Staphylococcus lugdunensis: an unusual and aggressive cause of infective endocarditis

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Accepted 10 August 2016

DESCRIPTION

A 68-year-old man presented with fever, right groin pain and impaired right hip motion during the last 7 days. He denied recent trauma or cutaneous infection.

Initially, a diagnosis of right hip septic arthritis was assumed so, an MRI was performed that showed degenerative right coxofemoral changes with moderate fluid accumulation. The analysis of joint fluid exhibited a septic fluid. Hemocultures were taken and empirical intravenous antibiotic treatment was initiated.

The patient remained clinically stable on the first few days with improvement of his clinical conditions. On day 3, hemocultures showed *Staphylococcus lugdunensis* sensitive to penicillin. A transthoracic echocardiogram revealed a structurally normal heart. Aortic valve was trileaflet without visible vegetations but with mild regurgitation.

The patient presented a new episode of fever and profound haemodynamic instability on day 4, and a transoesophageal echocardiogram showed multiple vegetations on the aortic valve, affecting all cusps (some of them bigger than 10 mm) with severe valve regurgitation, and an annular aortic abscess with aortic root involvement (figure 1A–C).

An aortic valve and root replacement with cryopreserved homograft and drainage of periannular abscess was performed without immediate complications. Right hip surgery was performed 4 days later without complications.

Few cases of infective endocarditis (IE) caused by *S. lugdunensis* have been described in the literature to date. *S. lugdunensis* is often associated with bulky vegetations and profound valvular destruction similar to *S. aureus*. Furthermore, it is rarely a contaminant like other coagulase-negative staphylococci, so

isolation of this organism in the blood should lead to an exhaustive investigation for IE. The confirmation of left-sided IE by echocardiogram warrants surgical intervention, because it is associated with an ominous prognosis without surgical intervention.^{1 2}

Learning points

- ▶ *Staphylococcus lugdunensis* represents a rare cause of infective endocarditis (IE) (1% of all cases). Nevertheless, its virulence has been compared to that of *S. aureus*.
- ▶ Owing to its rarity, physicians may be unfamiliar with it and thus may disregard a positive blood culture as contaminant.
- ▶ An isolation of this organism in the blood should lead to an exhaustive investigation for IE.

Contributors RSA and EJFU drafted the manuscript; GJB and GC reviewed critically the manuscript with important intellectual contribution.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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Figure 1 Transoesophageal echocardiography: midoesophageal long-axis view (A) showing an annular aortic abscess with aortic root involvement (yellow arrow) and a mobile vegetation (white arrow) arising from the non-coronary cusp of the aortic valve. Midoesophageal aortic valve short axis (B) demonstrating a trileaflet aortic valve with multiple vegetations. Colour Doppler imaging (C) revealing double jet aortic regurgitation (white stars). AA, ascending aorta; LV, left ventricle; TAV, trileaflet aortic valve.

To cite: Flores Umanzor EJ, San Antonio R, Jimenez Britez G, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-217156

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