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Ischemic Cardiomyopathy

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Ischemic Cardiomyopathy

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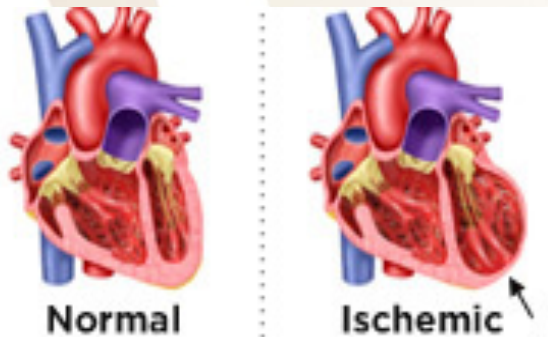
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Introduction

A very common type of dilated cardiomyopathy is ischemic cardiomyopathy. Ischemic cardiomyopathy is very important to review due to its ability to affect a patient's health in a major way. Coronary artery disease is one of the top killers in America; Ischemic cardiomyopathy involves it and a weakened heart muscle. This weakened heart muscle can cause an array of problems for the patient. Education of diseases is important for nurses so we can better treat and educate our patients. With working in the cardiac catheterization lab, seeing patients with ischemic disease is very common. Making patients aware of the signs and symptoms of coronary disease is important so it can be revascularized and hopefully not develop into ischemic cardiomyopathy.

Presentation of Process

- The diagnosis of ischemic cardiomyopathy involves a thorough physical examination, symptom assessment, echocardiography, electrocardiography, stress test, imaging studies, and coronary catheterization.
- Cardiovascular magnetic resonance imaging allows the assessment of myocardial function, perfusion, contractile reserve and extent of fibrosis in a single comprehensive exam. This is a great non-invasive tool to use for diagnosis and treatment options. It detects myocardial ischemia, viability of the muscle, and the extent of myocardial scarring, this information helps physician know to perform revascularization, implant a defibrillator, or which medications to prescribe.



Implications for Nursing Care

- The main implication of nursing care for ischemic cardiomyopathy is patient education. The nurse should educate the patient of the following:
- Diet- restriction of sodium to 2,000-3,000 mg per day
 - Sudden weight gain- more than 3 pounds in 2 days
 - Exercise- Non-competitive aerobic exercises
 - Feelings of lightheaded or palpitations- call physician
 - Take prescribed medications

Underlying Pathophysiology

According to Aksut MD, B. & Bott-Silverman MD, C., (2015)

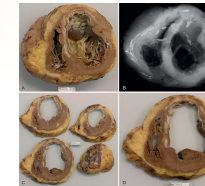
- Ischemic cardiomyopathy is the most commonly identified specific cause of dilated cardiomyopathy
- Myocardial infarction causes localized myocyte necrosis, with resultant scar formation and loss of contractile function in the ventricular segment perfused by the culprit artery. In addition, the myocardium distal to the area of infarction develops increased wall stress, adverse remodeling, and chamber dilation, so that a cardiomyopathic process occurs in adjacent nonischemic areas.
- Ischemic cardiomyopathy is generally ascribed to epicardial coronary atherosclerosis, but it can also occur in any vasculitic process (eg, Takayasu's arteritis), congenital abnormalities, embolic conditions (eg, atrial fibrillation, endocarditis, thrombophilic states), cardiac allograft vasculopathy, and microvascular ischemia.
- Ischemic cardiomyopathy can occur as the direct result of myocardial infarction or can result from repetitive ischemic results in those with poorly controlled angina
- Decreased blood flow to the cardiac muscle makes it weak or even die, which decreases its functionality as a pump.

Significance of Pathophysiology

- Due to the lack of blood flow to the cardiac muscle from coronary artery disease the muscle becomes weak and dilated. The pump function is decreased which then causes the symptoms listed.
- Without an adequate pump function, the fluid is not pushed out which then causes fluid retention in the heart, lungs, and extremities. This is why the shortness of breath and edema.
- The ischemia causes the chest pain or angina; revascularization can be performed to help reduce the angina.
- The weak heart muscle can then cause arrhythmias which can be fatal.
- Implantable Cardioverter Defibrillators are implanted to help prevent death due to fatal arrhythmias from the weak heart muscle.

Signs & Symptoms

- Shortness of breath
- Swelling of the legs and feet
- Fatigue
- Angina (Chest pain)
- Weight gain, cough and congestion related to fluid retention
- Palpitations due to abnormal heart rhythms
- Dizziness



Treatment

1. Medications such as beta-blockers, ACE Inhibitors, digoxin, diuretics, aldosterone inhibitors, and nitrates.
2. Lifestyle changes of diet and exercise
3. Implantable Devices- Cardiac Resynchronization Therapy or Implantable Cardioverter Defibrillators
4. Revascularization- Angioplasty, stents, or coronary bypass graft surgery
5. Heart transplant

Conclusion

Ischemic cardiomyopathy is when the heart's ability to pump blood is decreased because the left ventricle is enlarged, dilated, and weak. This is due to lack of blood supply to the heart muscle caused by coronary artery disease and heart attacks. The pump is increased by medications, revascularization, implantable devices, or with transplant.

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