

INFECTIVE ENDOCARDITIS-DENTISTRY

Bacterial endocarditis (BE), a rare heart infection caused by a bacteremia, has frequently been blamed on but rarely caused by dental procedures. Bacteremias commonly occur during activities of daily living, such as routine tooth brushing or food chewing. Some surgical and dental procedures cause a brief bacteremia. Bacteremia is common after many invasive procedures, but only certain bacteria commonly cause endocarditis. *Viridans* group streptococci are found abundantly in the mouth and the gingival sulcus but have been surpassed by staphylococci as the leading cause of BE. Alpha-hemolytic streptococci are

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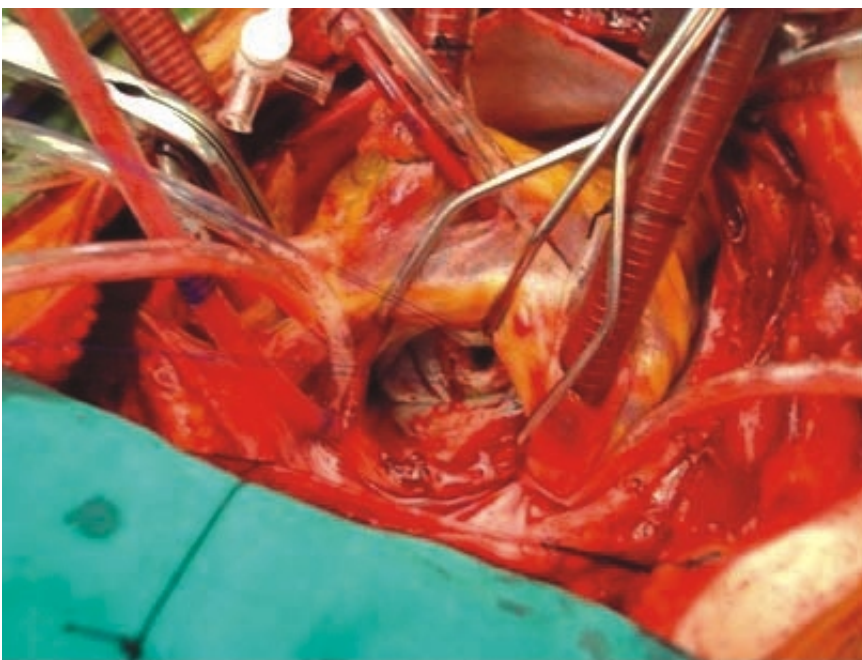


conditions such as rheumatic fever

- Various kinds of congenital heart defects
- Hypertrophic cardiomyopathy
- People who have had a heart transplant who develop a heart valve abnormality

COMPLICATIONS

- The cardiac complications are the destruction of the valve, the desinsertion of the valve, the rupture of the valve cord (a filament attached to the heart muscle, keeping the cardiac valve). More rarely, it is a mechanical obstacle by the vegetations responsible for a cardiac failure.
- The infectious embolisms can occur in the whole arterial territory, in particular in the territory of the heart arteries, the cerebral, renal arteries and the spleen. When they come from the right heart (tricuspid valve), they give pulmonary embolisms.
- The neurological demonstrations occurring during an infectious endocarditis can be due to the rupture of an arterial aneurysm, an infectious metastasis, or a meningitis.



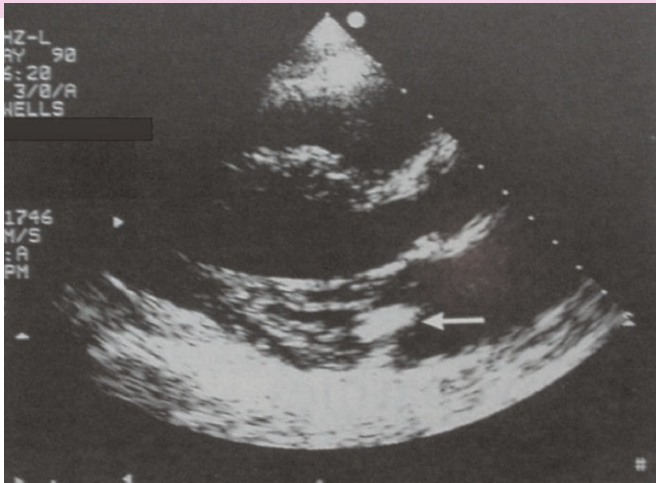
the most common cause of endocarditis following dental and oral procedures, certain upper respiratory tract procedures, bronchoscopy with a rigid scope, esophageal procedures and surgical procedures involving the respiratory mucosa.

RISK FACTORS

Endocarditis rarely occurs in people with normal hearts. However, in certain preexisting heart conditions, there is increased risk for endocarditis. Some of these conditions include having...

- An artificial (prosthetic) heart valve
- A history of previous endocarditis
- Heart valves damaged (scarred) by





- An attack of the kidney is shown by the emission of proteins or blood in urines, but sometimes by an acute renal insufficiency.
- A frequent inflammatory joint demonstration must lead to the elimination of a secondary septic localization at the level of a bone (lumbar vertebra sometimes attacked).

HOW TO DIAGNOSE

A fundamental element in the diagnosis of an infective endocarditis is the existence of a cardiac murmur. If this murmur already existed previously, the diagnosis is always suspected before a modification of the murmur (occurrence of an aortic insufficiency added to an aortic stenosis, increase of a mitral insufficiency, reduction of the arterial pressure in case of aortic insufficiency).

The inflammatory syndrome

The achievement of a blood test permits underlining an inflammation in blood.

The blood cultures

A blood culture corresponds to the culture of blood taken by venous way.

Echocardiography

It proves the illness by showing the anatomical lesion of the infective endocarditis, vegetation, under the shape of a ball attached to one of the valves, and possibly shows the valvular damages. It also assesses the heart general condition.

PREVENTION

Dental Procedures and Endocarditis Prophylaxis

Endocarditis prophylaxis recommended :

- Dental extractions
- Periodontal procedures, including surgery, scaling, root planing, probing and recall maintenance
- Dental implant placement and reimplantation of avulsed

teeth

- Endodontic (root canal) instrumentation or surgery only beyond the apex
- Subgingival placement of antibiotic fibers or strips
- Initial placement of orthodontic bands (but not brackets)
- Intraligamentary local anesthetic injections
- Prophylactic cleaning of teeth or implants, where bleeding is anticipated

ANTIBIOTIC PROPHYLAXIS

Standard general prophylaxis Amoxicillin Adults: 2 g

Children: 50 mg per kg

Taken orally one hour before the procedure

Patient is unable to take oral medications

Ampicillin Adults: 2 g

Children: 50 mg per kg

Given IM or IV within 30 minutes before the procedure

Patient is allergic to penicillin

Clindamycin (Cleocin) Adults: 600 mg

Children: 20 mg per kg

Taken orally one hour before the procedure

TREATMENT

Empiric antibiotic therapy is chosen based on the most likely infecting organisms. Native valve disease usually is treated with penicillin G and gentamicin for synergistic treatment of streptococci. Patients with a history of IV drug use may be treated with nafcillin and gentamicin to cover for methicillin-sensitive staphylococci. Infection of a prosthetic valve may include methicillin-resistant *Staphylococcus aureus*; thus, vancomycin and gentamicin may be used, despite the risk of renal insufficiency. Rifampin also may be helpful in patients with prosthetic valves or other foreign bodies; however, it should be used in addition to vancomycin or gentamicin.

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