

Congestive Heart Failure: Case Study

Name

Institution

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Problem

PR is brought to the emergency department with difficulty in breathing which has lasted for a few days. The 58 year old patient presented with anterior myocardial infarction a week ago. The initial treatment of the infarction was morphine (IV), aspirin, PTCA, metoprolol (IV) and integrilin (IV). The initial treatment was tolerated well by the patient even though it subsequently led to some myocardial damage. Moreover, the patient showed signs of moderate to severe pulmonary edema after the initial treatment. The condition of the patient seems to have deteriorated. This reflects that the patient needs immediate medical intervention which includes timely diagnosis and subsequent treatment for his heart condition.

Risk Factors

The patient history demonstrates that he smokes 1.5 packs every day. The patient has been smoking for 35 years. The patient's smoking is one of the risk factors which predisposed him to his heart condition. Moreover, the patient is an occasional drinker which predisposed him to his heart problem. In addition, lack of proper exercise and failure to adhere to a healthy diet. Psychological stress would also be among the risk factors predisposing the patient to his heart condition.

Assessment

Current treatment

The patient is currently on ECASA, Isosorbide dinitrate, Metoprolol, Nitroglycerin and Glyburide. The current treatment is aimed at relieving of symptoms of the patient's heart condition, prevention of worsening of the condition. The current treatment is also aimed at treating the condition of the patient.

Appropriateness of Medication

The drug indications for the patient include ECASA which contains aspirin as an active ingredient. This drug is effective and appropriate in the relief of pain related to heart conditions. Moreover ECASA is effective in the prevention of possible inflammation to the heart which would worsen the condition of the patient. The indication for isosorbide dinitrate is appropriate for the management of the patient's condition because this drug is effective in the prevention of chest pain related to heart conditions especially angina. Nonetheless, isosorbide dinitrate has adverse effects such as lightheadedness, flushing and headache which must be taken into consideration in the management of the condition. Metoprolol acts through blockage of beta-adrenergic receptors of heart muscles. This illustrates that metoprolol is effective in preventing the complication of the patient's condition into heart failure as a result of adrenergic stimulation.

It is however important to note that drug interaction of metoprolol with digoxin and calcium channel blockers would result in excessive reduction of blood pressure. Therefore counter indications must be provided during the prescription of metoprolol for the patient's condition.

Nitroglycerin is an appropriate vasodilator which is indicated for the treatment of the patient's congestive heart failure. Glyburide which acts to lower the glucose levels in blood is an appropriate indication for the patient's heart condition. This is because glyburide acts as an adjunct to exercise and diet. Since the patient is short of breath, exercising would not be viable and hence the appropriateness of glyburide as one of the medications for the management of his heart problem.

The dosages of these medications as provided in the indication are appropriate for the adult patient. Nonetheless the condition of the patient would influence possible adjustments to the treatment. In order to ensure that the patient adheres to the medication, the health care provider must ensure compliance by encouraging the patient to take the drugs. This would be achieved by explaining the importance of adhering to the dosages and the possible side effects that are related to the drug. When the patient is presented with the possible side effects, he would be enabled to selective alternative drugs for the management of the condition and hence promote adherence to the medication.

Additional information and Recommendations

There is need for the reduction of the amount of salt in the diet of patients with congestive heart failure. It is therefore recommended for the patient to be advised to avoid salt in the diet. Moreover it is recommended for the patient to stop smoking because it puts him at the risk of worsening of his heart condition. Moreover, accurate adherence to the medical regimen for the patient's condition is recommended.

Desired therapeutic Outcomes

The desired therapeutic outcomes include relief of the patient's pain and symptoms of the congestive heart disease such as shortness in breath. Moreover, the desired outcome of the therapy includes healing the patient's condition though effective treatment, management and quality care. For this to be achieved, the desired outcomes also include normalizing of the patient's vitals. For example the patient's blood pressure which currently reads at 135/93 should be reduced as one of the desired therapeutic outcomes. In addition, the patient's heart rate is

expected to reduce from the current 69. In addition, long term outcomes such as prolonged life for the patient are among the desired outcomes of the treatment.

