

Aorto-left atrial fistula: Rare cause of acute cardiac failure in a previously healthy individual

Yashwant Agrawal^{a,*}, Monoj Konda^a, Jagadeesh K. Kalavakunta^b

^a Department of Internal Medicine/Pediatrics, Western Michigan University Homer Stryker School of Medicine, Kalamazoo, MI;

^b Department of Cardiology, Borgess Medical Center, Kalamazoo, MI

^{a,b} USA

Complications of valvular infective endocarditis involving the peri-annular region puts the patient at a significantly high risk of adverse outcomes including heart failure and death. The “mitral-aortic intervalvular fibrosa” is relatively avascular and offers little resistance to the spread of abscesses, aneurysm, and fistula formation. Aorto-cavitary fistulous tract formation in the setting of native valve infective endocarditis is associated with higher rates of heart failure, ventricular septal defect, and atrioventricular block than nonruptured abscesses. Thus, a high index of suspicion is needed for rapid and accurate diagnosis, which can guide further management. A transesophageal echocardiogram is the preferred modality of investigation in such cases. Staphylococci are reported to be the most common pathogen involved. In addition to early antibiotic therapy, prompt surgical intervention might save lives in these scenarios.

© 2016 The Authors. Production and hosting by Elsevier B.V. on behalf of King Saud University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Keywords: Aorto-cavitary fistula, Echocardiogram, Infective endocarditis, Staphylococci

Introduction

When infective endocarditis (IE) is suspected a transesophageal echocardiogram (TEE) should be performed promptly. Moreover, when the peri-valvular annulus region is involved with abscess formation, surgical intervention should be emergently initiated.

Case report

A 57-year-old Asian man without any significant medical history presented to the Emergency Department (Western Michigan University Homer Stryker School of Medicine) with fever, dyspnea, diffuse abdominal pain, and chest pain ongoing for 5 days. His chest pain was left-sided, dull, constant, nonradiating, and 4/10 in intensity. Vital signs were significant for blood pressure

Disclosure: Authors have nothing to disclose with regard to commercial support.

Received 27 December 2015; revised 5 February 2016; accepted 9 February 2016.

* Corresponding author at: Borgess Medical Center, 1521 Shaffer Road, Kalamazoo, MI 49048, USA.
E-mail address: yashwantagrwal.agrawal@gmail.com (Y. Agrawal).



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



1016-7315 © 2016 The Authors. Production and hosting by Elsevier B.V. on behalf of King Saud University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer review under responsibility of King Saud University.
URL: www.ksu.edu.sa
<http://dx.doi.org/10.1016/j.jsha.2016.02.005>



Production and hosting by Elsevier

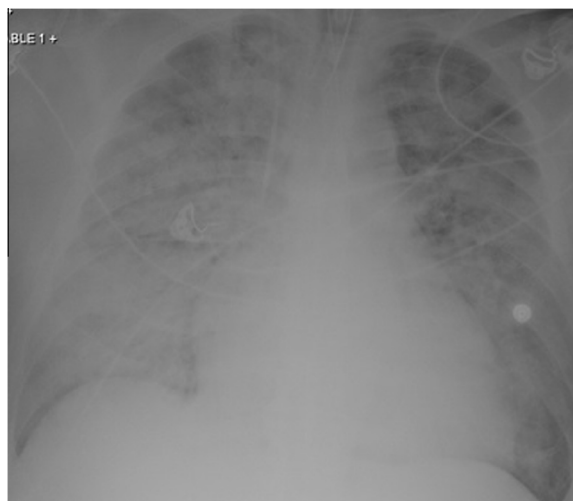


Figure 1. Chest X-ray (anterior–posterior view) showing bilateral infiltrates consistent with pulmonary edema.

