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Complicated CVC Placement Leading to Endocarditis in a Young Male

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ABSTRACT

A 31-year-old patient presents to our service with fever of unknown origin. During his approach, it is discovered that in an event of anaphylactic shock, a central venous catheter was placed, leaving the metal guide for 2 years. This was the cause of endocarditis, so he went to cardiac surgery where the metal wire was removed, with proper evolution.

KEYWORDS: endocarditis, CVC, fever.

ARTICLE DETAILS

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INTRODUCTION

Infective endocarditis (IE) is a major public health challenge.[1] In 2019, the estimated incidence of IE was 13.8 cases per 100 000 individuals per year, and IE accounted for 66 300 deaths worldwide,[2] with 1723.59 disability-adjusted years and 0.87 deaths per 100 000 individuals.

The development of IE usually requires several conditions, including the presence of predisposing risk factors (a surface/structure that could be colonized by bacteria), pathogens entering the bloodstream, and the competence of the host's immune response

Infective endocarditis remains a diagnostic challenge due to its varied clinical presentations. In general, a diagnosis of IE should be considered in all patients with sepsis or fever of unknown origin in the presence of risk factors. Infective endocarditis may present as an acute, rapidly progressive infection, but also as a subacute or chronic disease with low-grade, or even no fever, accompanied by non-specific symptoms that may mislead or confuse initial assessment. Infective endocarditis can also present with complications mimicking a wide range of medical conditions that may prompt for the evaluation of other diseases, such as rheumatological, neurological, and autoimmune disorders, or even malignancy, before reaching a diagnosis of IE. Therefore, fever and positive blood cultures in the absence of an alternative focus of infection should prompt a high suspicion for IE, especially in patients with one or more risk factors. Early involvement of the Endocarditis Team to guide management is highly recommended.[3]

CASE REPORT

A 31-year-old patient with no comorbidities has a relevant episode of anaphylactic shock due to bee stings 2 years prior to this current case, requiring advanced airway management and hemodynamic monitoring for 48 hours during this period. Currently, our patient visits his outpatient clinic for evaluation due to the sensation of a mass in his neck and recurrent episodes of nocturnal fever. Oral antibiotics are started for 2 weeks with slight improvement in symptoms, but the symptoms persist, prompting a second visit to his clinic. A chest x-ray is performed finding a radiopaque object shown in image 1. A computed tomography is then performed showing a metallic object which is compatible with a metal guide wire typically used for the placement of central venous

catheters. An echocardiogram was performed revealing no vegetations and no apparent damage to the heart valves. An initial attempt is made to remove the metal guidewire via percutaneous intervention without success, therefore surgical extraction of the metal wire is recommended. During the surgical procedure, the metal guidewire is retrieved along with a section of the dilator still attached. The patient's post-surgical evolution is adequate with a subsequent discharge from the unit to continue medical treatment at home.

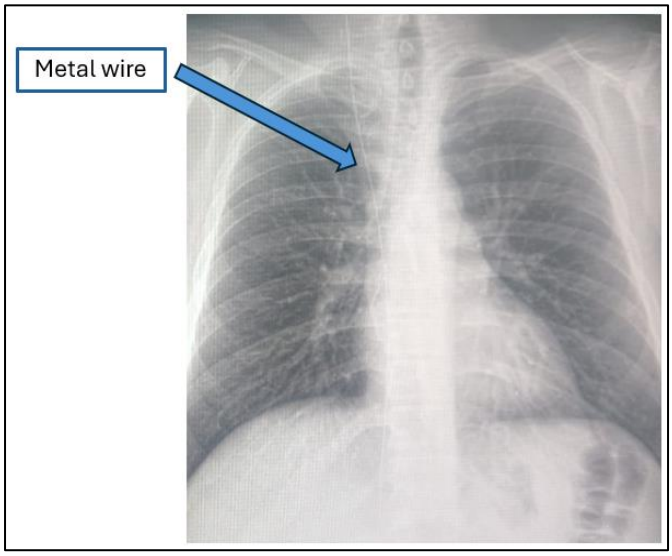

Image 1: Chest X-ray

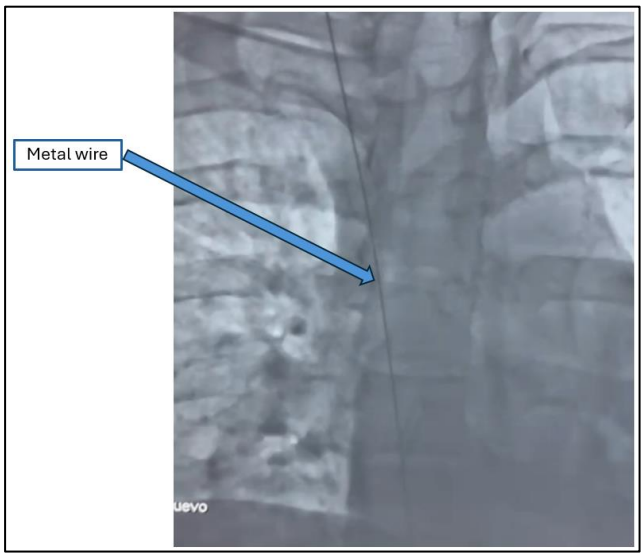

Image 2:

