

The Pathophysiology of Heart Valve Disease

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DESCRIPTION

Damage to one or more of the heart's valves is referred to as heart valve disease. The heart is an organ that transports blood and oxygen throughout the body, including to and from the lungs and other organs. The heart is divided into four chambers or spaces. A valve separates each chamber. Heart valves open and close at the appropriate times to allow blood to flow through the heart. They also keep blood flowing in the right direction. The heart has four types of valves: The aortic valve, the mitral valve, the pulmonic valve, and the tricuspid valve. Heart valve disease occurs when one or more of the heart's valves fail to function properly. Atresia (the valve is missing or isn't fully formed), Prolapse (the valve is weak and doesn't close all the way), Regurgitation (the valve is leaky, meaning blood flows in the wrong direction), and Stenosis (the valve doesn't let enough blood through because it either doesn't open all the way or is stuck shut) are the most common types of heart valve disease. Mitral regurgitation, mitral stenosis, and aortic regurgitation are three other common heart valve disease conditions. Some illnesses are more severe than others. Most types of heart valve disease, if left untreated, can lead to more serious heart conditions such as stroke, congestive heart failure, clotting, or death.

Causes

Although there is no single cause of heart valve disease, there are some risk factors that may increase the chances of developing it.

Age: The valves and other parts of the heart are more likely to fail after the age of 65. Calcium buildup on the valve may also occur over time, making it stiffer. Heart valve disease is not as common as high blood pressure, but it is becoming more common as people live longer lives.

Previous conditions: A person may be more likely to develop heart valve disease if they were born with a heart defect (also known as congenital heart disease). Previous heart conditions (such as a heart attack or heart failure) or infections (such as bacterial endocarditis or rheumatic fever) can also increase the risk, as can other health conditions.

If an immediate relative has heart valve disease, the individual is more likely to develop it. Due to higher rates of high blood pressure and heart failure, African Americans are also more likely to have heart valve disease.

Symptoms

A person with heart valve disease may not have any symptoms at all. Alternatively, they may only notice symptoms during exercise or more strenuous activity because this is when the heart is working harder. Having an irregular heartbeat or chest pain, feeling dizzy or faint, experiencing shortness of breath even when resting, being tired even after a good night's sleep, and noticing swelling in the ankles, feet, and/or lower leg are all common symptoms of heart valve disease.

Treatment

Heart valve disease can be treated in a variety of ways. Treatment options vary depending on the type of heart valve disease the patient has, how advanced it is, and how healthy the patient was. Some patients may not need to start treatment right away after being diagnosed with the disease. Instead, the doctor may monitor the patient to ensure that the condition does not worsen. For others, treatment should begin right away.

Medication

There is no medicine that cures or even improves heart valve disease. However, medication can help with the symptoms. If the condition does not worsen, the doctor may prescribe medication such as blood thinners, beta-blockers, antibiotics, or other treatment.

CONCLUSION

If ones condition worsens, the doctor may recommend open-heart surgery to repair or replace the heart valve. The chest is opened during open-heart surgery so that the surgeon can reach their heart. Transcatheter Aortic Valve Replacement (TAVR) and Transcatheter Mitral Valve Repair (TMVR) are minimally invasive valve therapies. These procedures are typically carried out through small pelvic girdle incisions, allowing patients to avoid open heart surgery.

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