

Module 2 Case Study Analysis Assignment

Student's Name

Institution of Affiliation

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Case study

76-year-old female patient complains of weight gain, shortness of breath, peripheral edema, and abdominal swelling. She has a history of congestive heart failure and admits to not taking her diuretic, as it makes her “have to get up every couple hours to go to the bathroom.” She now has to sleep on two pillows in order to get enough air.

Illnesses of the cardiovascular system often pose a challenge to the nurses and physicians involved in the day-to-day care of patients. As a result, nurses and physicians must understand the underlying pathophysiological processes related to the diseases of the heart and blood vessels because they offer a vital framework for patient management (Verhoeff & Mitchell, 2017). In the case study scenario, different cardiovascular and cardiopulmonary pathophysiological processes are responsible for the symptoms presented in the patient. The different cardiovascular and cardiopulmonary pathophysiological processes include cognitive heart failure that is linked to the peripheral edema.

Cardiovascular and Cardiopulmonary Processes Explaining the Patient’s Symptoms

The patient in the case scenario presents with various symptoms such as abdominal swelling, weight gain, and with a history of peripheral edema. Peripheral edema is the swelling of peripheral tissues as a result of increased weight or obesity that causes pressure on the veins. Due to the patient presenting with a history of cognitive heart failure, the symptoms may be significantly influenced by cognitive heart failure. Heart failure can cause both peripheral edema and abdominal swelling. The Cardiovascular process that influences the patient’s symptoms is the cognitive heart failure which makes the heart too weak to pump blood around the body as required, leading to the blood collecting in front of the heart (Inamdar & Inamdar, 2016). As a

result, there is increased blood pressure in the veins; fluids seep out into the neighboring tissues, thus causing swelling in the abdomen, as witnessed in the case of this patient.

Besides, the cardiopulmonary process that causes the patient's symptoms is the edema in the lungs, known as pulmonary edema. This condition is life-threatening and causes lungs to be filled with fluid since the left side of the heart is not strong enough to pump the blood returning from the lungs. As a result, blood collects in blood vessels of the lungs, fluids seeps out into the lungs. This process explains the shortness of breath and shallow breathing problems. From the case study, the patient admits that she has to sleep on two pillows to get enough air. Besides, racial variables may also impact the physiological functioning of the patient. For instance, racial healthcare disparities place African Americans at the risk of cardiovascular and cardiopulmonary complication due to lack of proper care.

Notably, the cardiovascular and cardiopulmonary pathophysiological processes interact to influence the patient's functionality. The increased movement of the fluids from the intravascular to the interstitial space such as capillaries of lymphatic vessels increases the capillary hydrostatic pressure as well as capillary permeability (McCance & Huether, 2019). As the fluids shift into the interstitial space, the intravascular volume gets depleted, activating the "rennin-angiotensin-aldosterone-vasopressin (AD) system," leading to renal sodium retention. As result, there is a fluid overload resulting in edema. These processes can lead to liver failure, heart failure, disorders of the kidney, which may all limit the mobility of the patient.

Overall, cardiovascular and cardiopulmonary processes can result in both mild to severe cardiovascular and cardiopulmonary illnesses that may be life-threatening to the patient. Therefore, the physicians and nurses need to understand the symptoms to administer the appropriate care to the patient. In the case study scenario, the processes that influence the

patient's symptoms include the process involved in heart failure and edema in the lungs. These processes can significantly influence the patient's mobility. Besides, the racial background can also influence the treatment such a patient may receive.

References

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