

Acute Lower Limb Ischemia Revealing Infective Endocarditis

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Abstract

Introduction: Infective endocarditis (IE) has a high risk of morbidity and mortality due to its extracardiac complications despite the advance of treatment.

Case Report: we report a case of a 37 years-old man with an acute lower limb ischemia that revealed an infective endocarditis of the aortic valve treated surgically.

Conclusion: The indication for valvular surgery should be discussed after primary surgical management of acute peripheral ischemia.

Keywords: *Infective Endocarditis; Acute Limb Ischemia*

Introduction

Infective endocarditis (IE) is a rare condition with a high morbidity and mortality due to its extracardiac complications that further worsen the prognosis, occurring at a rate of approximately 1 to 7/100,000 persons per year, despite the progress of antibiotic therapy and surgical treatment [1-3]. Systemic embolism occurs in 22% to 50% of patients with IE; emboli may implicate major arteries, primarily affecting the central nervous system in addition to other organs [4].

This report presents a case of infective endocarditis leading to peripheral arterial embolism and acute lower extremity ischemia. Appropriate emergency management is discussed, and conclusions are drawn regarding indications for both conservative and invasive treatment.

Patient and Observation

We report the case of a 37-year-old man, without any notable pathological history, admitted for pain of the left lower limb evolving in the past 6 hours and febrile dyspnea in the last week. clinically, the left lower limb was pale and cold, the left pedal and left popliteal pulses were poorly perceived, the rest of the clinical examination was without particularity.

In front of this pattern of acute ischemia, an arterial Doppler ultrasound was requested and revealed a tight stenosis of the left superficial femoral artery with the presence of an endoluminal material, confirmed by the CT angiography of the two lower limbs, which also showed a total obstruction of the superior two thirds of the left superficial femoral artery.

A biological assessment was performed and showed an elevated CRP (220 mg/l), procalcitonin (10 mg/ml), an inflammatory anemia with Hb at 9, and hyperleukocytosis at 15000/UI, the renal function was preserved, the cardiac markers were normal.

The patient underwent an embolectomy of the left lower limb by Fogarty 4fr catheter, the postoperative courses were uncomplicated, the patient received a bi-antibiotic therapy (gentamicin and anti-staphylococcal penicillin).

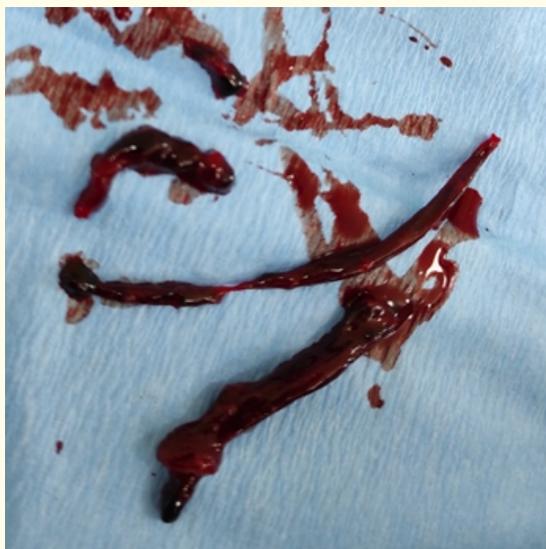


Figure 1: *Extracted thrombi after Fogarty catheter thrombectomy of femoral artery.*

As part of the etiological investigation, an echocardiography was performed, it has revealed a mobile vegetation measuring 12 mm, at the aortic valve level, evoking an infective endocarditis in a bicuspid aortic valve, complicated by a severe aortic insufficiency, EF at 45% and a PAH at 55 mmHG.

In response to the suspicion of infective endocarditis, a cerebral CT scan and a chest abdomen-pelvis CT scan were performed and found cardiomegaly with signs of left heart failure as well as splenic lesions suggestive of a splenic infarction, while the cerebral CT scan was unremarkable; the portal of entry could not be identified.

The patient underwent 24 hours after the embolectomy, an aortic valve replacement by mechanical valve size 23. The bacteriological study of the resected aortic valve failed to identify any germ. He stayed 13 days in the intensive care unit where he continued to receive the same antibiotics. The evolution was highlighted by a good clinical and biological outcome.



Figure 2: Post-operative photograph of the bicuspid aortic valve with a large vegetation.

Discussion

Our patient was admitted for acute limb ischemia revealing infective endocarditis and underwent a Fogarty embolectomy and aortic valve replacement 24 hours later.

The patient showed a classic acute ischemic pattern with coldness, pallor and no pedal pulses and febrile dyspnea with no heart murmurs on auscultation. In 85% of cases of infective endocarditis, heart murmurs are usually encountered [5], as well as frequent non-specific biological signs such as elevated CRP, hyperleukocytosis and microcytic anemia. The diagnosis of infective endocarditis is confirmed by transthoracic echocardiogram (TTE), which was the case for our patient. TTE has a sensitivity of 70 to 80%, whereas transesophageal echocardiography (TEE) has a sensitivity of 90 to 100% [6-8]. Echocardiography allows to highlight the major criteria of IE by revealing vegetations and sometimes the presence of an abscess, the embolic risk increases proportionally with the size of the vegetations especially in case of mitral or aortic localization, and an endocarditis for which the germ is staphylococcus [9,10].

According to the literature, from 20 to 30% of acute ischemia are of embolic origin [9], the medical and surgical management of acute ischemia must be rapid, and should be done in a timely manner, and shouldn't be delayed by additional examinations, in our case given the absence of arteriography per operative, a Doppler ultrasound and a CT angiography were done to confirm the diagnosis [5].

The indication for IE surgery is given in the case of poorly tolerated aortic insufficiency, a resistant infectious syndrome after eight days of antibiotic therapy [9], the presence of embolism as in the case of our patient who presented a migration in the lower limb and a splenic localization, and must be performed as a matter of extreme urgency in the case of an extension of the volume of the vegetations from 10 mm [1], it should be noted that if the vegetation is mobile, the risk of embolization is even higher. The nature of the germ also influences the surgical decision, in fact, a staphylococcus aureus is very decaying hence the need for emergency surgery, in 10% of cases the germ is not detected [10,11], either the germ is rare and cannot be cultivated even with the resection specimen, or it has been negated by antibiotic therapy previously administered, as in our case.

Embolic complications of infective endocarditis are frequently found, in fact, about 57% of patients with IE experience 1 or more complications [12,13], we can classify the complications of endocarditis in cardiac and extra cardiac complications depending on the arterial extension of the emboli, which can affect several territories: the brain, the spleen, the kidneys and extremities [14,15] in fact, they can be inaugural as in our patient's case.

Conclusion

To conclude, infective endocarditis could cause peripheral thromboembolism in patients undergoing subtherapeutic anticoagulant therapy. The indication for valvular surgery should be discussed after primary surgical management of acute peripheral ischemia, transesophageal echocardiography should confirm the diagnosis in suspected patients.

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