**Angina Pectoris**

1. **Describe the path physiology (cause, progression and outcome) of Angina. Include in your answer risk factors for Angina and the treatment options for Angina. Demonstrate links to Jon’s case (i.e. What has been commenced for Jon in terms of preventative pharmacology and what preventive strategies would be appropriate in his case?)**

Angina pectoris is a pain or discomfort usually felt in the chest. It is a symptom for coronary heart disease. It is characterized by the following signs and symptoms:

1. Squeezing, crushing or burning sensation that results to heaviness or tightness in the chest.
2. Pain in the shoulders, jaw, neck, arms and at the back.
3. Sweating, breathlessness and nausea.

The path physiology of Angina commences when the heart muscle lacks enough oxygenated blood from the coronary arteries. This happens when the blood flow towards the heart is restricted may due to a blockage in any of the coronary arteries resulting to the narrowing of the arteries. Therefore, the oxygen demand in the heart increases since less blood reaches the heart. This condition where there is an imbalance between the rate of blood flow to the heart and the oxygen demand is known as myocardial ischemia. As a response, autoregulation takes place, this includes the dilation of the blood vessels carrying blood towards the heart. The blood flow then changes rapidly due to the high oxygen demand.Myocardial ischemia damages the heart muscle thus lowering its ability to pump blood efficiently. Consequently, myocardial ischemia causes Angina pectoris (Albrecht, 20th February 2013),

Below are some of the factors that increases the risks of developing Angina (Belleza, 8th December, 2016)

* **Smoking.** Long-term consumption of tobacco place as person at a high risk of developing Angina. Smoke causes a lot of damage on the inside of artery walls. The damage allows the collection of cholesterol and other substances in specific instances thus narrowing the arteries; hence, resulting to Angina. Smoking also causes blood clots in coronary arteries.
* **High blood pressure.** This is the persistent elevation of blood flow in arteries. High blood pressure accelerates the buildup of plaque in coronary arteries thus narrowing the blood vessel.
* **High blood cholesterol levels.** Cholesterol is among the substances that collects around coronary arteries causing blockage. High intake of saturated fats and cholesterol increases the risks of getting Angina.
* **Obesity.** This is the state of being overweight. It is as a result of having excess fats in the body. Obesity is known for causing diabetes, high cholesterol levels in the blood and high blood pressure.
* **Physical inactivity.** A person living a life that involve none of a few physical activities is likely to develop obesity which leads to angina.
* **Diabetes.** A diabetic person is at a high risk of developing angina because diabetes causes damage to blood vessels.
* **Stress.** Stress causes hypertension thus increasing the risk of developing Angina.
* **Age.** Aging people mostly above 45 years are a high risk of developing angina.

In Jon’s case, it is vivid that his lifestyle; long-term smoking, physical inactivity, high blood pressure, and aging are the reasons he has developed Angina. Aspirins will reduce the risks of blood clots in arteries thus preventing blockage of arteries. Glyceryl trinitrate spray will play a huge role in ensuring that Jon’s coronary arteries function properly be ensuring that they are open throughout. Pravastatin will go a long way in ensuring that they decrease cholesterol in Jon’s body. Metoprolol is not only used a medication for high blood pressure but also as a preventive measure for further heart problems. Other preventive strategies will include consuming healthy diet with limited fats and cholesterol such as whole grains, vegetables and fruits, exercise to maintain weight and adoption of stress decreasing techniques, decreasing stress is an effective measure of preventing obesity.

1. **Discuss three nursing assessments (excluding vital signs) you would initiate for Jon and provide rationale as to why these would be your priority.**

**Pain characteristics.** As a nurse, I will assess the characteristics of the pain he is going though asking questions revolving around the following topics; the onset of the pain, the location of the pain, is it in the chest alone or it is also felt in other parts such as the arms, shoulders, neck and at the back, Is the pain crushing, squeezing or burning? How long does the pain last, minutes, hours or days? The exact estimate of the duration, 20 minutes or two hours. The intensity of the pain, I will assess the intensity of Jon’s pain on a scale of 1-10. I will finally assess the measures that can be used to relieve Jon’s pain (Hagler et al, 2017).

