Malnutrition case study sample

Food & Diet

Abstract

This paper focuses on a case study involving a patient with heart disorder. The paper answers nine questions based on the case study. The case study helps provide insight into symptoms management heart diseases.

Question 1

Both health and nutritional status of PF are poor. To start with, he has a medical history of pulmonary edema. Pulmonary edema presents with among other signs and symptoms, shortness of breath and course breath sounds. Given that PF has been complaining of shortness of breath, it follows that he might be experiencing yet another episode of pulmonary edema. Pulmonary edema can also be suspected given that heart failure, high altitude exposure, and renal failure are some of its risk factors (Bristow, Feldman, and Saxon, 2000). PF has a medical history of heart and renal failure. This explains the possibility of the underlying problem being pulmonary edema. Besides, he lives in a two storey building with essential rooms being on the first floor. This exposes him to high altitude environment hence pulmonary edema. Also, the high values recorded for heart rate and blood pressure suggest an underlying medical problem. Also, PF his condition and the fact that his wife is not able to take care of him must be major sources of psychological stress to him. This may also be the cause for high blood pressure.

PF may also be suffering from dementia. This is explained by the mini-mental status exam score being recorded as 16/30. Besides, he cannot respond accurately to questions asked due to probable loss of memory. This suggests considerable cognitive impairment.

Drugs used by PF also exhibit certain side effects which may worsen his health and nutrition status. For instance, ditiazem is known to cause difficulty in breathing, fluid retention in lower limbs, and widening blood vessels. Hydralazine on the other hand causes nausea, vomiting, and diarrhea (Haddad, 2008). The three effects bear significant effects on nutrition status of PF.

Question 2

Apart from other causes, hormones and cytokines are also linked to pathophysiology of renal and heart failure-induced cachexia. Cytokines involved include; TNF-α, interleukin 6 (IL-6), interleukin-1, Interleukin-10, and transforming growth factor β. On the other hand, hormones that influence cachexia in renal and heart failure include; epinephrine, norepinephrine aldosterone, and cortisol (Wilkins, Dexter, and Heuer, 2010).

Question 3

Serum albumin, transferrin, hematocrit, hemoglobin and total iron-binding capacity (TIBC) are laboratory data that help assess nutritional status of an individual. Transferrin, hematocrit, hemoglobin, and total iron-binding capacity are used to detect iron deficiency or diagnose to anemia. PF's hematocrit and hemoglobin tests show low values. Alongside these tests, ferritin test should have been used to affirm the presence of anemia. Serum albumin is used to test protein level in blood. Urine protein test results for PF imply that he must be suffering from kidney damage.

Question 4

B. E. E. = 66. 5 + (13. 75 x weight (kg)) + (5. 003 x height (cm)) - (6. 775 x age)

B. E. E. = 66. 5 + (13. 75 X 59. 87) + (5. 003X175) – (6. 775X82)

B. E. E. = 66. 5 + 823. 2125 + 875. 525 – 555. 55

B. E. E. = 1209. 6875 Kilocalories

Question 5

First, protein intake for people with renal failures needs to be lowered below the RDA levels to enable the kidney to effectively excrete products formed from its metabolism. Therefore, diet high in protein is not recommended for PF. On the other hand, increasing carbohydrate intake is advisable in order to help boost PF's weight. The highest proportion of calories should be obtained from carbohydrates while calories obtained from lipid and protein diets should be lowered. PF should also reduce his level of fat intake. This is essential to reduce risk of more cardiovascular diseases. Salt should be minimized significantly in his diet owing to hypertension.

Question 6

The following goals would be appropriate for PF's condition while hospitalized: the patient's and care giver to understand the need to follow recommended diet; PF to gain at least 2. 2 pounds after one week; and hemoglobin level to improve up to 10 after one week. Interventions would include; nutrition counseling, drug therapy, and diet therapy.

Question 7

Care for PF would involve both pharmacologic and non-pharmacologic strategies. Pharmacologic care would involve administration of drugs such as angiostensin II receptor blocker, and digoxin. Both angiotensin converting enzyme and angiostensin II receptor blocker help widen blood vessels to lower blood pressure. Non pharmacological therapy would include nutrition therapy that involves diet low in protein but high in carbohydrate calories to boost the patient’s weight.

Question 8

In order to ensure that proper diet is followed, food pyramid, food composition tables and RDA chart are used to help with food selection. Blood sugar machine would also be used to take blood sugar level regularly to minimize risk of complications caused by chronic hyperglycemia. It is therefore important to discuss this with the patient.

Question 9

- Shortness of breath related to pulmonary edema and manifested by course breath sound and high HR.
- Wasting related to inadequate dietary intake and manifested by dangling wrist watch.
- Dementia related to brain damage and manifested by low mini-mental status score.

Goals include; treatment of pulmonary edema, achieving weight gain, and nutrition counseling.

References

Bristow, M. R., Feldman, A. M., & Saxon, L. A. (January 01, 2000). Heart failure management using implantable devices for ventricular resynchronization: Comparison of Medical Therapy, Pacing, and Defibrillation in Chronic Heart Failure (COMPANION) trial. COMPANION Steering Committee and COMPANION Clinical Investigators. Journal of Cardiac Failure, 6, 3, 276-85.

Haddad, H. (January 01, 2008). Heart Failure.

The, A. F. F. I. R. M. I. (March 30, 2004). Relationships Between Sinus Rhythm, Treatment, and Survival in the Atrial Fibrillation Follow-Up Investigation of Rhythm Management (AFFIRM) Study. Circulation, 109, 1509-1513.

Wilkins, R. L., Dexter, J. R., & Heuer, A. J. (2010). Clinical assessment in respiratory care. St. Louis, Mo: Mosby.