which was 197/66 mmHg, he had a heart rate of 137 bpm, a respiratory rate of 37/min, temperature of 37 °C, and oxygen saturating 86% on room air. Physical examination was remarkable for Grade 3/6 pan-systolic murmur heard all over the precordium and bilateral crackles. He was emergently intubated due to hemodynamic instability. Chest radiograph was consistent with acute pulmonary edema (Fig. 1). Electrocardiogram showed infero-lateral infarct. Laboratory results were significant for leukocytosis of 31,600/cmm, bicarbonate 10 mmol/L, lactic acid 12.9 mmol/L,

pH of 7.00, and troponin T 0.22 ng/mL. He was transferred to the intensive care unit and placed on a nitroglycerin drip and started on empiric antibiotics. Emergent transesophageal echocardiogram revealed distortion of the left coronary cusp with possible vegetation on the aortic valve with mild aortic regurgitation. An aortic root abscess perforating in the intervalvular fibrosa region with left atrial shunting was also appreciated (Fig. 2; Video 1). Blood cultures were positive for methicillin sensitive *Staphylococcus aureus*.

The patient went into cardiac arrest over the next few hours and passed away despite vigorous cardiopulmonary resuscitation efforts. Autopsy confirmed the findings of an abscess at the junction of the noncoronary and left coronary cusps of the aortic valve and fenestration of these valves. Perforation of the abscess from the subaortic left ventricle into the left atrium was also appreciated. Microscopy of the abscess revealed numerous neutrophils and large colonies of gram-positive bacteria in clusters, morphologically consistent with *S. aureus* (Fig. 3).

Discussion

Spread of infection in IE from valvular structures to the surrounding tissue results in perianular complications, which can cause adverse outcomes such as heart failure, arrhythmias, and death. An aorto-cavitary fistula is one of the rare and dreadful complications. Various etiologies

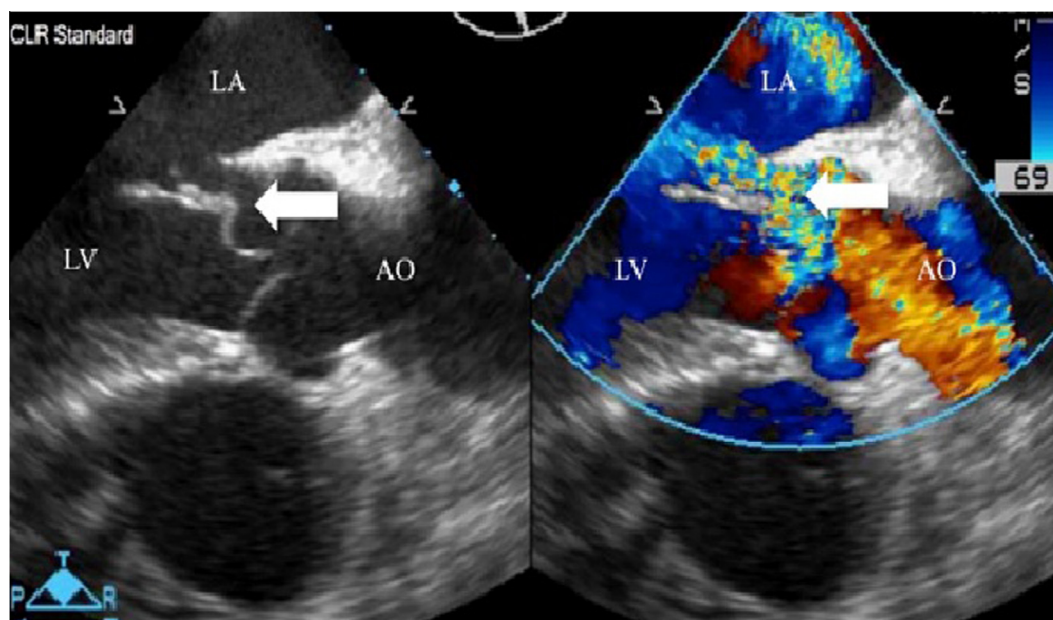


Figure 2. Transesophageal echocardiogram, long axis view of the aortic valve and ascending aorta showing the aorto-left atrial fistula (arrow) with and without color Doppler views. AO = aorta; LA = left atrium; LV = left ventricle.

Download English Version:

<https://daneshyari.com/en/article/8669960>

Download Persian Version:

<https://daneshyari.com/article/8669960>

[Daneshyari.com](https://daneshyari.com)