Plan

Recommendations

Exercising is one of the non pharmacological therapies recommended for the patient's congestive heart failure. A plan for regular exercising must be designed and implemented for patients with congestive heart failure (Leibundgut, Pfisterer & Rocca, 2007). Nonetheless the exercising in congestive heart failure must be achieved through a progressive or gradual exercising program. This is important in enabling the body of the patient to gradually develop into peak physical and psychological conditions (Levy & Levy, 2008). The exercises recommended for the patient in this case should begin with light walks for up to 20 minutes. These walks are recommended to be carried out about three to four times in a week. This will be followed by longer sessions of walking followed by running. The moderate exercises are recommended to run for thirty minutes and performed for at least five days of the week. These exercises are to be followed by endurance exercises as appropriate. The exercising program as recommended must be monitored by a health care professional so that the patient is allowed to improve progressively and hence meet the long term desired outcomes of the therapy.

Dietary recommendation for the patient's congestive heart failure includes a reduction in the amount of sodium in the diet. The reduction of sodium in the diet in congestive heart failure is justified by the fact that excessive sodium acts to promote retention of fluid in the body (Feenstra, Lubsen, Grobbee & Ch Stricker, 2009). This leads to an increase in blood pressure and the resultant difficulties in breathing. In this regard, it is recommended for the patient to eat food

which has low salt. It is specifically recommended that the patient should not take more than 2000mg of salt per day. Moreover, low calorie and low fat foods are recommended for the patient. Low fat and low calorie foods are justified because they help patients with congestive heart failure to reduce their weight and hence prevent further complications and worsening of the condition. In this regard, it is recommended that the patient takes low fat foods such as vegetables, fruits, cereals, fish, nuts and pasta.

It is also recommended that the patient stops smoking and taking alcohol. This is due to the fact that these behaviors are risk factors for congestive heart failure and other conditions of the heart. Moreover, smoking and drinking would lead to the complication of the patient's condition. Furthermore, it is recommended that fluid intake by the patient is restricted or limited. This is because excessive drinking of fluids among congestive heart failure patients leads to retention of more fluids in the body and therefore worsening the symptoms of the heart condition (Leibundgut, Pfisterer & Rocca, 2007). It is also recommended that patients monitor their weight. This is because rapid gain in weight indicates that a patient of congestive heart failure is retaining excessive fluids in the body. The patient should report any abnormal weight gain to the doctor for proper management of the condition.

The pharmacological therapy which is recommended for the patient's condition includes the following drugs and dosages. Captopril is the ACE inhibitor recommended for the condition. A starting dose of 6.25mg-12.5mg tid is recommended with a target dose of 25mg-50mg tid depending on the response of the patient to the medication. Captopril is recommended for its high efficacy and potency in the reduction of blood pressure with minimal side effects (Bostock, 2011). Carvedilol is the beta blocker that is recommended for the treatment of the patient's congestive heart failure. A carvedilol start dose of 3.125mg bid is recommended with a target

dose of 25mg bid. Moreover, a spironolactone start dose of 12.5mg od and target dose of 50mg is recommended for the patient because of the high potency of this aldosterone antagonist (Feenstra, Lubsen, Grobbee & Ch Stricker, 2009). Isosorbide dinitrate is the vasodilator recommended for the treatment of the patient. The Isosorbide dinitrate should be given with a start dose of 20mg tid and a target dose of 40mg. Finally ECASA 325 mg po daily is recommended to prevent the pain experienced by the patient and possible inflammation of the heart muscle. The recommended doses will however depend on the medical progress of the patient and possible complications and counter indications for the therapeutic agents.

Monitoring

Efficacy (E) or Adverse Effect (AE)	Parameter	Method	Goal	Alter Treatment when/if
Efficacy (E)	Pain	The patient's diary and information gathered during doctor patient interviews will be used to assess the level of pain that the patient is experiencing	The goal of the treatment is to reduce the pain of the patient as much as possible	If the pain persists, treatment should be altered or dosage of pain medication and ECASA increased as appropriate
Efficacy	Level of	Laboratory tests of	The goal of the treatment is to reduce the amount of salt in blood	If high amount sodium in blood

(E)	Sodium	the patient's blood	as much as possible. This is due to the need for reducing the fluid retention. Therefore the treatment will be aimed at ensuring that fluid retention is minimized	persists, a different ACE inhibitor should be used. Alternatively, the dosage of the captopril would be used as the doctor finds appropriate
Efficacy (E)	Blood Pressure	Regular taking of patient vitals and blood pressure measurement	The short term goal of the treatment is to reduce the blood pressure of the patient. The long term goal is to stabilize the blood pressure at the normal level. This goal is aimed at ensuring that complications of the condition are prevented.	
Adverse Effect (AE)	Reaction of the patient to the drugs	Observation of the patient	The goal of the therapy is to minimize the side effects of drugs by the implementation of the most efficacious combination of drugs with minimal side effects	If the patient demonstrates adverse side effects, alternative drugs must be used

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