



Infectious Endocarditis with Major Cutaneous Expression: About A Case

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Abstract

Introduction: Infectious endocarditis is a transplant of microorganisms in healthy endocardium, in injured endocardium or intracardiac material. The modes of revelation can be multiple and varied, the skin manifestations of an infectious although classical endocarditis, are rare.

Observation: This was a young 20-year-old patient, admitted in our cardiac unit for the exploration of a cardiac murmur in a context of long-term fever evolving for nearly 3 weeks associated with a skin rash. The examination found fever at 39°C and tachycardia at 115 beats/min. The cardiac auscultation revealed tachycardia with a systolic breath apexian mitral insufficiency. The skin examination revealed Osler's nodules, an erythema of Janeway on the soles of the feet and on the palms of the hands. In biology, there was a non-specific biological inflammatory syndrome. Blood cultures from three series of samples did not isolate a germ. The transthoracic echography showed large vegetations in the anterior and posterior leaflets of mitral valve associated with severe mitral regurgitation. In this context, the diagnosis of mitral endocarditis is retained according to the Duke criteria. A double intravenous antibiotic therapy based on ceftriaxone and gentamycin was administrated. The evolution was favorable with stable apyrexia, disappearance of skin signs, regression of non-specific biological inflammatory syndrome. A replacement surgery of mitral valve was proposed.

Conclusion: Infectious endocarditis is a disease with multiple and varied modes of revelation. Although skin manifestations are rare, they are still a determining factor in the diagnosis of infectious endocarditis.

Keywords

Infectious Endocarditis, Skin Manifestations, Duke Criteria, Transthoracic Echography, Case Report

Introduction

Infectious endocarditis is a transplant of microorganisms in healthy endocardium, in injured endocardium or intracardiac material. The diagnosis is based on clinical, microbiological and echocardiographic abnormalities. The clinical manifestations of an infectious endocarditis can be variable often evoked by a long-term fever, an

alteration of the general state and the appearance or aggravation of a preexisting cardiac murmur. It can in nearly 20% of cases be revealed by skin manifestations [1].

We report the case of a mitral infectious endocarditis with major skin expression.

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Observation

She was a 20-year-old patient with a history of repetitive angina in childhood, admitted in our cardiac unit for exploration of a cardiac murmur in a context of long-term fever that has been evolving for nearly 3 weeks. This fever was associated with polyarthralgia and a skin rash. This picture contrasted with general condition altered made by physical asthenic, anorexia and a weight loss. The examination found hyperthermia at 39°C, tachycardia at 115 bat/min, polypnea at 20 cycles/min with normal ambient air saturation at 98%. The cardiac auscultation revealed tachycardia with a mitral systolic ejection murmur 3/6. Palpation of the peripheral pulses revealed a weak left pedal pulse.

The skin examination revealed: painful nodules in the pulp of the fingers evoking Osler nodules (**Fig-1**),



Fig-1: Osler's nodule at 5th finger pulp (red arrow)



Fig-2: Janeway's erythema on the palmar face of the left hand (red arrow)

small erythematous plaques; irregular palms and soles of the feet corresponding to Janeway's erythema (**Fig-2**). There were also petechiae in the fingers and toes and a necrotic lesion in the left great toe (**Fig-3** and **Fig-4**).



Fig-3: Left large toe necrotic injury (red arrow)



Fig-4: Osler's Purpura on the index and ring finger (red arrows)

In biology, there was a non-specific biological inflammatory syndrome made of leukocytosis at 23180 elements/mm³ to polynuclear neutrophils, an increase CRP at 96 mg/l and anemia at 9.1g/dl. Blood cultures from three blood samples was negatives.

The transthoracic echography (TTE) showed great vegetation in the anterior leaflet of mitral valve, the largest measured 10mm, attached to the auricular face of the anterior leaflet (**Fig-5**). It also found a severe mitral regurgitation with a volume of regurgitation flow at 65 ml and a regurgitant surface area at 0.4mm². This mitral regurgitation occurred on a

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thickened mitral valve, reworked with a significant impairment of the valve apparatus evoking a rheumatic origin.

The arterial echography of the lower limbs following the weak left pedal pulse concluded to a slowing of the left arterial flow without obstacle visualized.

