

Infective Endocarditis “Summary”

The causative agents (Just the important agents and the most common one. Be careful there is others):

- Staphylococcus aureus (Cause acute IE).
- Streptococcus viridians (cause subacute IE).
- Streptococcus Faecalis.
- Coxiella Burnetii.

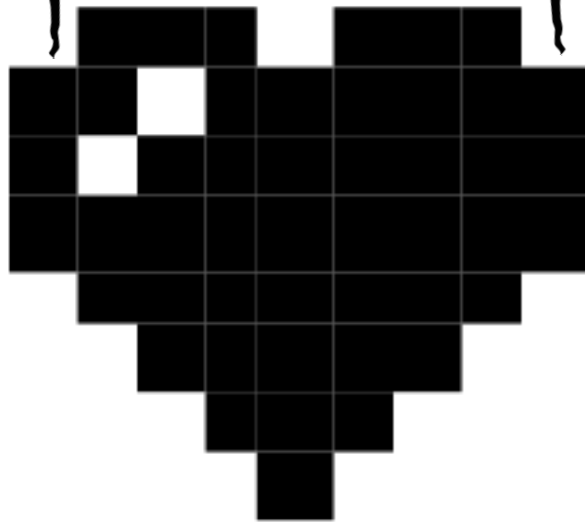
It is the infection of the endocardium (You must know the definition of this layer of the heart) and/or the valves of the heart



It is associated with low grade Bacteremia (What is your info of this condition?)



Heart is not the only target, other organs can be infected.



Risk factors:

- Immunosuppressed patients.
- Follow dental.
- Rheumatic heart disease.
- Congenital heart disease.



Infection source:

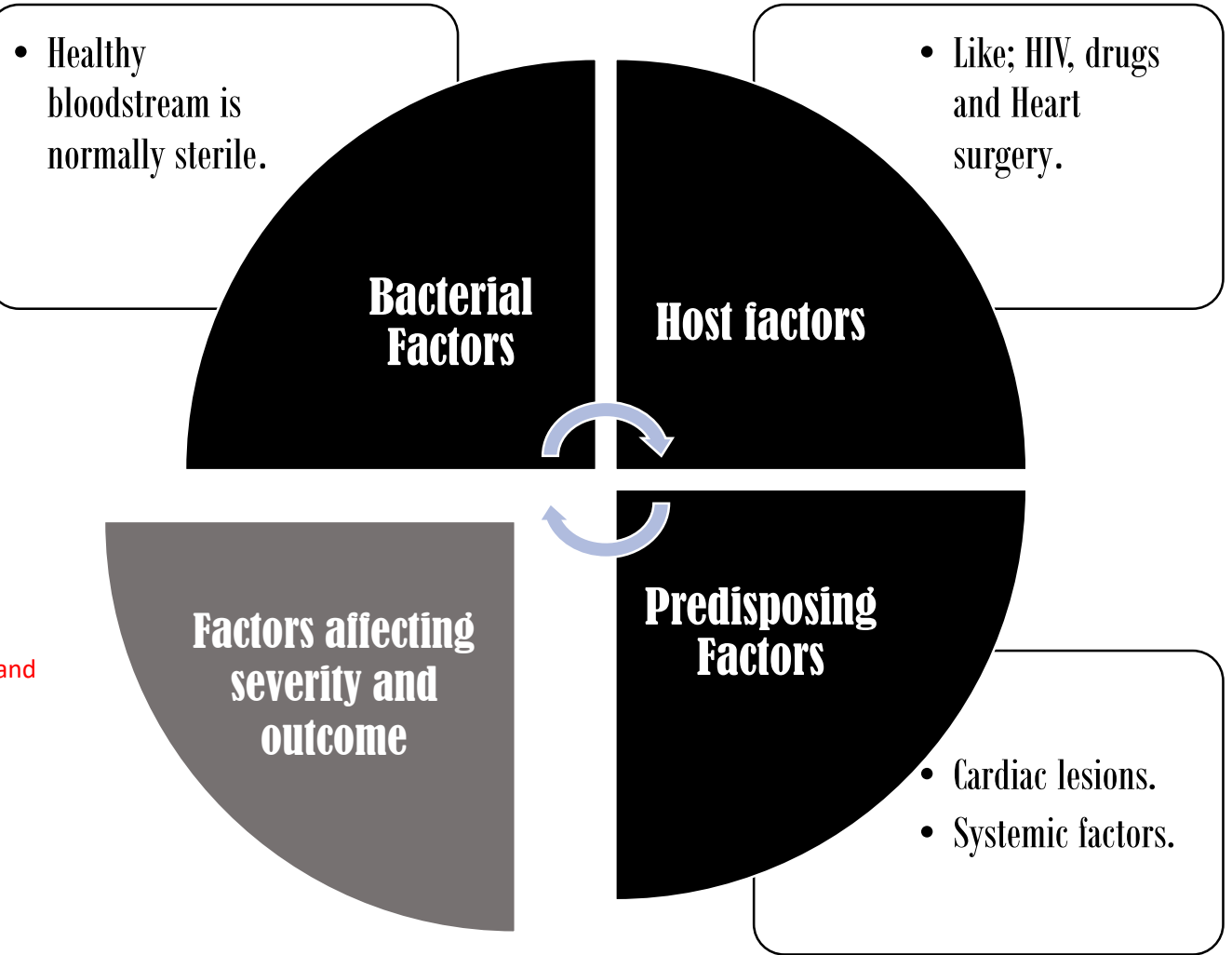
- Bacteremia.
- Dental extraction and procedures.
- Cardiac surgery (Mainly prosthetic Valve)

