East African Scholars Journal of Medicine and Surgery
Abbreviated Key Title: EAS J Med Surg
ISSN: 2663-1857 (Print) & ISSN: 2663-7332 (Online)
Published By East African Scholars Publisher, Kenya

Volume-6 | Issue-2 | Feb-2024 | DOI: 10.36349/easjms.2024.v06i02.012

OPEN ACCESS

Original Research Article

Acute Limb Ischemia Complicating Infective Endocarditis: A Case Report

Z. Ait Abderrahmane[1*], I. Moussa Niandou[1], H. Naouli[1], H. Jiber[1], A. Bouarhroum[1]

[1]Vascular Surgery Department CHU Hassan II Fez, Morocco

Article History
Received: 11.01.2024
Accepted: 21.02.2024
Published: 24.02.2024

Journal homepage:
https://www.easpublisher.com

Quick Response Code

Abstract: Acute ischemia is a vascular emergency that involves the functional and sometimes vital prognosis of the patient, it can have several etiologies including infective endocarditis. We discussed an acute ischemia of the left lower limb secondary to infective endocarditis in a 17-year-old patient.

Keywords: Acute Ischemia, Thrombectomy, Infective Endocarditis.

INTRODUCTION

Infective endocarditis remains a rare pathology with a high mortality rate (15-22%). Its incidence is approximately 6 to 9 cases per 100,000 people per year. Staphylococci are currently the most frequently isolated germs in IE. Embolic complications are common and can be extremely severe (especially cerebral). Peripheral arterial embolisms can affect the lower limbs and give rise to acute ischemia that is often severe and involves both functional and vital prognosis on an already fragile ground. We report the case of acute left lower limb ischemia complicating infective endocarditis in a young patient.

CASE REPORT

A 17-year-old man hospitalized in the cardiology department for infective endocarditis, suddenly presented with intense pain, coldness and paleness of the left foot. His vital signs were as follows: a tachycardia at 120 bpm, a blood pressure was 100/60 mmHg, a low-grade fever at 38°C and oxygen saturation level was 100% on room air. The left extremity of the patient showed a decreased temperature and absence of sensory-motor deficit. The femoral, popliteal and distal pulses were abolished. The right lower extremity was asymptomatic but distal pulses were absents. A systolic mitral murmur was noted on cardiac auscultation, but no signs of acute heart failure.The ECG showed a regular sinus rhythm, a criteria of left atrial enlargement and absence of repolarization disorders. Transthoracic echocardiogram revealed a rheumatic mitral valve, a mobile vegetation measuring 6mm x 5 mm on the auricular side of the anterior mitral leaflet, and a possible posterior leaflet chordal rupture causing severe mitral regurgitation; left atrial dilatation, left ventricular dilatation, a normal systolic function and minimal pericardial effusion. On biological assessment, hemoglobin was 9.5 g/l, White blood cell 23,690/mm3, platelet 142,000/mm3, CRP 145 mg/l, negative troponin, deteriorated renal function: creatinine 25 mg/l, urea 1.89 g/l; Positive blood cultures for Staphylococcus aureus and negative serum Candida antigen search.

Angio-scan of the aorta-lower limbs revealed occlusion of the superficial femoral artery at its upper third with compensated distal perfusion (Figure 2), splenic and bilateral renal infarction. A cerebral Angio-MRI showed axial sub-tensor lesions in relation to micro-abscesses and and a small ischemic left parietal cortical-subcortical zone which looks emboligenic. A heparin bolus was administered.

An emergency embolectomy was performed through a left Scarpa access. A whitish thrombus was removed from the superficial femoral artery to be examined histologically (Figure 3). Immediate post-operative examination revealed a warm left leg with a good popliteal and distal pulses. Bacteriological analysis of the thrombus revealed the presence of Staphylococcus aureus ss. Aureus (the same germ isolated from the blood culture). The patient was put on a bi-antibio therapy based on Targocid and Imipenem cilastatine, and unfractionated heparin was administered at a curative

***Corresponding Author:** Z. Ait Abderrahmane
Vascular Surgery Department CHU Hassan II Fez, Morocco

dose. The patient was admitted to the ICU immediately post-op, intubated and ventilated for four days, then died on the 4th postoperative day of septic shock despite an effective antibiotic therapy and resuscitation measures.

Figure 1: Aortic-lower extremity angiogram: occlusion of the left SFA

Figure 2: Vegetation on the mitral valve on transthoracic echocardiogram (TTE)

