A Case of Transient Complete AV Block caused by Infective Endocarditis with Abiotrophiadefectiva

Jung Yoon DO
Wilco Civil Sr
Urvish Patel
Jermaine Ekobena
Arun Abraham

See next page for additional authors

Follow this and additional works at: https://scholarlycommons.hcahealthcare.com/internal-medicine
Part of the Bacterial Infections and Mycoses Commons, Cardiovascular Diseases Commons, and the Internal Medicine Commons
A Case of Transient Complete AV Block caused by Infective Endocarditis with Abiotrophia defectiva


Internal Medicine Residency Program, Regional Medical Center Bayonet Point, Hudson, FL

Introduction
Abiotrophia defectiva is a nutritionally variant Streptococci (NVS) found in the oral cavity, gastrointestinal tract, and genitourinary system of healthy individuals. A. defectiva has been identified in ocular infections, osteoarticular infections, arthroplasty infections, otitis and sinus infections, cerebral abscesses, meningitis and pancreatic abscesses. Infective endocarditis with Abiotrophia species account for about 4.3% to 6% of all streptococcal endocarditis. Exopolysaccharide and fibronectin secreted by Abiotrophia species allow binding of the organisms to endovascular structures, causing the destruction of heart valves, heart failure, pulmonary edema and septic embolization. Compared with other non-hemolytic streptococci, infective endocarditis with Abiotrophia tends to cause higher incident of valvular lesions requiring surgical interventions. A. defectiva produces small vegetation and more commonly infects aortic valve. According to the American Heart Association guidelines endorsed by the Infectious Diseases Society of America, 4-6 weeks of antibiotic treatment with penicillin and gentamicin is recommended.

Case Description
A 70-year-old male with a history of coronary artery disease status post coronary artery bypass grafting (CABG) in 2012, aortic stenosis status post aortic valve replacement with bioprosthesi in 2017, Type 2 diabetes mellitus and hypertension presented to ER after experiencing episodes of tremors, lightheadedness, confusion and one episode of syncpe shortly after using Comrade. Patient reported associated headache, shortness of breath and nausea. His vitals at home were unstable with his systolic blood pressure as high as 200's and then, quickly dropping down to hypotensive range with continued fluctuations. His heart rate also fluctuated between bradycardia, as low as 30’s, and tachycardia. In the ED, his vitals remained unstable with continued fluctuations in his blood pressure and heart rate. SPO2 in room air remained in mid-90's. ECG demonstrated atrial fibrillation with intermittent episodes of pauses greater than 6 seconds. Subsequent ECG showed right bundle branch block with a significant first degree AV block. His heart rate improved after Atropine was administered. Initial troponin I was <0.02 ng/mL and then, 6 hours later, troponin I was elevated to 0.07 ng/mL, trended down afterwards. Patient was admitted to the medical intensive care unit and transcutaneous pacer pads were applied. The following day, initial blood cultures grew gram-positive cocci in two separate bottles which eventually grew Abiotrophia defectiva. Patient was started on ampicillin and gentamicin due to a concern for aortic valve ring abscess. Patient was noted to have episodes of transient complete heart block on a telemetry monitor. Temporary transvenous pacemaker was placed. Transesophageal echocardiogram was normal for any vegetation. Repeat blood cultures remained negative and Infectious Diseases recommended a total of 3 weeks of gentamicin and 6 weeks of ampicillin. A permanent pacemaker was placed before eventual discharge.

Investigations

Discussion
Abiotrophia defectiva is a rare cause of infective endocarditis. While complications such as acute heart failure, septic embolization or extensive valvular destruction have been described with infective endocarditis with Abiotrophia species, transient AV block is a rare complication of the disease. In this patient with the history of aortic valve replacement with bioprosthesis, potential aortic valve ring abscess was a major concern after patient developed transient AV block with hemodynamic instability and mental status changes.

Conclusion
Abiotrophia defectiva is a rare cause of infective endocarditis however, the disease can lead to significant complications requiring an urgent surgical intervention. Close monitoring of cardiac rhythm and hemodynamics can further dictate treatment plan and prevent grave complications. In addition, a long-term antibiotic treatment with susceptible agent remains the mainstay of medical management.

References
- Birlutiu V, Birlutiu RM. Endocarditis due to Abiotrophia defectiva, a biofilm-related infection associated with the presence of fixed brances: A case report. Medicine (Baltimore). 2017;96(46).