Classification of IE

Based on the infection location.

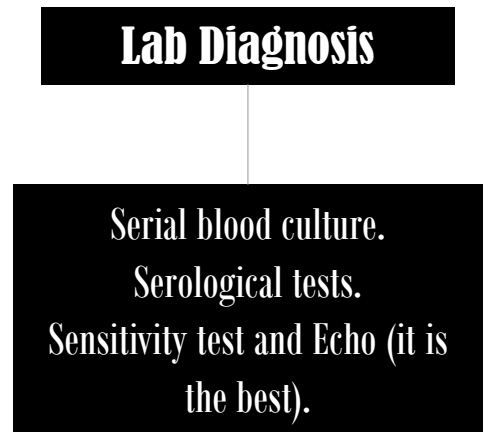
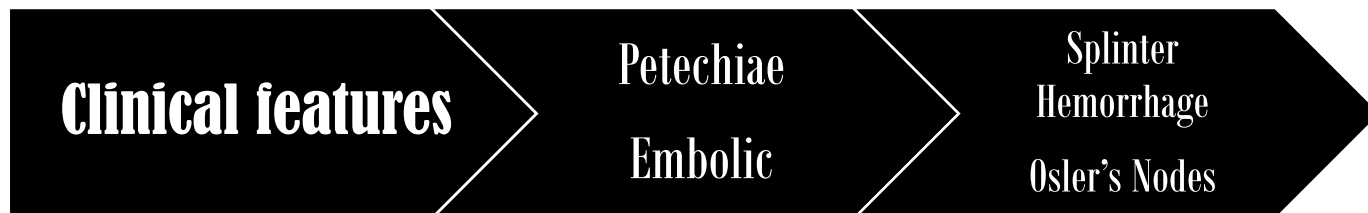
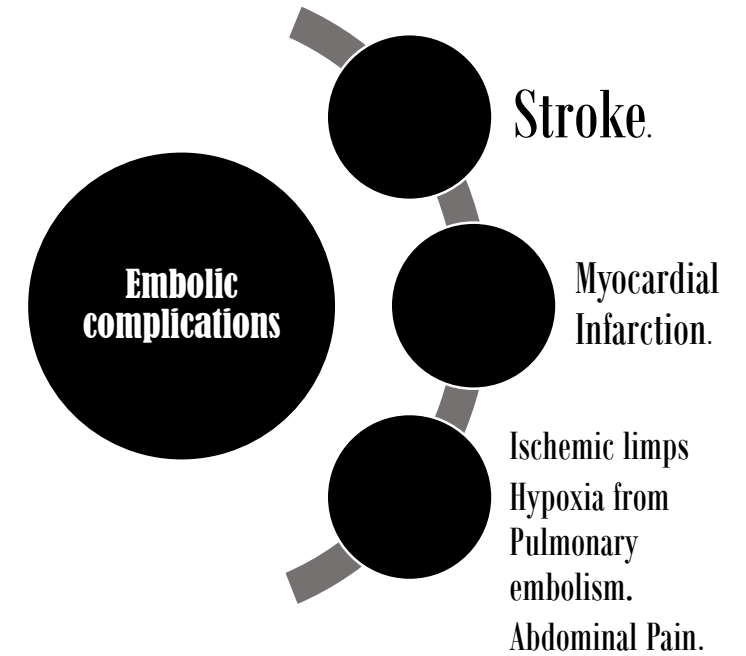
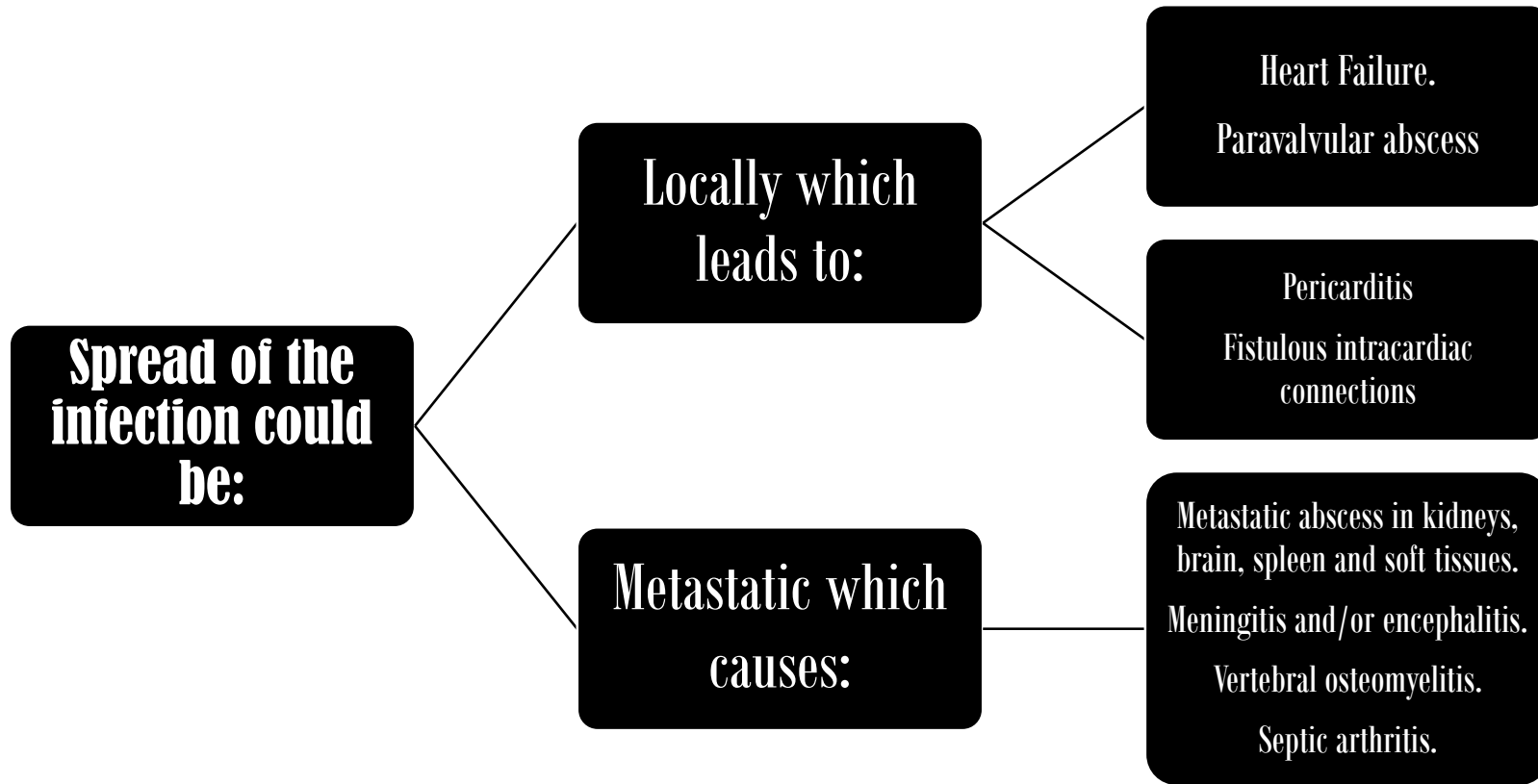
Based on the severity of the clinical course.

*This summary will include comparison between the Acute and subacute IE, make sure to check it.



Pathogenesis is very IMPORTANT so I suggest you to study it from Pathology.

Infection of the heart > Distorted heart shape > Stasis of blood flow



Acute IE

Affects normal valves.

If not treated, fatal within 6 weeks.

Highly virulent.

Subacute IE

Affects damaged valves.

If not treated, fatal by one year.

Weakly virulent.

Important notes about Bacteremia:

- It may follow scaling, tooth brushing or endodontic therapy.
- They are rapidly cleared by Leucocytes.
- Lack of clinical effect of many bacteremia is due to small number or low virulence.

Treatment of IE

First we must perform MIC and MBC tests.

How do we choose the antibiotic?

We choose it according to this criteria:

The Antibiotic must be; Bactericidal, Parenteral, in a high dose and it should be prolonged.