**Health history.** For Angina, it will be very essential to assess Jon’s health history. As a nurse, I will have to assess his past medical history. This will include checking for previous heart problems e.g. heart attacks, stroke and Angina, his previous blood pressure tests and also all the other vital signs i.e. vital signs history, levels of lipids in the body and also enquire if he has suffered Angina related disease before such as diabetes and hyperlipidemia. The other important aspect will be his social and family history. This will definitely include enquiring about his smoking history; for how long has he been smoking, when did he quit smoking and why, the estimate of how much he did smoke e.g. the average number of cigarettes he smoked in a day. If any of his close family relative suffered from heart disease such as stroke, heart attack and hypertension, and if yes, their age when they developed the disease. I will also enquire about diet history, his favorite meals; food and beverages, his day-to-day diet. His social life such as drug history, his occupation, does he engage in any exercise? If yes, which exercise and how often, history about his body mass index (BMI) and finally his stress level.

**Other Symptoms.** This assessment process will include enquiring about any other symptoms that occur with the pain. Jon will have to explain to me about all the other symptoms he is experiencing along with the pain. Since he is suffering from coronary heart disease the following signs and symptoms are to be expected; sweating, pallor as a result of inadequate blood supply to peripheral tissues, numbness a sensation of weakness in arms, hands and wrists, breathlessness due to an increase in oxygen demand, increased pulse rate and nausea.

The above discussed assessment strategies will help a great deal in determining the root causes of the coronary heart disease Jon is suffering from, the degree at which the disease has reached in his body and also the best interventions measures to be employed so as to cure the disease.

1. **Discuss three nursing *interventions* (excluding pharmacological) you would initiate and provide rationale as to how these would improve outcome of Jon’s chest pain.**

**Reducing oxygen demand.**

The fast steps toward curing Jon’s chest pain will be by reducing the oxygen demand of his heart. The best way this will be possible is by balancing body activities and adequate rest periods. As discussed above, moderate body exercisesensure that the blood pressure lowers, hence the heart rate also reduces. As a result, the oxygen consumptions also reduces thus the demand for oxygen by the body lowers. It will be my initiative to encourage Jon to adopt moderate exercises such as simple aerobics. To reduce oxygen consumption, as a nurse I will encourage timely reporting of pain by Jon (Thomas, M. 2017*),*

**Reduce Anxiety.** Anxiety disorders affect more that 20% of CAD patients. These disorders include negative self-talk resulting to drop in self-confidence, depression, restlessness, uncertainty, loss of influence in the society or family, having a self-view as useless and viewing death as an immediate and inevitable reality. Below are some of the measures I will use to reduce Jon’s anxiety;

* Encourage his family and friends to embrace him and show him love in order to boost his morale and confidence.
* Promote the expression of feelings and fears just to let him know it is normal for humans to express their feelings and fears.
* Encourage him to have confidence with the medication process.

Anxiety often affects the treatment process. If I manage to reduce Jon’s anxiety, he will regain confidence and this will be a step closer to healing.

**Provide patient education.** The absence of knowledge about Angina has led to the suffering of many people. As a nurse, I will educate Jon about CAD to equip him with the necessary knowledge to protect himself against the effects of CAD. This intervention program will involve the following;

* Discussing the pathophysiology of angina.
* Managing and preventing angina.
* Importance of managing stress and weight control.
* Effects of smoking.
* Benefits of regular and safe exercise
* Benefits of balanced diet.

Such information will familiarize Jon with angina and he will assume the responsibility of protecting himself against angina and other coronary heart disease. This intervention technique will enable Jon to learn various way of managing and preventing angina attacks, if he adheres to the teachings then he will be able to manage the chest pains he has.

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