ETIOLOGY, HEMODYNAMICS AND COMPLICATIONS OF MITRAL STENOSIS

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Annotation: *Mitral stenosis is a common heart disease-narrowing of the atrioventricular orifice.The main cause of Mitral stenosis is the rheumatic fever, which is most common in women compared to men oblandi.This article will talk about the clinical picture and complications of mitral stenosis.Based on the analysis of the literature, the etiology,pathogenesis,clinical picture, methods of diagnosis and principles of treatment of mitral stenosis are covered. The article discusses the complications of mitral stenosis in rheumatism and other cardiac pathologies and their prevention.The article provides measures for the early detection and Prevention of complications of mitral stenosis.*

Key words: *Mitral stenosis,inflammation of the floors of the heart ,heart failure,infectious endocarditis,rheumatism, arterial hypertension. This sentence gramatically correct.*

Introduction:

Mitral stenosis is a narrowing of the atrioventricular orifice and is 2-3 times more common in females than males.The M protein antigen, whose causative agents are common among the Betta-hemolytic group of hemolytic streptococci, leads to an autoimmune attack of the heart in response to streptococcal infection. After the onset of the Rheumatic process,3 layers of the heart begin an inflammatory process in the endocardium,myocardium, pericardium.The first affects the endocardium and leads to inflammation and scarring of the heart valves.Chronic inflammation and scars go to the pores after the last attack, and the atraventicular hole narrows.The result limits the free passage of blood in the left ventricle to the left ventricle.This condition causes the pressure to increase and expand in the left atrium.As a result, the function of the left ventricle decreases.This condition leads to impaired heart function ,heart failure, and death.Early detection and Prevention of Mitral stenosis is important because maintaining heart health can help save our lives.The clinical signs of Mitral stenosis are not specific can be similar to other heart diseases. For example: mitral valve deficiency.The patient

often complains of nausea, blood clots,pain in the heart Area,Rapid heartbeat,uneven heartbeat.A typical complaint of Mitral stenosis is dysphonia with dysphagia.The most common complication of Mitral stenosis is atrial fibrillation.My estimate of the frequency of atrial fibration is 40%.Atrial fibration ultimately leads to left atrial expansion and left atrial hypertension.Early detection of Mitral stenosis it is important to start treatment in time.To do this , doctors need to be well aware of the etiology, pathogenesis and clinical signs of mitral stenosis but also rheumatism, and to closely monitor patients in the high risk group.Therefore, doctors should inform the population about all parochial and heart diseases in addition to mitral stenosis.Mitral stenosis accounts for 30% of all mitral valve lesions.It should be noted that in 30-60% of cases ,the disease shrinks without any clinical signs.This defect is more common in young children.The article covers the principles for the Prevention of complications of the detection of mitral stenosis.

ANALYSIS OF STYLES AND LITERATURE

To conduct a comprehensive review of the existing literature on mitral stenosis and related cardiac conditions, we searched various scientific databases including PubMed and Google Scholar. The search encompassed articles published between 1960 and 2023, utilizing keywords such as "mitral stenosis," "rheumatic fever," "myocarditis," and other relevant terms. Articles in English, Russian, and Uzbek languages were included in the analysis. The selected articles were examined to elucidate the etiology, pathogenesis, clinical presentation, treatment principles, and strategies for preventing complications associated with mitral stenosis. Additionally, data from textbooks such as "Propedeutics of Internal Diseases" and "Pathological Physiology" were incorporated to provide a comprehensive overview of the topic.

Results

Literature review suggests that rheumatism is the cause of mitral stenosis.Females are 2-3 times more common than males. The M protein antigen, whose causative agents are common among the Betta-hemolytic group of hemolytic streptococci, leads to an autoimmune attack of the heart in response to streptococcal infection. After the onset of the Rheumatic process ,3 layers of the heart begin an inflammatory process in the endocardium, myocardium, pericardium.The first one acts on the endocardium and causes heart valve's inflammation and scarring.Chronic inflammation and scars go to the valves after the last attack. *Epidemiology.* The prevalence of Mitral stenosis varies from country to country. While in Western countries this figure was 0.2 per 1000 people, lately this figure has been increasing due to increased migration processes. The prevalence of MS is high in Central Asian countries, with 6-7 per 1000 people. The disease is more common in women.

