

Infective Endocarditis

4.2.1 – Infective Endocarditis

Infective endocarditis (IE) is an infection of the inner surface of the heart (the endocardium). Bacterial colonization of the heart (called vegetation) affects the valves and mural endocardium (mural means “wall”) and leads to destruction of cardiac tissue. Staphylococcal infections are the leading cause of IE. Streptococci and enterococci are the other two most common bacteria agents. Blood culture for bacteria is the most important diagnostic method for IE.

Two factors that contribute to the development of IE are (1) a portal of entry by which the bacteria gain access to the circulatory system and (2) a damaged endocardial surface or valves. Some common portals of entry include cutaneous lacerations, gastro-intestinal barrier compromise, surgery (especially oral surgery), intravenous drug use, hemodialysis, and electronic pacemakers or other cardiac prosthetic devices. Although it is possible for a patient with normal heart valves to develop IE, it is more common in patients with abnormal heart valves such as mitral valve prolapse or congenital heart disease. The aortic and mitral valves are the most common areas of infection.

Common manifestations of infective endocarditis include fever, signs of systemic infection, and development of a heart murmur or changes in an existing heart murmur. IE patients frequently get small petechial hemorrhages because emboli often lodge in the small vessels of the skin, nail beds, and mucous membranes. Because the vegetations of IE are friable, they can break off from the heart, cause bacteremia, and lodge in small blood vessels as they travel in the bloodstream. **Janeway lesions** are painless lesions on the palms or soles caused by septic emboli that have broken off from valvular vegetations. **Osler’s nodes** are painful lesions on the hands and feet commonly seen in IE patients that result from deposition of immune complexes.

One of the antibiotics used to treat infective endocarditis is intravenous vancomycin. A common side effect of vancomycin is **red man syndrome**. This syndrome is due to the release of large amounts of histamine by the body and consists of an itchy (pruritic) erythematous rash of the face and neck. Red man syndrome is associated with rapid infusion of the vancomycin, so to prevent it the antibiotic should be infused slowly.



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