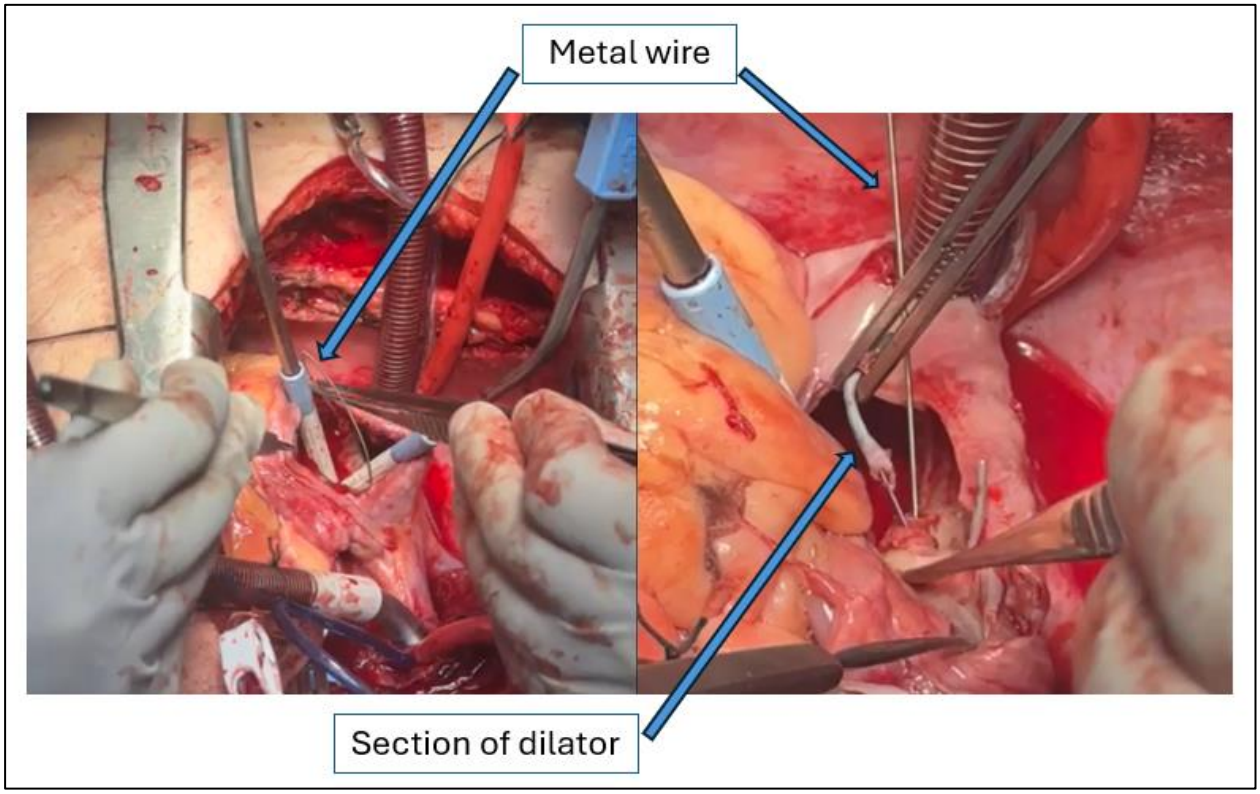

Image 3: Metal guidewire and section of dilator

DISCUSSION

In this patient without classic risk factors for presenting endocarditis, the diagnostic suspicion was the history of anaphylactic shock and chest X-rays showing a metallic object. Surgery was performed without complications and a partially endothelized guidewire along with a section of dilator were retrieved. In these cases, the endocarditis team makes the decision on how to carry out the best possible treatment and oversees all available treatment options.

CONCLUSION

Infective endocarditis should always be considered in patients with long-standing fever and no apparent diagnosis.

Invasive intravascular procedures have inherent risks; therefore, they should always be performed in a methodical and systematic manner to reduce the risk of acute and long-term complications.

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