Etiology and Pathogenesis

In countries with a high prevalence of Mitral stenosis, rheumatic heart disease is the most common cause, followed by infectious endocarditis;. Congenital mitral stenosis is very rare Pathogenesis and changes in hemodynamics Mitral stenosis is a malfunctioning valve located between the left ventricle and the left ventricle. The valve opens in the diastole and through it the arterial blood of the left atrium enters the left ventricle. With Mitral stenosis, the valve leaflets thicken, resulting in a decrease in the size of the atrioventricular cavity. As a result, there is no time to pump blood from the left atrium during diastole, and as a result, the pressure in the left atrium increases. The chronic pressure load of the left atrium leads to its dilation and all subsequent consequences: atrial fibrillation and thromboembolic complications.

When the elasticity of the left compartment is lost, the pressure in its cavity rises (from normal 5 mm to a column of mercury 20-25 mm). Due to the increase in pressure, the pressure gradient between the left ventricle and the left ventricle increases, thanks to which it is easier for blood to pass through the opening of the mitral valve. As a result of increased pressure in the left ventricle, pressure increases in the right ventricle and then in the pulmonary arteries, followed by the Kitayev reflex, generally in the pulmonary circulation. Due to the high pressure in the left compartment, the myocards of the left compartment are hypertrophied. There is an increase in the right ventricle work, progressive right ventricular walls also undergo hypertrophy. As a result, pressure increases in the pulmonary arteries and lungs.

Clinical picture

The disease is characterized by a slow course. The onset of symptoms often occurs between the ages of 40 and 50. There is a complaint of shortness of breath during physical exertion due to high pressure in the pulmonary arteries. With an increase in physical activity, blood flow to the heart increases and leads to excessive tension of the capillaries, the walls of the heart (due to stenosis of the atrioventricular cap) and normal impaired gas exchange. As a result, patients complain of shortness of breath during physical exertion. With the development of Ms, shortness of breath can occur at rest. Obvious discoloration of the skin, redness with bruises on the cheeks. it appears. The appearance of acrocyanosis (cyanosis of the tip of the nose, ears, jaws). In patients with high pulmonary hypertension during exercise, cyanosis increases and skin discoloration occurs. The most common cause of Mitral valve stenosis is rheumatic fever, which occurs as a complication of streptococcal tonsillitis.When fighting bacteria, the immune system attacks the wrong heart, joints, skin and brain cells. It is caused by the causative agent of sore throat and the structural similarity of some body tissues. The most dangerous complication of rheumatic fever is inflammation in the heart. In the course of inflammation, when their valves are deformed, thickened or fused,

