



Infectious Endocarditis due to *Stomatococcus mucilaginosus* complicated by Splenic Infarction due to Septic Embolism.

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Summary

Infective endocarditis is a serious disease, with a varied clinical presentation, which is often confused with other heart conditions and other diseases and systems; Hence its great medical importance, because if it is not recognized and treated properly, it can be fatal. We present a clinical case of infective endocarditis after extraction of a third molar of a rare etiology in our setting due to mucilaginous stoma cocci complicated by a splenic infarction of embolic origin that required splenectomy surgery plus surgical mitral valve replacement.

Introduction

Infective endocarditis (IE) is an anatomoclinical entity characterized by microbial infection (bacteria, fungi, rickettsia, chlamydia's, mycoplasma, etc.) of the valvular or parietal endothelium or both, located predominantly on the left side of the heart, although it can also settle in the right (intravenous drug addiction, pacemaker cable or electronic devices), which causes inflammation, exudation and proliferation of the endocardium. [1]

It is a fatal disease, despite improvements in its management, IE continues to be associated with high mortality and serious complications. Until very recently, guidelines on IE were based primarily on expert opinions, due to the low incidence of the disease, the absence of randomized clinical trials, and the low number of meta-analyses. [1,2] The 2015 ESC guidelines on prevention, diagnosis and treatment of IE introduced some innovative concepts, such as limiting antibiotic prophylaxis to patients at higher risk, an approach to the care of IE associated with diagnostic and therapeutic procedures, and the identification of the ideal time for surgery. [3]

The need for a collaborative approach that includes primary care physicians, cardiologists, surgeons, microbiologists, infectious disease specialists, and often other specialists, collectively referred to as the Infectious Endocarditis multidisciplinary team, has recently been emphasized. [4]

Risky dental procedures include manipulation of the gingival or periapical region of the tooth or perforation of the oral mucosa, such as root canal and tartar removal procedures. The use of dental implants raises some concern about the potential risk of foreign material at the interface between the oral cavity and blood. [5-7]

The stoma coccus mucilaginous is a gram-positive coconut that is part of the usual flora of the upper respiratory tract. Despite the limited number of cases described, its frequency has increased in recent years and it has become part of the group of emerging gram-positive pathogens that cause infections in especially immunocompromised patients. [3,8]

We present a clinical case of infective endocarditis after the extraction of a third molar of a rare etiology in our setting due to *Stomatococcus mucilaginosus* complicated by a splenic infarction of embolic origin that required splenectomy surgery plus surgical mitral valve replacement.

Information of the patient

Clinical history and current illness

This is a 68-year-old woman, with no cardiovascular risk factors or toxic habits, in addition, the history of previous valvular disease is not collected, two weeks prior to admission for a febrile syndrome for study, the history of having undergone treatment is collected stemmatological extraction of a third molar. During her admission, she was studied, verifying positive blood cultures for *Stomatococcus mucilaginosus*, and infectious endocarditis was confirmed by the presence of vegetations at the level of the mitral valve plane Fig1. In the evolution, he began with localized abdominal pain in the upper left quadrant radiating to the mesogastrium and a splenic infarction of embolic origin was diagnosed that required emergency splenectomy surgery plus mitral valve replacement and prolonged antibiotic treatment, satisfactory evolution, later discharge without sequelae.

Supplementary tests

- Hemogram: hemoglobin 10.5 g / dl, leukocytes 13,800 (85% neutrophils). Erythrocyte sedimentation rate of 94 mm / h.
- Biochemistry:
- Creatinine: 115 mmol / l
- Blood glucose: 7.6 mmol / l
- Coagulation: Normal
- Chest X-ray: Normal
- ECG: sinus tachycardia, no other electrocardiographic abnormalities

- Positive blood cultures. Four blood samples were taken separated by an interval of 1 h, in the first 24 hours and those of the next day the samples were microbiological evidence of stoma cocci mucilaginosus

In the evolutionary blood cultures prior to discharge from cardiac surgery, all were negative with antimicrobial therapy.

- Abdominal Echo: enlarged spleen, with a central hypoechoic area measuring 3.5 by 4 cm in regular contour and well defined in relation to possible splenic infarction.

- Multisite tomography: the diagnosis of splenic infarction of embolic cause is confirmed.

- Transthoracic echocardiogram (TTE) and transoesophageal echocardiogram (TEE): Evidence of vegetations in the Mitral valve plane in the shape of a bunch of grapes associated with severe mitral regurgitation, dimensions of the normal cardiac cavities, no other valvular alterations that suggest a previous valve damage. **Fig. 1**

