CASE REPORT

Isolated *Streptococcus agalactiae* tricuspid endocarditis in elderly patient without known predisposing factors: Case report and review of the literature

Leila Abid [a,*], Salma Charfeddine [a], Samir Kammoun [a]

[a] Cardiology Department, University Hédi Chaker Hospital, Sfax

[a] Tunisia

Group B streptococcal (GBS) tricuspid infective endocarditis is a very rare clinical entity. It affects intravenous drug users, pregnant, *postpartum* women, and the elderly. We report the case of a 68-year-old patient without known predisposing factors who presented a GBS tricuspid endocarditis treated by penicillin and aminoglycosides with no response. The patient was operated with a good evolution. Our case is the 25th reported in the literature. GBS disease is increasing in the elderly and is mainly associated to comorbid conditions. Tricuspid infective endocarditis with Group B streptococcus predominantly presents as a persistent fever with respiratory symptoms due to pulmonary embolism. Therefore, it requires a medicosurgical treatment and close follow-up.

Keywords: Tricuspid endocarditis, Elderly patient, Group B streptococcus, *Streptococcus* agalactiae, Surgery

Introduction

Right-sided infective endocarditis (RSIE) is a rare clinical entity that occurs predominantly in intravenous drug users and involves mainly the tricuspid valve [1]. Pathogenesis, clinical features, and prognosis of RSIE occurring in nondrug users are not well known [2]. In fact, there are only a few studies on RSIE in nondrug users without human immunodeficiency virus infection. *Staphylococcus aureus* is the most common microbiological pathogen. Other causes of RSIE include coagulase-negative staphylococci and streptococci [3,4]. Group B *Streptococcus* (*Streptococcus agalactiae*) is a β-hemolytic Gram-positive bacterium [5]. This pathogen is a member of the genitourinary female tract and gastrointestinal normal flora in some humans [5]. *S. agalactiae* is one of the major causes of neonatal bacterial

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* Corresponding author at: Cardiology Department, Hédi Chaker Hospital, Route Elain, Km 0.5, 3029 Sfax, Tunisia.
E-mail address: leilaabidt@yahoo.fr (L. Abid).

P.O. Box 2925 Riyadh – 11461KSA
Tel: +966 1 2520088 ext 40151
Fax: +966 1 2520718
Email: sha@sha.org.sa
URL: www.sha.org.sa

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septicemia and meningitis [6]. Group B streptococcal disease (GBS), once rare in adults, is actually in perpetual increase, especially in the elderly [7]. However, GBS infective endocarditis remains a rare clinical entity (3% of GBS invasive infections) [7]. It mainly affects the left-sided heart valves and rarely the tricuspid valve [8]. In this paper we report the case of an elderly patient without known comorbidities who presented with tricuspid endocarditis due to *S. agalactiae*. The pathophysiology, clinical features, and therapeutic options are reviewed.

Case report

A 68-year-old man was admitted with prolonged fever, arthralgia, headache, and asthenia of 3 weeks' duration. The patient had no history of cardiovascular disease or illicit drugs abuse. There was no notion of recent hospitalization or intravenous catheter placement. On admission, the patient was pale with dyspnea at rest. On examination, his temperature, blood pressure, pulse, respiratory rate, and oxygen saturation while breathing room air were, respectively: 39.2 °C; 115/70 mmHg; 96 beats/min; 24 breaths/min; and 96%. Auscultation of lung fields was normal. Cardiac auscultation revealed a systolic murmur at the left lower sternal border increasing with inspiration. Physical examination revealed jugular veins distension with a hepatojugular reflux and a mild painful hepatomegaly. The electrocardiogram showed a sinus tachycardia. Chest X-ray revealed a mild cardiomegaly. Laboratory tests revealed leukocytosis of 13.2×10^9, anemia with hemoglobin of 9.3 g/dL, erythrocyte sedimentation rate of 90 mm/h, and C-reactive protein of 260 mg/L. On transthoracic and transesophageal echocardiography, there was a large, mobile, and pedunculated vegetation measuring 15 mm × 10 mm attached to the anterior tricuspid valve with severe regurgitation (Fig. 1) and severe pulmonary hypertension (systolic pulmonary arterial pressure = 55 mmHg). The right ventricle had normal size and function (tricuspid annular plane systolic excursion = 25 mm; S wave = 13 cm/s). The left ventricle and aortic and mitral valves were normal. The diagnosis of right-sided infective endocarditis was made. Treatment with vancomycin and gentamycin was started after several blood culture series and urine analysis. There were no organisms in the urine. *S. agalactiae* was isolated in three blood cultures. Since this bacterium was sensitive to penicillin and aminoglycosides, vancomycin was stopped and changed to penicillin. Abdominal and cerebral CT scans were normal. Human immunodeficiency virus and tumor markers were negative and digestive exploration including colonoscopy was normal. After 2 weeks with appropriate antibiotic treatment, the patient complained of fever and dyspnea. A ventilation–perfusion lung scan showed matched ventilation and perfusion defect at the lingual secondary to septic pulmonary embolism. A control transesophageal echocardiography revealed a further increase in the vegetation of the tricuspid valve and there was no inflammatory resolution: C-reactive protein rate remained 180 mg/L after an initial decrease. Medical treatment was changed again to daily vancomycin, gentamycin, and rifampicin and the patient underwent surgery. Large vegetation was attached to the tricuspid valve (Fig. 2). The surgery had consisted at a resection of the vegetation, tricuspid valve repair and annuloplasty with a Carpentier–Edwards ring No. 28.

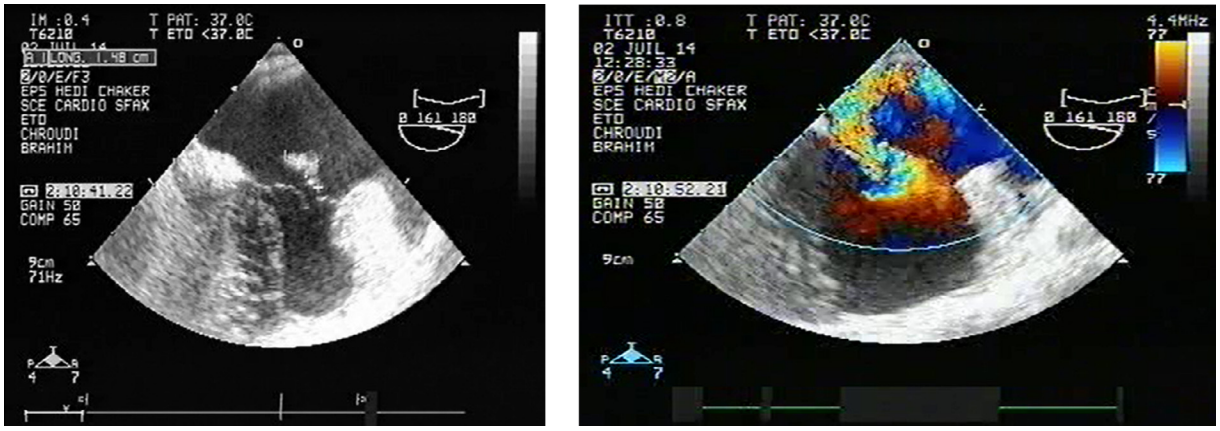

Figure 1. Transesophageal echocardiography revealing a large, mobile and pedunculated vegetation measuring 15 mm × 10 mm attached to the anterior tricuspid valve with severe regurgitation.