Diabetic keto acidosis as a deceiving presentation to simultaneous aortic and tricuspid infective endocarditis

Rambhujun VP1, Ciancerelli J1, Silber D2 and Daggubati R3
1NYU Winthrop Internal Medicine department, USA
2Columbia Medical Center, Cardiology department, USA
3NYU Winthrop Cardiology department, USA

Abstract

Background: Infection remains a common cause for DKA, though its association with endocarditis is rare. The incidence of infective endocarditis (IE) ranges between 1.5 to 11.6 per 100 000 prosthetic valve endocarditis occurs in 1-6% of patients and rarely is it bilateral, as this case is.

Case description: 71-year-old female patient admitted with diabetic ketoacidosis and low-grade fevers. She had an infectious work up in which the blood cultures grew streptococcus mitis. The patient, subsequently, had a transthoracic echocardiogram that was negative for any vegetations; but considering the fact that she had a prosthetic valve and she was persistently bacteremic, she underwent a TEE that showed simultaneous aortic (bioprosthetic valve) and tricuspid infective endocarditis. The patient was treated conservatively with surgery being the next step if she didn’t improve. She improved astoundingly rapidly with IV antibiotics.

Conclusion: This case is interesting because our patient had vegetations on both side of the heart which is very rare. We were able to find only two such cases; the first was an IV drug user with persistent bacteremia and the second patient had a Ventricular sepal defect with aortic and tricuspid endocarditis. There are too few reported cases of patients with right and left endocarditis to have guidelines for management of such patients. We opted for a non-surgical management of our patient in view of her comorbidities with surgery as the option if she did not improve. Our case is probably the only case of simultaneous two valve endocarditis was managed conservatively with the patient making a complete recovery, making it a unique case.

Introduction

Diabetic ketoacidosis is a condition characterized by a combination of hyperglycemia, anion gap metabolic acidosis, serum bicarbonate level less than 18 mEq/L and ketonemia [1]. One of the common triggers of DKA is systemic infections.

We are discussing a patient who was admitted to our ICU who was found to be in DKA secondary to infective endocarditis of tricuspid valve and a bioprosthetic aortic valve. Only few such cases of endocarditis have been reported. [2]

Case Report

Our patient is a 71-year-old female patient who presented to our ED with polydipsia, polyuria for recurrent daily fevers and progressive weakness for 4 days preceding her admission. Her blood work showed her being in diabetic ketoacidosis (DKA) for which she was admitted to the medical ICU. As part of the infectious work up for the etiology of the DKA and her fevers, she had blood cultures drawn which grew streptococcus mitis. Her initial transthoracic echocardiogram (TTE) failed reveal any vegetations.

Concerned by the possibility of endocarditis in the setting of Streptococcus mitis bacteremia, she underwent a transesophageal echocardiography that, surprisingly, showed vegetations over the tricuspid and her bioprosthetic aortic valve as shown in the images below (Figures 1-3).

The patient was started on antibiotics and made dramatic improvements in her general condition, blood glucose control after 24 hours. The Cardiology and Cardiothoracic surgery team opted for a conservative management with surgery being the option in case she failed to improve or developed complications from the infective endocarditis as she was a very high risk surgical candidate (DKA, DKA, DKA).

Correspondence to: Vinkashsingh Rambhujun, NYU Winthrop Internal Medicine department, 120 Marcellus Road, apartment 3T, Mineola, NY 11501, USA, Tel: +19198645610; E-mail: Vikash_rambhujun@hotmail.com

Key words: aortic, tricuspid infective endocarditis

Received: March 27, 2018; Accepted: April 06, 2018; Published: April 10, 2018
One of the interesting facts about this case is that she had vegetations on both sides of the heart which almost never happens. Out of our literature review, we were able to find only two such cases and, in those cases, the first patient was an IV drug user and the second one had a Ventricular sepal defect with aortic and tricuspid endocarditis [4,5]. Our patient had no direct connection between the right and left side of the heart that would bypass the filtering effect of the lungs. In this regard, there was a concern that a patient might have an aortic paravalvular abscess which might extend to the tricuspid valve which was excluded by the Trans esophageal echocardiogram.

Another interesting point regarding this case is that there are set guidelines for the management of univalvular endocarditis [3] but not for infective endocarditis involving more than one valve. All the cases of 2 valve endocarditis reported in our literature review were treated medically but surgery was always required [4, 5]. Our patient responded remarkably with IV antibiotics, her improvement was so impressive that the cardiothoracic surgery team and the Cardiology team opted for a conservative management with surgery being the recourse if she were to develop complications. This is the only case of simultaneous 2 valve endocarditis in our literature review managed conservatively with the patient making a complete recovery and we felt that this should be shared as it can give future clinicians literature to support, at least, an initial conservative management in extensive endocarditis cases like this one.

References