

Infective Endocarditis

CVS

Infective endocarditis is infection of the endocardium of the heart, particularly the heart valves.

It generally occurs in patients with altered or abnormal heart endocardium in combination with exposure to bacteria.

Abnormal endocardium facilitates adherence of bacteria.

Predisposing factors

- skin breaches (i.v lines, tatoes, wounds
- dental procedures
- dental carries
- extra-cardiac infection (skin, lungs, urinary tract, bone)
- instrumentation (urinary tract, GI tract, IV infusions)
- injection drug use
- congenital heart disease, artificial heart valves, damaged valves
- cardiac surgery

Causative organisms

- Streptococcus (viridans, pneumoniae, pyogenes)
- Staphylococcus aureus
- Enterococci
- Fungi (candida, aspergillus, histoplasma)
- Pseudomonas
- HACEK group of organisms

Symptoms

- fever, rigors, night sweats
- body malaise
- loss of weight
- muscle aches
- chest pain

Signs of I.E

- Elevated body temperature
- Pallor
- Janeway lesions (non tender small erythematous macules on the palms/ sores)
- Osler's nodes (painful, red, raised lesions on the pulp of the fingers)
- Splinter hemorrhages
- Finger clubbing
- Roth spots in the eyes
- C.V.S – murmur on any heart valve

Investigations

- FBC (elevated WBC, anemia)
- Blood culture
- Urinalysis (proteinuria, hematuria)
- Chest X-ray, ECG, ECHO
- U&Es
- CT (emboli in the brain/ spleen)

Diagnostic Criteria for I.E

Use the Duke's Criteria

Consist of Major Criteria and Minor Criteria

Diagnosis

2 Major Criteria

1 Major Criteria + 3 Minor Criteria

5 Minor Criteria

Major Criteria

Positive Blood Culture

- Organism in 2 separate cultures
- Persistently positive blood cultures ie from 3 or more samples drawn 12 hrs apart
- Single positive blood culture *Coxiella burnetii*

Evidence of Endocardial involvement

- Positive ECG changes
- Murmur

Minor Criteria

- Predisposition (cardiac lesion, IV drugs)
- Fever >38 degrees Celsius
- Vascular phenomenon (emboli, Janeway lesions)
- Immunological phenomenon (glomerulonephritis, Osler's nodes,)
- Positive blood culture that does not meet Major Criteria

Treatment

Broad spectrum antibiotics

Eg flucloxacillin + gentamycin for 4-6 weeks

Surgery – damaged valves

- patient not responding to antibiotics

Complications

- stroke, myocardial infarction, pulmonary emboli
- Meningitis, osteomyelitis, septic arthritis