If the causative agent was Viridians streptococci we must prescribe those antibiotics in combination: Penicillin + Gentamicin

If the causative agent was Streptococcus Faecalis those antibiotics must be given: Ampicillin + Gentamicin

*Recurrence after the cure is common in drug addicts and immunodeficient patients.

*If the patient have prosthetic valves, a prophylaxis treatment must be followed up after cure.

MCQ and SAQ

1-IE causes destruction to which heart layer:

- A) Myocardium.
- B) Epicardium
- C) Endocardium
- D) Pericardium

2-A patient was diagnosed with Infective Endocarditis and in the past he had a cardiac surgery to replace his damaged valves. What is the possible agent that caused the problem?

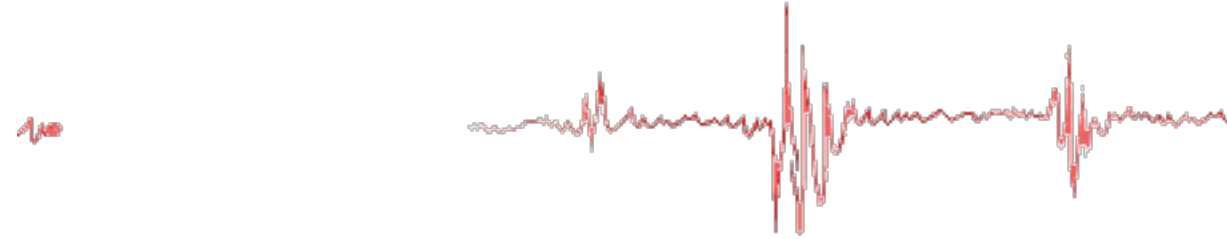
- A)Staphylococcus aureus.
- B)Streptococcus Viridans.
- C)Candida albicans.
- D)Staphylococcus epidermidis.

3-In drug abusers, which valve is affected by IE:

- A)Semilunar valve.
- B)Aortic valve.
- C)Tricuspid pulmonary valve.

4-Pneumonia is an associated complication of IE in which patient:

- A)HIV patient.
- B)Drug abusers.
- C)Old patient.



MCQ and SAQ

5- The infected emboli which is attached to the valves and then breaks off, it is formed of what?

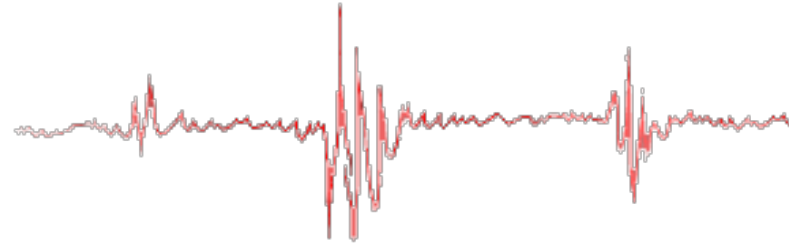
- A)Fibrin, thrombi and bacterial colonies.
- B)Enzymes, viruses and Leucocytes.
- C)Palates, Fibrin and Fungal colonies.

6-Extensive valvar damage can lead to:

- A)TB
- B)Heart failure.
- C)Ischemic Heart disease.
- D)Myocardial Infarction.

7-The most important tool to diagnose IE is:

- A)Echocardiography
- B)ECG
- C)Serial blood culture.



MCQ and SAQ

A 58 years old woman comes to your clinic complaining from fever and a sever pain in her toes. On examination you found out that she had splinter hemorrhage and changing murmurs. The microscopic findings were as following: Destructed tissue, inflammation and fibrin formation.

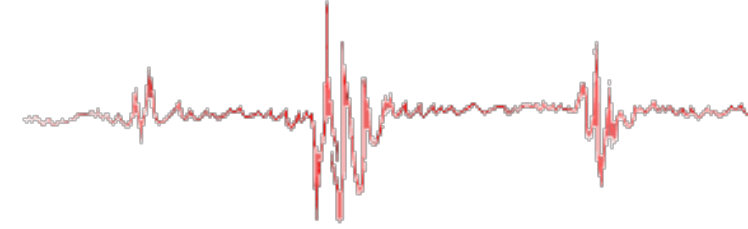
1-What is your diagnosis?

2-What further investigations will you do to confirm your findings?

3-What is the causative agent if you knew that she had a replacing valves surgery?

4-What is the treatment? Will you suggest prophylaxis treatment?

5-What complications she may have if she is not treated well?



Answer:

1)IE

2)Echo

3)Staphylococcus epidermidis.

4-Vancomycin, Gentamicin and

Rifampin. Yes I will.

5-Heart failure.

**That is it. I wish
you all the best
and success.**

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