stenosis (narrowing) or Valve insufficiency (including mitral valve) develops. The most common cause of Mitral valve stenosis is rheumatic fever, which occurs as a complication of streptococcal tonsillitis. When fighting bacteria, the immune system attacks the wrong heart, joints, skin and brain cells. It is caused by the causative agent of sore throat and the structural similarity of some body tissues. The most dangerous complication of rheumatic fever is inflammation in the heart. When their valves are deformed, thickened or joined in the inflammatory process, stenosis (narrowing) or valve failure (including mitral valve) rivojlanadi.Ba stenosis develops due to infectious inflammation of the heart valves - endocarditis. This can occur when an infection (such as dental diseases or purulent wounds) enters the bloodstream and spreads to the heart. Mitral stenosis can also be caused by certain connective tissue diseases, such as systemic lupus erythematosus. It is an autoimmune disease that damages various organs and systems of the body, including the heart and blood vessels.Despite the fact that this disease is formed at a young age ,it takes 10-15 years for the patient to make the first application to the doctor.In Mitral stenosis, patients often complain of sneezing, bleeding,pain in the heart Area,Rapid heartbeat,uneven heartbeat.A typical complaint of Mitral stenosis is dysphonia with dysphagia.In the late stages of the disease ,when blood congestion occurs in the veins of the right ventricle insufficiency and the large circulatory circle,patients are disturbed by edema ,a feeling of heaviness in the area of the right rib and pain ,as well as dyspeptic symptoms such as anorexia, nausea, vomiting.In Mitral stenosis, there is facies mitralis on the face, the skin coverts pale sometimes gray acrocyanosis .In Mitral stenosis, palpation reveals cardiac impulse. In cardiac percussion, the relative articular margin is found to be shifted to the right and up.In cardiac auscultation, a attenuation of the first tone is heard in the heart peak ,a second tone accent in the pulmonary artery, a quail wandering rhythm.In the late stages of the disease,hepatomegaly is observed when right ventricular insufficiency is formed ,and in severe cases, assitis.The ECG detects right ventricular hyperthophy.The X-ray revealed a mitral configuration. Laboratory tests are used as an additional way to diagnose mitral stenosis. They allow you to assess the general health of the patient, identify concomitant diseases and assess the functioning of organs. A general analysis will help determine the saturation of the blood with oxygen, identify anemia, inflammatory processes, including infectious diseases. Tests for C-reactive protein and erythrocyte deposition rates also help diagnose inflammation. In the early stages and with minor symptoms, the doctor may prescribe medications to help maintain heart function and slow down the progression of the disease. Several groups of drugs are used. Diuretics help reduce circulating blood volume and pressure in the pulmonary and pulmonary arteries. This will help reduce swelling and get rid of shortness of breath. Beta blockers and calcium channel blockers are used to control heart rhythm and reduce heart rate. Special

antiarrhythmic drugs may also be prescribed for arrhythmias. One of the most common is heart failure. In this case, a person experiences shortness of breath and increased fatigue, and in severe cases, due to a violation of the blood supply to vital organs, the situation is life-threatening. Thrombosis and thromboembolism (blocking blood vessels with blood clots) are the most dangerous complications of mitral valve stenosis. They can lead to a stroke or heart attack and can lead to death without emergency medical attention.

ANALYSIS AND DISCUSSION;

Mitral stenosis is a heart disease that can be accompanied by serious complications. The most common complication of Mitral stenosis is atrial fibrillation.My estimate of the frequency of atrial fibration is 40%.Atrial fibration ultimately leads to left atrial expansion and left atrial hypertension.In Mitral stenosis, symptoms of dimming are observed in the left compartment of the heart, edema in the lungs and peripheral edema. Patients with advanced acute heart failure may experience signs of shock, including arterial hypotension, tachycardia, symptoms. Several groups of drugs are used. Diuretics help reduce circulating blood volume and pressure in the pulmonary and pulmonary arteries. This will help reduce swelling and get rid of shortness of breath. Beta blockers and calcium channel blockers are used to control heart rhythm and reduce heart rate. Special antiarrhythmic drugs may also be prescribed for arrhythmias.Mitral stenosis is a disease that develops at a young age but whose symptoms occur after 10-15 years. Complications of Mitral stenosis include the formation of acute heart failure, the formation of cardiac asthma and pulmonary edema, and high pulmonary hypertension. Dilation of the heart cavities can lead to the formation of arrhythmias, thromboembolic complications and signs of compression. Prevention of Mitral stenosis includes the following prophylaxis:

1. prevention against recurrence of rheumatism;
2. rehabilitation of foci of chronic streptococcal infection;
3. to exclude the development of mitral stenosis, it is necessary to be under regular supervision by a cardiologist and rheumatologist.

Conclusion

Mitral stenosis presents a significant threat to public health, with potentially serious consequences for affected individuals. Prevention strategies are paramount in combating this disease. Public health initiatives aimed at preventing rheumatic fever, such as prompt treatment of streptococcal infections and promoting awareness about its complications, remain crucial. Additionally, measures to prevent infective endocarditis, like maintaining good oral hygiene and promptly treating dental infections, are essential. Healthcare professionals should possess a thorough understanding of the etiology, pathogenesis, clinical manifestations, and potential complications of mitral stenosis to ensure timely diagnosis and effective management.

Furthermore, continued research and development of novel diagnostic tools and treatment modalities hold promise for improving patient outcomes and reducing the burden of this disease.

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