PG2VJzVTrs

Case Study 3: Cardiovascular System: Atherosclerosis

Mr. Kelly is a 57-year-old man who consulted his physician after noticing marked leg pains while playing golf. He had previously noticed increasing fatigue and discomfort in his legs associated with moderate exercise. When sitting for extended periods with legs dangling, his legs became red, and sometimes his feet felt numb. His history indicates he smokes cigarettes and is chronically overweight. His blood cholesterol and other lipid levels are abnormal, and his physician suspects peripheral atherosclerosis as the cause of his discomfort.

Discuss the development of atherosclerosis, including the predisposing factors in this case and the pathophysiological changes.

Discuss the complications that might develop in this patient.

Discuss the treatments for all aspects of the patient’s condition, including slowing the progress of the atherosclerosis, maintaining circulation in the leg, and treating complications.

Additional information:

https://www.youtube.com/watch?v=g3kDdg8r6NY

https://www.youtube.com/watch?v=1qifvZnpKjU

https://www.youtube.com/watch?v=\_T60pBGcoQU