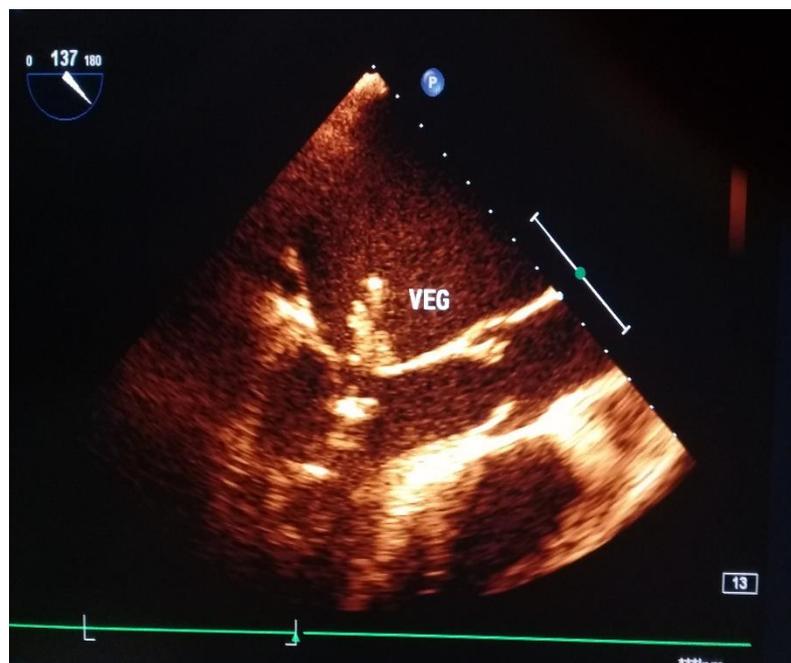


Figure 1. Cluster-shaped vegetation of the mitral valve in the transoesophageal echocardiogram (TEE)

Clinical evolution

After diagnostic confirmation with TEE of IE complicated by an embolic splenic infarction, it was decided to perform splenectomy and cardiac mitral valve replacement surgery with a mechanical prosthesis with a satisfactory evolution.

Diagnosis

- Subacute infective endocarditis on the native valve due to an unusual germ “stoma cocci mucilaginous” complicated by a splenic infarction due to septic embolism.

Discussion

We describe the case of a patient with infective endocarditis on the native valve due to an unusual germ "stoma cocci mucilaginous" with hematogenous spread complicated by a splenic infarction due to septic embolism.

Infective endocarditis (IE) is a serious disease, with a varied clinical presentation, which is often confused with other cardiac conditions and other diseases and systems; Hence its great medical importance, since if it is not recognized and treated properly, it can be fatal. [1,3,8]

Its morbidity is high, being approximately 29% in national series. One of the possible complications is the presence of distant septic embolisms and the formation of abscesses, which are a clear indication for surgery. [3,6-9]

Systemic embolism occurs in 22 to 50% of cases with IE, frequently located in the major arterial beds, including lungs in right-sided endocarditis, coronary arteries, spleen, intestine, and extremities. Up to 65% involve the central nervous system and more than 90% of these emboli are located in the territory of the middle cerebral artery.⁶ Splenic infarction of embolic origin can cause pain in the left upper quadrant of the abdomen, it can occur up to in In 40% of endocarditis on the left side of the heart, only 5% of patients develop splenic abscess either by hematogenous seeding of a soft infarction (occlusion of the splenic artery due to embolism of a vegetation), or direct seeding by a infected embolus. [10-13]

When IE is associated with a splenic infarction, it is usual to suspect an embolic etiology of the same, these can cause large abscesses that do not respond to medical treatment, and splenectomy must be performed before valve surgery and in those cases with high surgical risk it Percutaneous drainage may be a therapeutic option. [14,15]

In general, the indications for surgery with active IE are the development of heart failure, the presence of uncontrolled infection, and the risk of peripheral embolization despite targeted antibiotic treatment, as in our case, which constituted a surgical emergency, requiring splenectomy prior to cardiac surgery and surgical valve replacement with mechanical mitral valve prosthesis. A suspected diagnosis in a patient with a previous history of dental manipulation and the confirmation of a complicated IE are key to planning emergent surgery. [1-3,16]

Lockhart [5] et al. Found in their study that the most frequent reason for third molar removal is pericoronitis, which may be related to the appearance of IE. Pericoronitis is established by active bacterial growth in an ideal medium, which is the space formed by the third molar and the mucosa that covers it, where there is moisture, warmth, food and darkness that allow its development. The microbial flora can be highly different from the flora found in any other part of the mouth as it contains a large number of highly elusive species; spirochetes, spindle bacteria, anaerobic bacteria, actinomyces and prevotella species predominantly facultative microflora, streptococcus milleri, stoma cocci mucilaginous, rothia dentocariosa.

The first bacteraemia documented by *S. mucilaginous* was published in 1978, associated with one or more risk factors, the most frequent being neutropenia. Other factors found were alcoholism, cirrhosis, diabetes, cancer, heart disease, valvular heart disease, peritoneal dialysis, heart prosthesis, injecting drug addiction, and human immunodeficiency virus (HIV) infection. The most frequent clinical picture is the classic one of sepsis, in some cases accompanied by respiratory complications, infections of the central nervous system, meningitis and endocarditis. [17]

We refer to this clinical case as a complicated IE with a splenic infarction of embolic origin due to an unusual germ, the most frequent infectious agent detected in our setting being staphylococcus aureus for both native valves and IE by pacemaker lead. Our patient had a satisfactory evolution, completing her six-week treatment with IV vancomycin and gentamicin, as effective combined treatment guidelines against this species.

Conclusion

In conclusion, IE is a highly complex entity with potential systemic involvement due to septic embolization with high morbidity and mortality, which requires a multidisciplinary approach and the risk-benefit balance should always be considered in its treatment and its possible complications.

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