

Infectious endocarditis revealed by dermatological manifestations originating from basal cell carcinoma

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ABSTRACT

The diagnosis of infectious endocarditis may be difficult. Dermatological examination in patients with suspected infective endocarditis may prove very useful, as it might reveal suggestive abnormalities of this disease, such as Osler's nodes and Janeway lesions. Osler's nodes are painful, purple nodular lesions, usually found on the tips of the fingers and toes. Herein, we report the case of a 57-year-old man who was diagnosed with infectious endocarditis, and basal cell carcinoma was the gateway. This case was of particular interest because of the rarity of the gateway and because it highlighted the importance of skin examination as an essential element in the presumptive diagnosis of infective endocarditis.

Key words: Endocarditis, Basal cell carcinoma, Dermatological

INTRODUCTION

The diagnosis of infectious endocarditis may be difficult. Dermatological examination in patients with suspected infective endocarditis may prove very useful as it might reveal suggestive abnormalities of this disease. This case was of particular interest because of the rarity of the gateway and because it highlighted the importance of skin examination as an essential element in the presumptive diagnosis of infective endocarditis.

CASE REPORT

A 57-year-old male came to the emergency room for a fever that had been evolving for the previous four days. His history included high blood pressure for seven years and dyslipidemia. On clinical examination, fever was confirmed at 38°C. At the cardiac auscultation, a discreet systolic breath at the mitral focus was found. The patient was in good hemodynamic condition. The general review showed an ulcerated and purulent nodular tumor of the scalp (Fig. 1). Biological analysis revealed an inflammatory syndrome: hyperleucocytosis

neutrophil polynuclear and negative hemocultures. A histological study of the scalp mass concluded to basal cell carcinoma. The patient was put on intravenous antibiotic treatment with penicillin G at a dose of 16 million units per day. The evolution was marked by the persistence of fever on the third day of antibiotic therapy with the appearance of necrotic pulpitis associated with hemorrhages in subungual flames of the hands (Fig. 2) and purpuric macules (Figs. 3a – 3c). Faced with the strong suspicion of the diagnosis of infectious endocarditis, transthoracic echography was conducted objectifying a large vegetation at the level of the atrial side of the highly mobile 1.8 cm high axis machine valve (Fig. 4). The diagnosis of infectious endocarditis was established. The location of this vegetation represented a significant embolic risk and could compromise the proper mobility of the mitral valve leaflet. Antibiotic therapy was adapted by targeting staphylococcus aureus with good evolution (apyrexia after 48 hours), a regression of biological inflammatory syndrome with a marked decrease in vegetation size. Six weeks later, the patient's progress was excellent, and he returned home.

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Figure 1: An ulcerated and purulent nodular tumor of the scalp.



Figures 3: (a-c) Purpuric macules.

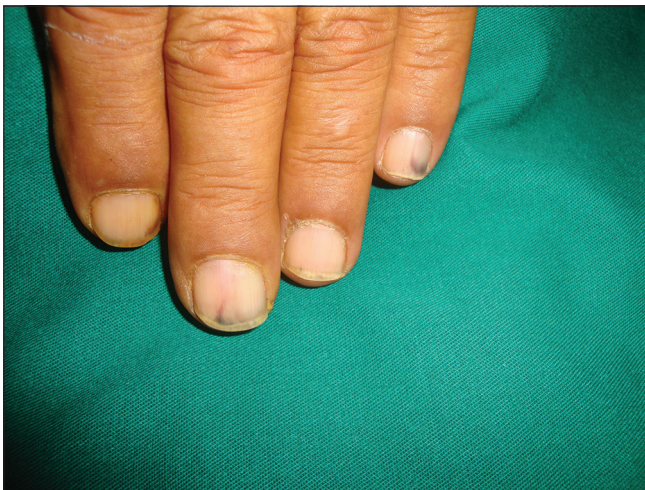


Figure 2: Necrotic pulpitis associated with hemorrhages in subungual flames of the hands.

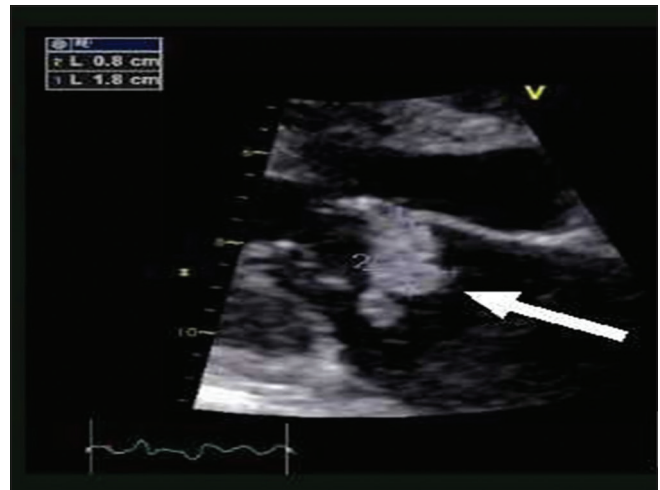


Figure 4: Large vegetation at the level of the atrial side of the highly mobile 1.8 cm high axis machine valve.

DISCUSSION

Our observation emphasizes that the diagnosis of infectious endocarditis may be difficult. The secondary appearance of purpura helped guide the diagnosis of our patient. Infectious endocarditis is a systemic, serious bacterial infection that may affect all heart valves and cause serious and even irreversible damage, sometimes evolving into life-threatening complications. Some factors favor the occurrence of infectious endocarditis, namely risky heart disease associated with an infectious gateway that may be oral (most common), whose germ is *Streptococcus* transmitted most often during dental care with bleeding. It may be urinary (ureteral surgery, prostatectomy) or digestive disease, common in the elderly, caused by *Streptococcus bovis* or *Enterococcus*. Infection through the skin is rarer (sores, boils) and, in general, involves *Staphylococcus aureus* [1].

Overinfected chronic dermatoses may be a gateway to underlying heart disease. In the case of our patient, basal cell carcinoma was the gateway. Iatrogenic entrance doors are not exceptional and more and more frequent: catheters, pacemakers, and post-cardiac surgery. Clinical signs include general signs: fever, splenomegaly, and an alteration in general condition. Cardiac manifestations may occur by the onset or modification of a breath or signs of heart failure. Extracardiac manifestations with skin signs in (5–15%): purpura petechial, false Osler panaris, or Janeway palmo-plantar erythema [2]. Eye signs may be seen (at the back of the eye: Roth spots) conjunctival purpura or even kidney signs (proteinuria, hematuria). The diagnosis of infectious endocarditis follows well-codified diagnostic criteria, called DUKE criteria, based on a set of clinical, ultrasound, and biological criteria. These criteria are useful in assessing the likelihood of infectious endocarditis yet will always

be subject to flaws; indeed, sensitivity and specificity are about 80% [3], which motivates the search for improvements to these criteria [4].

CONCLUSION

Infectious endocarditis remains a serious disease requiring multidisciplinary management medical, surgical, and microbiological management. Although treatment is well codified, mortality remains high. This diagnosis should always be considered in the presence of any prolonged fever and persistent, suggestive skin lesions in a patient at risk. Prophylaxis and education of at-risk patients are essential.

Consent

The examination of the patient was conducted according to the principles of the Declaration of Helsinki.

Written informed consent was obtained from the patient for the publication of this case report and its accompanying images.

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