

PROSTHETIC VALVE ENDOCARDITIS

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Introduction:

Prosthetic valve endocarditis (PVE) represents a severe and life-threatening form of infective endocarditis (IE), involving infection of prosthetic heart valves or the endocardium. It most frequently occurs in patients with previous valve replacement and may also complicate certain congenital heart diseases such as atrial and ventricular septal defects, tetralogy of Fallot, coarctation of the aorta, and patent ductus arteriosus. The condition results from microorganisms that enter the bloodstream and colonize the prosthetic or native valves, with lesions more commonly affecting the aortic and mitral positions. Important predisposing factors include leukopenia, immunodeficiency or immunosuppressive therapy, malignancy, diabetes mellitus, intravenous drug use, recent surgery, or invasive dental procedures. The clinical course may present as either acute or subacute, depending on pathogen virulence. Therapeutic management relies primarily on intravenous antibiotic administration, guided by epidemiological evidence and international guidelines. Nevertheless, when infection leads to severe valvular destruction or prosthetic valve dysfunction, surgical replacement becomes necessary. Without surgical intervention, mortality rates may reach up to 51%.

Aim:

The aim of this study is to underscore the clinical features, risk factors, therapeutic challenges, and surgical management of prosthetic valve endocarditis.

Material and Methods:

A comprehensive review of current literature and guidelines was conducted. Data analysis focused on epidemiological characteristics, microbiological spectrum, antibiotic strategies, and surgical outcomes in patients with prosthetic valve endocarditis.

Results:

The findings highlight that PVE is associated with high morbidity and mortality. Although prolonged intravenous antibiotic therapy remains the cornerstone of treatment, approximately half of affected patients ultimately require surgical intervention due to complications such as prosthetic valve dysfunction, abscess formation, or persistent infection. Surgical management significantly improves survival compared to conservative treatment alone.

Conclusions:

Prosthetic valve endocarditis constitutes a major therapeutic challenge, demanding early recognition, prompt initiation of targeted antimicrobial therapy, and timely surgical management. A multidisciplinary approach involving cardiology, cardiac surgery, and infectious diseases is essential to optimize outcomes and reduce the high mortality associated with this condition.

