Heart failure case study example

Ms. Griffin was diagnosed with left-sided heart failure 8 years ago related to decades of uncontrolled hypertension. She is in skilled nursing care on oxygen by nasal cannula 24 hours a day. Ms. Griffin remains in bed or in a wheelchair because she has episodes of angina and dyspnea even at rest. Her weight has dropped from 160 pounds to 93 pounds over the past 2 years. Recently she had a " PEG" (percutaneous esophageal gastrostomy) feeding tube inserted.

1. Explain Ms. Griffin's classification of heart failure according to the New York Heart Association Functional Classification.

Ms. Griffin's classification of heart failure according to the New York Heart Association Functional Classification falls under class IV. This is because she is experiencing angina even at rest. The IV classification of heart failure according to the New York Heart Association Functional Classification is that classification in which patient is symptomatic even at rest. This is a dangerous sign.

The Criteria Committee for the New York Heart Association. (1994). Nomenclature and Criteria for

Diagnosis of Diseases of the Heart and Great Vessels Ninth Edition. Little Brown and

Company, 253-255.

2. Explain how her weight loss is related to heart failure.

Heart failure is a condition characterised by failure of the heart to pump blood sufficiently. The blood supply is not enough to supply the body with the amount of blood its tissues needs. The blood that goes through the chambers of the heart is not entirely pumped out. In this condition patient

may experience Cardiac cachexia. This is a condition in which a patient with heart disease suffers from severe, unplanned weight loss. A number of heart disease-associated issues can bring about this complication. Ms. Griffin's is also in very serious condition. She will be having a reduce appetite and an increase nausea because of blood pooling into the liver and intestines causing swelling, insufficient absorption of nutrient as a result of swollen intestines. Also, in increase in body temperature may bring about an increase in metabolism. This occurs because heart is already not pumping blood sufficiently; it leads a patient to breathe with difficulty. Cardiac cachexia can also take place when the metabolism enhances because of tumour necrosis factor (Witte, Clark, & Cleland, 2001). This causes the patient to burn more calories and thus loses weight. Nausea may also cause rapid weight loss in patients with heart failure. Owing to nausea, patients start a disliking for foods; they avoid them and then become weight loss. It has been seen that nausea control can usually lead to good control over rapid weight loss.

Witte KK, Clark AL, Cleland JG. (2001). Chronic heart failure and micronutrients. J Am Coll Cardiol, 37, 1765-1774.

3. Explain what a sudden gain of 2 lb may mean.

Weight gain may take place in heart failure. Sometimes, it is the first most sign in the patients suffering from cardiac failure. A sudden gain of 2 lb means an increase in fluid (oedema) collecting within the body. For that reason, such patients are asked to monitor their weight tightly and report if they find an increase of 2lb to their doctor.

4. She manifests signs of both left-sided and right-sided heart failure.

Explain.

As we know that the right-side heart failure results when the heart fails to pump sufficient blood to the lungs to take the oxygen and left heart failure occurs when heart is not able to pump sufficient oxygen-rich blood to the body. Left-sided heart failure may lead to the development of the right sided heart failure. In this way, sign of both sided heart failures ensues as is seen in this case also.

5. Ms. Griffin's ejection fraction is 19%. Write a value for a normal ejection fraction and explain what an ejection fraction is.

Ejection fraction (EF) stands for the volumetric fraction of blood that is pumped out of the ventricle of the heart with each cardiac cycle or heartbeat. It is applied to both the ventricles. The right ventricle ejects the blood through the pulmonary valve into the pulmonary circulation while the left ventricle ejects blood through the aortic valve into the systemic and cerebral circulation.

In a healthy person of weight 70 kg an ejection fraction is about 0. 58 (58%) or 70⁄120.

6. Explain the types of techniques commonly used for diagnosis of heart failure.

Echocardiogram, laboratory tests and Electrocardiogram are the main techniques commonly used for diagnosis of heart failure. The echocardiogram offers instant information on ventricular systolic, chamber volumes, valve function, wall thickness and diastolic function.

The ECG shows the rhythm of heart and the electrical conduction. It may also display evidence of ventricles hypertrophy.

Routine haematological as well as biochemical investigations are also required such as

- Complete blood count

- Lipid profile

- Renal function tests

- Other investigations include:

- Perfusion imaging

- Chest X-ray

- Angiography in suspected coronary artery disease (CAD)

- Cardiac computerized tomography (CT) scan

- Endomyocardial biopsy

- Magnetic resonance imaging (MRI)

7. Discuss the pharmacological treatments for heart failure

Heart failure is treated with a combination of different medicine (Futterman & Lemberg, 2001). These include:

- Angiotensin-converting enzyme (ACE) inhibitors

- Beta blockers

- Angiotensin II receptor blockers

- Diuretics

- Aldosterone antagonists

- Inotropes

- Angiotensin II receptor blockers

Futterman, L. & Lemberg, L. (2001). Heart failure: update on treatment and

prognosis. Am J Crit Care, 10, 285-293.

References

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