

INFECTIVE ENDOCARDITIS

- **Most common cause of IE in developing countries:**
strep. Viridans
 - **Most common cause of IE in developed countries:**
staph. Aureus
 - **Most common cause of acute IE:**
staph. Aureus
 - **Most common cause of subacute IE:**
strep. Viridans
 - **Microbial causes of acute IE:**
strep.pyogenes (group A streptococci) / strep.pneumonia / staph.Aureus
 - **Microbial causes of subacute IE:**
strep.viridans
 - **Acute IE:**
Rapid progression, seeds to extracardiac sites, rapidly cause cardiac damage, leads to death within weeks if untreated
 - **Subacute IE:**
Slow progression, rarely metastasized, slowly causes cardiac damage
 - **Gram-negative bacteria cause subacute or chronic IE such as:**
 1. "HACEK" group: Haemophilus, Aggregatibacter, Cardinobacterium, Eikenlla, Kingella
 2. Pseudomonas species
 3. Bartonella
 - **Yeast and filamentous fungi:**
 - Rarely case IE, but have a high mortality rate
 - Cause infection in immunocompromised and who are receiving prolonged antibiotics or IV nutrition or who are using catheters or respiratory intubation
 - The most common species to cause IE: candida albicans
 - Histoplasma and asperigillus also case IE
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- Staph. Aureus: catalase+ / coagulase+ / beta hemolysis
 - Staph. Epidermidis: catalase+ / coagulase- / no hemolysis (gamma)
 - Strep. Viridans : catalase- / coagulase- / alpha hemolysis
 - Enterococci: catalase- / coagulase- / alpha or beta or gamma hemolysis
 - Strep. Bovis: catalase- / coagulase- / gamma hemolysis

▪ **Symptoms:**

1. Cardiac --> murmus (results from turbulent blood flow)
2. Non-cardiac --> fever in 80% and septic emboli

This detached embolus can go to several places:

- fingernails and stick there causing **subungual hemorrhage** (Associated with acute IE.
- palms or soles causing **Janeway lesions** (Associated with subacute IE)
- 3. Immune reaction (antigen-antibody complex form deposits in different parts of the body):
 - in fingers and toes forming **Osler node** (in acute IE, painful).
 - in the eye forming **Roth spot** which is a retinal hemorrhage with a white center.
 - in the kidney causing **glomerulonephritis** (rare)

▪ **Diagnosis:**

clinical presentation + blood cultures + Echocardiography

▪ **Management:**

1. Vancomycin + gentamicin
2. Surgical treatment

▪ **Prevention:**

give prophylactic antibiotics to people with high-risk factors before any surgical procedure e.g:

1. people with a history of endocarditis or rheumatic heart disease
2. people with prosthetic heart valves

Done by:
Shahed Atiyat