

Vegetations Spread Out Along With Turbulent Flow from Flail Mitral Valve

Hack-Lyoung Kim, M.D.^{1*}, and Joo-Hee Zo, M.D.¹

¹Division of Cardiology, Boramae Medical Center, Seoul National University College of Medicine, Seoul, Korea

Received June 2, 2016; Accepted June 10, 2016; Published October 24, 2016

ABSTRACT

Aberrant jet streams and turbulent flow from diseased cardiac valve causes direct endothelial injury, which triggers colonization of the platelet-fibrin aggregates. Subsequent microbial growth and inflammatory cell accumulation forms vegetations. In this case report, we show several images with good quality supporting the important role of turbulent flow in vegetation formation. A 57-year-old male was admitted because of fever, chills and lower back pain for several weeks. Magnetic resonance imaging showed active stage of infectious spondylitis with epidural enhancement at L3-4 level of lumbar spine. *Streptococcus viridans* was identified in his blood culture. Transthoracic echocardiography showed flail motion of posterior leaflet of mitral valve with severe degree eccentric mitral regurgitation. There were no visible vegetations in transthoracic echocardiography. Following transesophageal echocardiography revealed echo-lucent materials spread out along with turbulent flow from mitral regurgitation, strongly suggestive of vegetations. The patient was stabilized after intravenous penicillin G treatment. At five week of admission, he was discharged without events.

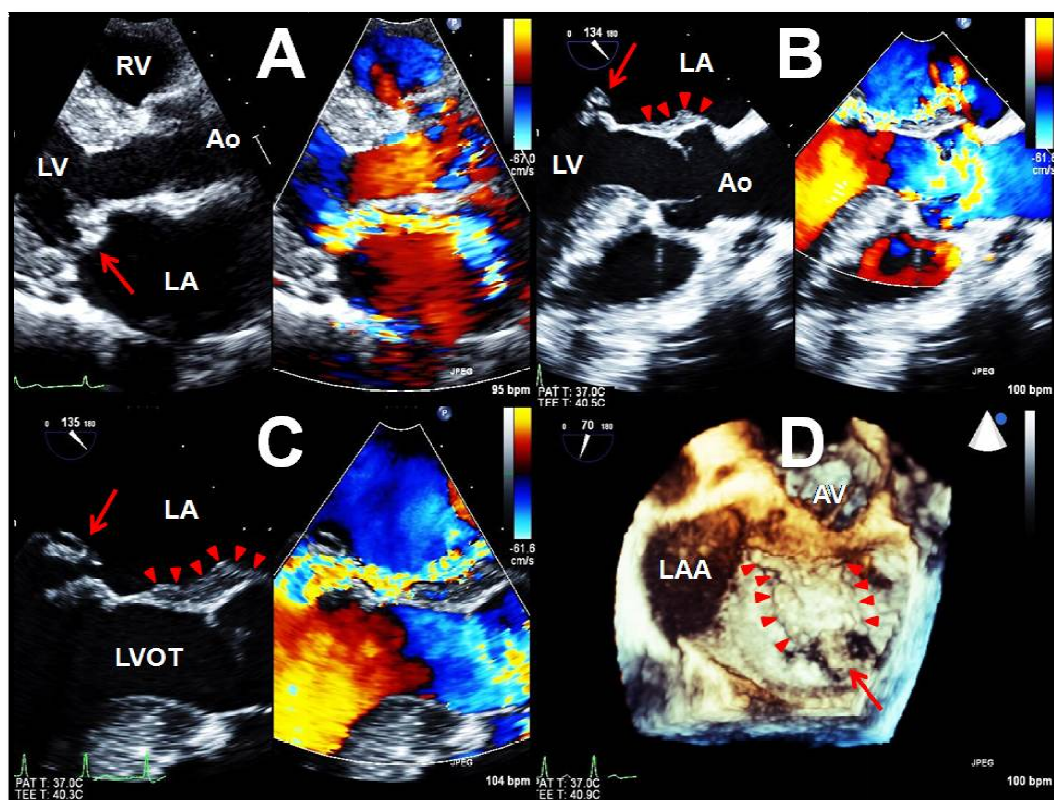


Figure 1. Echocardiographic examinations. Transthoracic echocardiography shows flail motion of posterior mitral valve leaflet (red arrow) with eccentric severe mitral regurgitation (A). Vegetations are not seen in transthoracic echocardiography. Transesophageal echocardiography shows echo-lucent materials covering anterior leaflet of mitral valve and left atrial side of

aortic bulb (red arrow heads). The location of the vegetations are parallel to mitral regurgitation jet flow (B and C). Anterior leaflet of mitral valve covered by vegetations (red arrow heads) is well visualized in three-dimensional transthoracic echocardiography (D).

Red arrow indicates flail posterior leaflet of mitral valve, and red arrow heads indicate vegetation. RV, right ventricle; LV, left ventricle; Ao, aorta; LA, left atrium; LVOT, left ventricular outflow tract; LAA, left atrial appendage; AV, aortic valve.

Corresponding author: Hack-Lyoung Kim, MD, PhD, Division of Cardiology, Department of Internal Medicine, SMG-SNU Boramae Medical Center, Seoul National University College of Medicine, 20 Boramae-ro 5-gil, Dongjak-gu, Seoul 07061, Korea. Tel: +82-2-870-3235, Fax: +82-2-831-0714, E-mail: khl2876@gmail.com

Citation: Kim L H & Zo H J (2016) Vegetations Spread Out Along With Turbulent Flow From Flail Mitral Valve Int J Med Clin Imaging, 1(1): 1-2.

Copyright: ©2016 Kim L H & Zo H J. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

REFERENCES

1. Werdan K, Dietz S, Löffler B, Niemann S, Bushnaq H, Silber RE, Peters G, Müller-Werdan U. Mechanisms of infective endocarditis: pathogen-host interaction and risk states. Nat Rev Cardiol 2014; 11:35.