In this context, the diagnosis of mitral endocarditis was retained of a major criterion (mitral vegetation)

and four minor criteria (fever, rheumatic mitral regurgitation, immunological, vascular and skin signs) according to Duke criteria.

A double intravenous antibiotic therapy based on ceftriaxone and gentamycin was administrated. The evolution was favorable with stable apyrexia, disappearance of skin signs, regression of non-specific biological inflammatory syndrome. A replacement surgery of mitral valve was proposed.

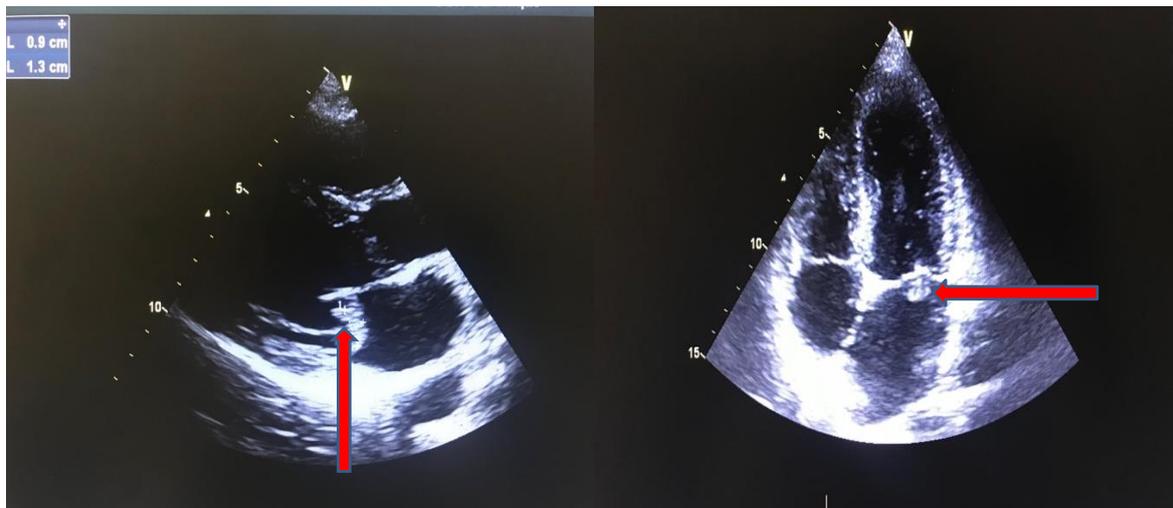


Fig-5: TTE, parasternal long axis and apical 4 chambers showing a voluminous vegetation at the auricular slope of the anterior leaflet of mitral valve (red arrows).

Discussion

Infectious endocarditis in Africa affects the young population, due to the preponderance of rheumatic disease [2]. Modes of clinical disclosure of infectious endocarditis are polymorphic, making diagnosis sometimes difficult. If fever and general condition altered are often present [1,2]. Very few studies describe the main skin manifestations in infectious endocarditis. These are mainly Osler nodules and Janeway's erythema. These manifestations are rare in only 5-15% of patients with infectious endocarditis [1,3]. Schematically, it is due to two mechanisms: septic emboli due to histological presence of neutrophil micro abscesses without vasculitis generally during Janeway's erythema and deposits of circulating immune complexes due to histological presence of leucocytoclastic vasculitis during purpura and Osler nodules [4]. Thus, these skin manifestations combined with fever and the presence of a voluminous

vegetation at the auricular slope of the anterior leaflet of mitral valve at TTE allowed to retain the diagnosis of certain infectious endocarditis in our patient. Based on the Duke criteria we have the association of a major criterion, the presence of vegetation and four minor criteria represented by skin manifestations and fever. Despite, the negativity of blood cultures, which most often in our context is related to inappropriate administration of antibiotics before biological samples making culture difficult or slow [5]. Similarly, in less than 10% of cases of infectious endocarditis, blood cultures remain negative outside of any previous antibiotic therapy [6].

Conclusion

Infectious endocarditis is a disease with multiple and varied modes of revelation. Although skin manifestations are rare, they are still a determining factor in the diagnosis of infectious endocarditis.

Conflict of Interest

The authors have read and approved the final version of the manuscript. The authors have no conflicts of interest to declare.

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