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1.0 Definition of coronary heart disease

Coronary heart disease is the medical term that describes what happens when the heart's blood supply is blocked or interrupted by a deposit of fatty substances in the coronary arteries. This process is known as atherosclerosis and the build-up of fat is called plaque or atheroma (NHS, 2020).

2.0 Physiology of coronary heart disease

In the case of coronary heart disease, if left untreated, the plaque can restrict the flow of the oxygenated blood causing damage to the muscle of the heart. This condition is referred to as ischemia. The main symptom for people who suffer from coronary heart disease is chest pain, also referred to as angina. This pain can radiate towards the left arm and jaw, creating a sensation of discomfort and numbness. Individuals can also experience shortness of breath on exertion, feeling faint and sometimes sick. If the narrowing of the heart vessel is severe and prolonged, the damage to the heart muscle becomes significant and it can lead to a heart attack and even death (NHS, 2020).

3.0 Case study patient and risk factors

3.1 Case study patient

From the Health and Lifestyle Questionnaire conducted, we can identify several risk factors that can influence the patient's health. In this particular case, the patient suffers from hypertension, with a blood pressure of 180/ 90. The patient smokes almost a pack of cigarettes and consumes an excessive amount of alcohol on a daily basis. Also, the patient does not engage in any form of exercise and does not have an apparent healthy diet, eating mostly meat, fried or frozen foods. Considering her BMI, the patient is classified as overweight. Furthermore, the interviewed patient has a family history of cardiovascular problems, her father suffering from a heart attack, and her sister is known to have high cholesterol.

3.2 Coronary heart disease risk factors

All of the above mentioned are very common risk factors and lifestyle behaviours found in patients suffering from coronary heart disease.

An unbalanced diet, based on meat and fatty foods, is a leading cause for heart diseases. Paired with limited or no physical exercise, it leads to high cholesterol, which eventually deposits on the inner walls of the arteries, causing plaque to occur, and eventually developing into atherosclerosis (NHS, 2020).

Given the fact that the person suffers from obesity, she is more inclined to develop coronary heart disease. As a result, her high blood pressure already classifies the patient as vulnerable to acquire a heart condition.

Studies indicate that consumption of alcohol and smoking in combination with poor dietary habits are leading causes for developing coronary disease. The chemicals from cigarette smoke get absorbed into the bloodstream and can affect the heart and blood vessels. Studies indicate that the leading cause for death worldwide is ischaemic heart disease. These studies also show that women are particularly more vulnerable than men when it comes to developing cardiovascular diseases (Zyriax, 2018). Another factor to take into consideration is genetics. The patient's family has a history of cardiac issues; therefore, she is very likely to inherit them (Semaev, 2020).

4.0 Lifestyle and behaviour changes to prevent coronary heart disease

Coronary heart disease can be preventable if individuals make changes in their lifestyle and behaviour. By reducing the causes and risk factors, people can become less susceptible to developing atherosclerosis (NHS, 2020).

4.1 Quitting Smoking

As smoking tobacco in combination with meat consumption increases the chances of atheroma forming in the coronary arteries, medical specialists recommend discontinuing this harmful habit. Also, studies have shown that women who smoke have a 25% higher risk of coronary heart disease compared to male smokers and can be more harmful and hazardous. By stopping smoking the blood pressure and heart rate lowers almost immediately. After quitting smoking the blood becomes thinner therefore the chances of blood clots forming in the arteries reduces significantly. Also, the cholesterol drops to a healthier level after a person stops smoking (Zyriax, 2018).

For a healthy and balanced lifestyle, there are a few key issues an individual needs to address. First, a balanced diet is key to maintaining good physique and a normal BMI. Avoiding or at least reducing the intake of fatty foods, foods with high sugar, caffeine and alcohol will provide visible results and can prevent most cardiovascular diseases. Avoiding smoking and, in general, substance abuse is another factor to consider for a healthy lifestyle.

Smokers are far more likely to suffer from cardiopulmonary illnesses than people who never smoked (Zyriax, 2018).

4.2 Doing regular exercise

Doing regular exercise also decreases by a considerable margin the chances of an individual being at risk of having coronary heart disease. The cardiovascular health benefits of a physically active lifestyle are acknowledged by the medical professionals and very often mentioned in many studies. Exercising helps you regulate your body weight by burning more calories, also helps strengthen your heart muscle and dilates your heart vessels, reducing the risk of having significant blockages caused by plaque. The blood pressure also regulates to a healthier level when you exercise often. Physical activity and having a good diet improve your health overall and it's recommended by medical specialists for almost all illnesses and diseases, not only for coronary heart disease (Eijsvogels, 2017).

5.0 Conclusion

Making better lifestyle and behavioural choices can improve your general health, increase your life expectancy and reduces the chances of developing coronary heart disease.

6.0 Reference List

Eijssvogels, Thijs M.H, & Maessen, Martijn F.H. (2017). Exercise for Coronary Heart Disease Patients: Little Is Good, More Is Better, Vigorous Is Best. *Journal of the American College of Cardiology*, 70(14), 1701–1703.

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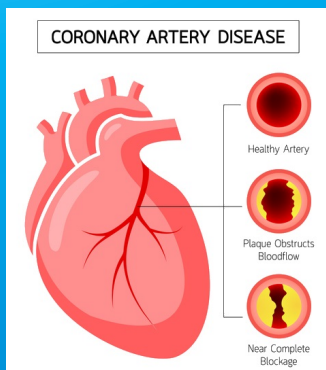
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Coronary heart disease

- “Coronary heart disease describes what happens when the heart's blood supply is blocked or interrupted by a build-up of fatty substances in the coronary arteries.” (NHS, 2020).
- Atheroma restricts the blood flow of the artery causing chest pain (angina), shortness of breath, feeling faint / sick and can lead to heart attack (NHS, 2020).
- Case study patient suffers from hypertension, consumes three units of alcohol daily and is smoking excessively. Patient is overweight, eats unhealthy food (meat, fried and frozen food). Patient does not do any physical activity and has a family history of cardiac health issues.



- Atherosclerosis risk factors: smoking , poor dietary habits (Semaev, 2020), overweight, hypertension, lack of exercise (Eijsvogels, 2017), family history (Zyriax, 2018).
- Lifestyle changes can reduce the risk of having coronary heart disease:
 - Stopping smoking reduces the risk of having a heart attack (Semaev, 2020): lowers the heart rate and blood pressure, lowers the cholesterol levels and thins the blood preventing blood clots.
 - Doing regular exercise strengthens the heart muscle, helps with weight reduction, decreases blood pressure and reduces cholesterol level (Eijsvogels, 2017).



Eijsvogels, Thijs M.H. & Maessen, Martijn F.H. (2017). Exercise for Coronary Heart Disease Patients: Little Is Good, More Is Better, Vigorous Is Best. *Journal of the American College of Cardiology*, 70(14), 1701–1703.

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