Lec.5 **GENERAL MEDICINE**
Stage: Fourth
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Infective Endocarditis

Infective Endocarditis
-Definition
-Clinical Features
-Investigations
-Diagnosis
-Prevention infective endocarditis,

Infective endocarditis is caused by microbial infection of a heart valve, the lining of a cardiac chamber or blood vessel, or by a congenital anomaly. Both native and prosthetic valves can be affected. streptococci and Staphylococci are the most common causes of infective endocarditis but other organism may be involved (rickettsia, chlamydia or fungus).

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Pathophysiology

Infection tends to occur at sites of endothelial damage because they attract deposits of platelets and fibrin that are vulnerable to colonisation by blood-borne organisms. Staphylococcal endocarditis of the tricuspid valve is a common complication of intravenous drug use. Infective endocarditis typically occurs at sites of pre-existing endocardial damage, but infection with particularly virulent or aggressive organisms such as *Staphylococcus aureus* can cause endocarditis in a previously normal heart.

Endocarditis in old age

- Symptoms and signs: may be non-specific, with delirium, weight loss, malaise and weakness, and the diagnosis may not be suspected.
- Common causative organisms: often enterococci (from the urinary tract) and *Streptococcus gallolyticus* subsp. *gallolyticus* (from a colonic source).
- Morbidity and mortality: much higher.

Clinical features

Endocarditis can take either an ***acute*** or a more insidious '***subacute***' form. The subacute form may abruptly develop acute life-threatening complications, such as valve disruption or emboli. The clinical pattern is influenced by the following:

1- the type of organism
2- the site of infection,
3- prior antibiotic therapy
4- and the presence of a valve or shunt prosthesis.

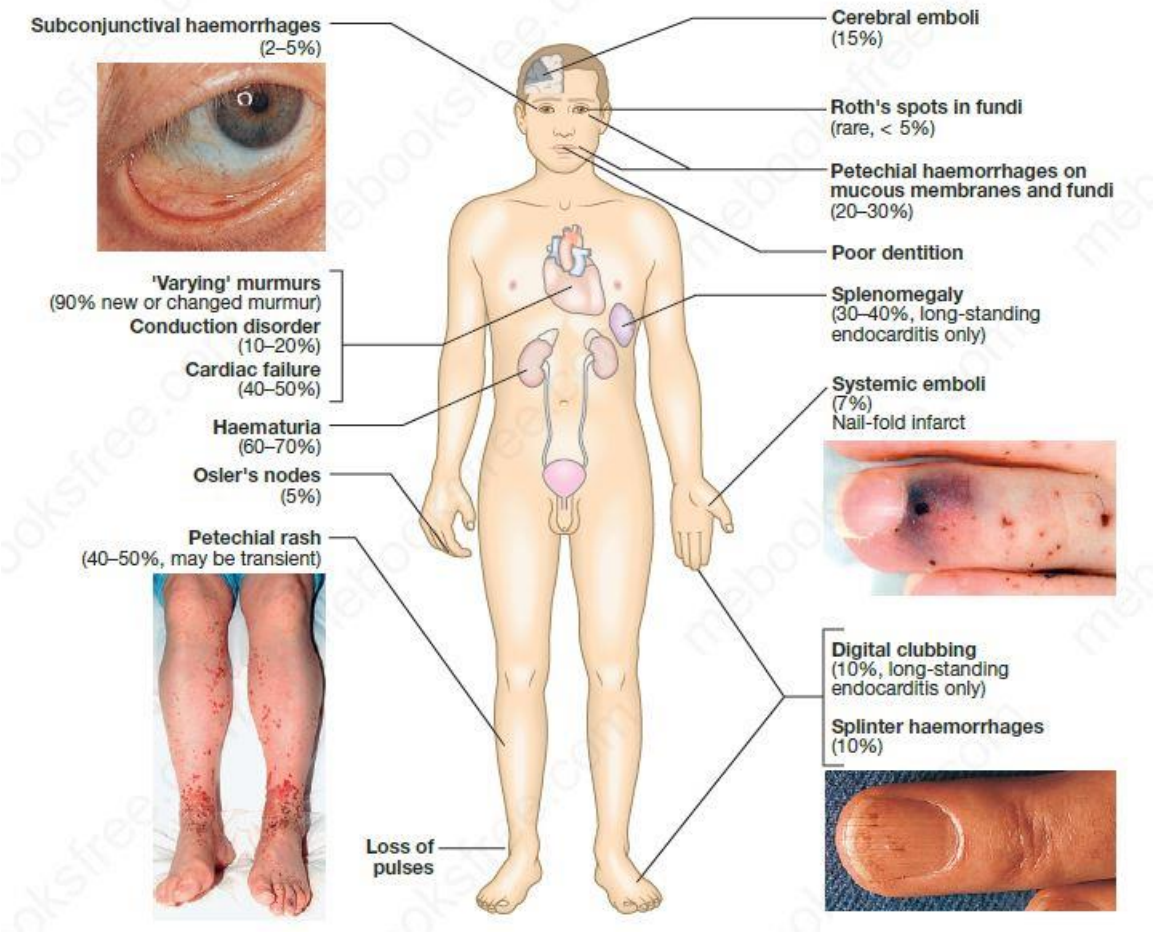

Fig.-1: Clinical features that may be present in endocarditis

Diagnosis of infective endocarditis

The Duke criteria for diagnosis of infective endocarditis are as the following:

Major criteria

Positive blood culture

- Typical organism from two cultures
- Persistent positive blood cultures taken > 12 hrs. apart
- Three or more positive cultures taken over > 1 hr.

Endocardial involvement

- Positive echocardiographic findings of vegetations
- New valvular regurgitation

Minor criteria

- Predisposing valvular or cardiac abnormality
- Intravenous drug misuse
- Pyrexia ≥ 38°C
- Embolic phenomenon
- Vasculitic phenomenon
- Blood cultures suggestive: organism grown but not achieving major criteria
- Suggestive

**Modified Duke criteria. Patients with two major, or one major and three minor, or five minor have definite endocarditis. Patients with one major and one minor, or three minor have possible endocarditis.*

Prevention

Until recently, antibiotic prophylaxis was routinely given to people at risk of infective endocarditis undergoing interventional procedures. However, as this has not been proven to be effective and the link between episodes of infective endocarditis and interventional procedures has not been demonstrated, antibiotic prophylaxis is no longer offered routinely.