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HOW DO CARDIOVASCULAR DISEASES AFFECT THE BODY?

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Resume. *As the heart is a major organ in the circulatory system, it is obvious that the heart condition affects the normal functioning of other organs. Any illness in the cardiovascular system can disrupt the functioning of not only the heart, but also other parts of the body which need blood for proper functioning*

Keywords: *Cardiovascular diseases, consequences.*

Topicality. Cardiovascular disease is the leading cause of death for both men and women in the world. It is important to learn about your heart to help prevent heart diseases.

Objective: The aim is to show that cardiovascular diseases affect not only the heart, but also other parts of the body and are responsible for the impairment of major organ systems, often leading to death.

Results and its discussion. The most common disease is atherosclerosis. Atherosclerosis is the formation of plaque in arterial walls. Plaque is made up of fat,

cholesterol, calcium, and other substances found in the blood. Over time, plaque hardens and narrows arteries. This limits the flow of oxygen-rich blood to our organs and other parts of the body. If plaque is formed in blood vessels, that deliver blood to the brain, it can lead to stroke. As a result of stroke, the brain tissues become damaged. Blockage of the carotid arteries of the neck affects our mental abilities and can lead to memory loss.

Narrowing of blood vessels in the heart can lead to a heart attack. In case of blockages in the kidney malfunctioning of the kidney may develop, or even kidney failure occurs.

If a person had a heart attack, he has sustained a certain amount of damage to the heart muscle, and he may be at risk of developing heart failure. Heart failure is a condition where the heart is not pumping enough blood to meet the needs of the body until it can no longer sustain the effort needed. Congestive heart failure occurs when the heart cannot pump out all the blood that returns to it and the blood start backing up in the veins. This results in fluid accumulating in various parts of the body causing swelling (edema).

Hemorrhagic strokes occur when weakened blood vessels rupture and bleed into the surrounding brain tissue. The blood then accumulates and starts to compress the brain. Further, brain tissue beyond the rupture is starved of oxygen.

In an ischemic stroke, blood supply to part of the brain is blocked. The decrease in blood supply causes brain cells to die, which affects a person's ability to carry out vital functions such as walking or talking.

A sudden blockage in an artery going to the lung by a blood clot can cause permanent damage to the lung that can prevent other organs from getting oxygenated blood. If the clot is large or there are many clots it can cause sudden death.

If blockage of arteries occurs in the arms or legs, it is referred to as peripheral vascular disease. It may disturb the ability to move the arms or legs, which can lead to disability, gangrene, ulceration, and amputation.

Several studies were conducted on the gastrointestinal changes associated with chronic heart failure. Some groups of drugs used in treating heart diseases, have negative effects on the digestive organs. Aspirin has an antiplatelet effect by inhibiting the production of thromboxane which under normal circumstances binds platelet molecules together to create a patch over damaged walls of blood vessels.

Because the platelet patch can become too large and also block blood flow, aspirin is also used long-term at low doses to help prevent heart attacks, strokes, and blood clot formation in people at high risk of developing blood clots. However the main undesirable side-effects of aspirin taken by mouth especially in higher doses are gastrointestinal ulcers, stomach bleeding, and tinnitus.

Calcium antagonists have been shown to be superior over other antihypertensive drugs to prevent stroke. The studies of Australian School of Pharmacy provide the important data on the increasing frequency of exacerbation and precipitation of gastro-esophageal reflux symptoms amongst users of CAs [2].

As in other chronic diseases, in HF caused by inflammatory process, there is activation of mechanisms involved in the reduction of the iron absorption leading to decrease in serum iron, a condition referred to as actual iron deficiency [3]. Another factor

which may induce anemia is the blood loss by GIT. Many patients with HF use antiplatelet agents, such as acetylsalicylic acid and/or anticoagulants. These drugs may both cause mucosa lesions in several parts of the GIT, and facilitate the blood loss by the digestive tube [4].

Although the pathophysiology of cachexia associated with HF is not completely understood, several factors have been blamed for its development, such as reduced intestinal absorption of nutrients and increased baseline energy expenditure. Cachexia is loss of weight, muscle atrophy, fatigue, weakness, and significant loss of appetite in someone who is not actively trying to lose weight. Lastly, in HF, the combination of cachexia and immune activation may induce abnormalities in skeletal muscles, including reduction of the capacity to perform physical efforts and the worsening of life quality.

Severe heart failure patients often show restrictive respiratory pattern, increased lung fluids and impairment of alveolar-capillary gas diffusion, due to an increased resistance to molecular diffusion across the alveolar capillary membrane. Reduced gas diffusion contributes to exercise intolerance. Lung function abnormalities both at rest and during exercise are frequently observed in patients with chronic heart failure, also in the absence of respiratory disease [1].

Conclusions: An estimated 17 million people die of CVDs, particularly heart attacks and strokes, every year. CVDs are the number 1 cause of death globally: more people die annually from CVDs than from any other cause.

Out of the 16 million deaths under the age of 70 due to non-communicable diseases 37% are caused by CVDs.

Thus, heart diseases affect the overall functioning of the body and often lead to death. Global strategies aim to reduce the incidence, morbidity and mortality of cardiovascular diseases (CVD) by:

- effectively reducing CVD risk factors and their determinants,
- developing cost effective and equitable health care innovations for management and prevention of CVD.

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