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Complication of prostatic Heart Valve

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Abstract

Risks of Heart Valve Repair or Replacement

No surgery is risk free, but lifesaving valve replacement is the treatment of choice and its techniques have been honed for decades. More than 600,000 patients undergo open heart surgery each year in the United States alone. Cardiovascular surgeons are always on the lookout for risks of major complications in their patients : sternal healing, pain control, and diet or activity changes , bleeding, clotting, and infections.

Introduction

valve replacement is a type of open heart surgery used to treat problems with the heart's valve. Valve controls the flow of blood inside the heart and out from the heart to the rest of the body. valve replacement involves removing a faulty or damaged valve and replacing it with a new one made from synthetic materials or animal tissue. operation that isn't suitable for everyone and can take a long time to recover from

Discussion:

Thromboembolisms, such as cerebral infarction and prosthetic valve thrombosis, and bleeding complications might be related to the use of warfarin anticoagulation therapy.

Thromboembolisms occur at a rate of approximately 1 % per patient-year, and bleeding complications at almost 0.5 % per patient-year.

The 2014 American Heart Association/American College of Cardiology guidelines for the management of patients with valvular heart disease state that an international normalized ratio (INR) of 2.5 is recommended in patients with a mechanical valve at the aortic position, and an INR of 3.0 should be obtained for those with a valve implanted at the mitral position The Japanese guideline published in 2012, however, recommended a slightly lower INR between 2.0 and 3.0.

A thrombosed prosthetic valve is an uncommon complication, but it is associated with high mortality and morbidity rates. 30 % of cases with failure of thrombolytic therapy, and was associated with a mortality rate of at least 12 %.

Endocarditis:

Prosthetic valve endocarditis requires complicated surgical procedures and sometimes leads to lethal clinical results, particularly in early-onset patients

The occurrence rate of endocarditis is approximately 0.5 % per patient-year.

In 1996 showed that 13 % of 146 patients had in-hospital deaths, and in 2014 showed that the surgical mortality was 12.8 % among 149 consecutive patients with prosthetic valve endocarditis.

Therefore, the surgical risk of prosthetic heart valve endocarditis remains high, and *Staphylococcal* species are the most common causative organisms

The postoperative survival in endocarditis patients is poor.

additional surgery was required in 19 of their patients, with a 60 % survival rate at 10 years among the 127 hospital survivors and recorded 69 early and late complications, including 35

deaths, 23 recurrences and 11 reoperations among .

2- **Structural dysfunction:**

Structural dysfunction in first-generation and initial mechanical valves, such as the Starr-Edwards ball and Björk-Shiley valves, have been reported,

The main causes of Starr-Edwards ball valve dysfunction have been ball fracture and cloth wear and tear, leading to valve regurgitation

Björk-Shiley valve dysfunctions include leaflet dislodging and fracture.

These rare complications are typically observed more than three or four decades after implantation. the Björk-Shiley valve conferred excellent 30-year survival, a freedom from reoperation rate of 91 % at 30 years.

Non Structural dysfunction:

Nonstructural valve dysfunction includes paravalvular leaks without apparent endocarditis,

The nonstructural dysfunction rate reported by Edmunds and colleagues was 0.4–1.2 % per patient-year among recent mechanical heart valves

Paravalvular leaks without apparent endocarditis and pannus formation often lead to reoperation, and are caused by technical errors, latent prosthetic endocarditis or annular calcification.

A minor leak might be subclinical in the aortic position,

reported the clinical results of 136 consecutive patients with paravalvular leaks, and primarily repaired or replaced the implanted valves

This complication occurs mainly after long procedures

Pannus formation might prevent a leaflet from functioning well, and the presence of a pannus on the outflow of the left ventricle below a mechanical valve could narrow the outflow orifice, causing stenosis.

The earliest case received reoperation at 97 months, and the other three cases were treated between 20 and 39 years after the initial operations

3- Possible problems include:

- **Infection** – there's a risk of wound infections, lung infections, bladder infections and heart valve infections (endocarditis).
- **Excessive bleeding** – tubes may be inserted into your chest to drain the blood
- **Blood clots** – this is more likely if you have had mechanical valve replacement. **Stroke or transient ischaemic attack (TIA)** – where the supply of blood to the brain becomes blocked.

- **Irregular heartbeat (arrhythmia)** – this affects around 25% of people after an aortic valve replacement and usually passes with time. However, 1-2% of people will need to have a pacemaker fitted to control their heartbeat.

- **Kidney problems** – in up to 5% of people, the kidneys do not work as well as they should for the first few days after surgery. In a few cases, temporary dialysis may be needed. An aortic valve replacement is a major operation and occasionally the complications can be fatal. Overall, the risk of dying as a result of the procedure is estimated to be 1-3%

Conclusion:

Valve-related complications after heart valve replacement with mechanical valves occur at acceptable rates. The structural dysfunction has been largely overcome; however, prosthetic valve endocarditis may still result in death. Thromboembolic and hemorrhagic events related to anticoagulant therapy should be considered during life-long follow-up. Nonstructural prosthetic valve dysfunctions, such as paravalvular leaks and pannus ingrowth, are also issues that need to be resolved.

Recommendation:

After mechanical heart valve replacement, the only risk factors for bleeding complications were an unstable INR and a history of thromboembolic or bleeding events. The use of antiplatelet agents proved to be a protective factor against thromboembolic events

All patients with prosthetic valves need appropriate antibiotic prophylaxis for the prevention of endocarditis.

Follow up visits in asymp*to*matic patients without complications and with a “normal” initial echocardiogram can be performed at yearly intervals and should consist of a detailed history taking and a physical examination.

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