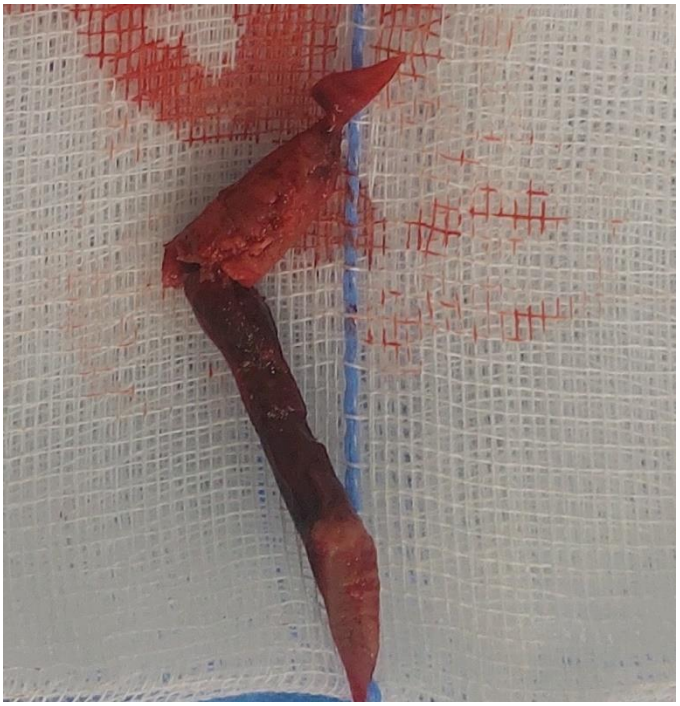

Figure 3: Thrombus in the left superficial femoral artery

DISCUSSION

Infective endocarditis remains a serious condition due to its cardiac and extra-cardiac complications. The frequency of embolic phenomena varies from 30 to 50% of potentially severe cases and is correlated with the size of the vegetation [1, 2] affecting the brain, spleen, liver, kidneys, but also the limbs. Our patient presented, in addition to acute limb ischemia, an ischemic stroke, a splenic infarction and renal infarctions (manifested by deterioration in renal function). Macro- or micro-emboli can affect vessels of any caliber, resulting in acute ischemia or pass unnoticed and be the cause of mycotic aneurysm [3]. Pre-existing valvular pathologies (60%) constitute a potential risk factor for the occurrence of embolic phenomena [4]. The germ isolated from our patient in the hemocultures and culture of the embolus material taken in the block is Staphylococcus aureus. IE is microbiologically documented in more than 90% of cases. Staphylococci (S. aureus and coagulase-negative staphylococci) now occupy the first place among the isolated bacteria in front of streptococci and enterococci [5]. The main risk factors for peripheral embolism are large soft vegetations (>10 mm in diameter) and their location in the mitral valve [6]. Most studies reported an incidence of 4 to 5% among patients with native valve endocarditis [7-9].

The general approach to EI treatment is initial clinical stabilization, early acquisition of blood cultures, and medical and/or definitive surgical treatment, while that of acute limb ischemia treatment depends on the patient's hemodynamic status. Embolectomy and systemic antibiotic therapy followed by replacement of the damaged valve are the cornerstones of treatment. The mortality rate exceeds 80% even when medical or surgical treatment is established [4]. In case of subacute ischemia with compensated distal perfusion, a medical treatment with delayed surgical interventions should be considered [8].

CONCLUSION

This case shows the contribution of surgery in the treatment of ischemic complications of infective endocarditis. Surgery remains a therapeutic option in case of severe acute limb ischemia in infective endocarditis.

Conflicts of Interest: The authors declare no conflicts of interest.

Contributions of the Authors: All authors contributed to this article, they approved the final version of this manuscript.

REFERENCES

1. Thuny, F., Disalvo, G., Belliard, O., Avierinos, J. F., Pergola, V., Rosenberg, V., ... & Habib, G. (2005). Risk of embolism and death in infective endocarditis: prognostic value of echocardiography: a prospective multicenter study. *Circulation*, *112*(1), 69-75.
2. Di Salvo, G., Habib, G., Pergola, V., Avierinos, J. F., Philip, E., Casalta, J. P., ... & Luccioni, R. (2001). Echocardiography predicts embolic events in infective endocarditis. *Journal of the American College of Cardiology*, *37*(4), 1069-1076.
3. Peters, P. J., Harrison, T., & Lennox, J. L. (2006). A dangerous dilemma: management of infectious intracranial aneurysms complicating

endocarditis. *The Lancet infectious diseases*, *6*(11), 742-748.
4. Lozano, P., Flores, D., Blanes, I., Rimbau, E., Corominas, C., Julia, J., & de la Torre, A. G. (1994). Acute lower limb ischemia complicating endocarditis due to Candida parapsilosis in a drug abuser. *Annals of Vascular Surgery*, *8*, 591-594.
5. Camou, F., & Dijos, M. (2014). Endocardite infectieuse. *La Revue du praticien*, *64*, 1153.
6. Thuny, F., UK, B. P., Vilacosta, I., Moreillon, P., de Jesus Antunes, M., Thilen, U., ... & Zamorano, J. L. (2009). Guidelines on the prevention, diagnosis, and treatment of infective endocarditis (new version 2009). *European Heart Journal*, *30*, 2369-2413.
7. Galyfos, G., Giannakakis, S., Kerasidis, S., Geropapas, G., Kastrisios, G., Papacharalampous, G., & Maltezos, C. (2016). Infective endocarditis as a rare cause for acute limb ischemia. *World journal of emergency medicine*, *7*(3), 231-233.
8. Uglov, A. I., & Diuzhikov, A. A. (2004). Surgery of arterial embolism in patients with infective endocarditis. *Angiologiia i sosudistaia khirurgiia= Angiology and vascular surgery*, *10*(3), 97-103.
9. De Gennes, C., Souilhem, J., Chapelon, C., Raguin, G., Wechsler, B., Blétry, O., & Godeau, P. (1990). Arterial embolism of the limbs in infectious endocarditis of the heart valves. *Presse Medicale (Paris, France: 1983)*, *19*(25), 1177-1181.

Cite This Article: Z. Ait Abderrahmane, I. Moussa Niandou, H. Naouli, H. Jiber, A. Bouarhroum (2024). Acute Limb Ischemia Complicating Infective Endocarditis: A Case Report. *East African Scholars J Med Surg*, *6*(2), 71-74.