Ultrasonographic Findings in Fat Embolism Syndrome

Shun Yonezaki, MD
Kazuya Nagasaki, MD
Hiroyuki Kobayashi, MD, PhD

Mito Kyodo General Hospital, Department of Internal Medicine, Ibaraki, Japan

Case Presentation: A 93-year-old man living in a nursing home presented to our emergency department with altered mental status. Examination revealed hypotension and severe hypoxia. Chest radiograph showed infiltrates in the right upper lobe, and computed tomography of the abdomen and pelvis demonstrated a left femoral neck fracture. A point-of-care transthoracic echocardiogram (TTE) revealed an enlarged right ventricle, severe tricuspid regurgitation, and numerous white floating dots moving toward the right atrium from the inferior vena cava (IVC), leading to the diagnosis of fat embolism syndrome (FES).

Discussion: Although imaging studies can facilitate diagnosis, the diagnosis of FES is typically made by clinical history and presentation, making a swift diagnosis often difficult in those who are critically ill. Recent case reports have described that TTE can detect fat emboli, seen as flowing hyperechoic particles in IVC. This image demonstrates the utility of TTE to diagnose FES. [Clin Pract Cases Emerg Med. 2021;5(2):263–264.]

Keywords: fat embolism syndrome; ultrasonographic findings.
facilitate diagnosis, the diagnosis of FES is typically made by clinical history and presentation, making a swift diagnosis often difficult in those who are critically ill. Previous reporting suggests that fat emboli can be detected using transesophageal echocardiography during orthopedic surgery. Recent case reports have described that TTE can detect fat emboli, seen as flowing hyperechoic particles in IVC. This image emphasizes the utility of TTE to diagnose FES.

ACKNOWLEDGMENTS
The authors thank Dr. Gautam Anil Deshpande for editing the manuscript. We also thank Dr. Naoki Iso and Dr. Sayaka Aoyama for their help in collecting the important findings of transthoracic echocardiogram.

Video. Transthoracic echocardiogram. The video shows numerous white floating dots moving toward the right atrium (RA) from the inferior vena cava (IVC) suggestive of fat embolism syndrome.

The authors attest that their institution requires neither Institutional Review Board approval, nor patient consent for publication of this case report. Documentation on file.

Address for Correspondence: Kazuya Nagasaki, MD, Mito Kyodo General Hospital, Department of Internal Medicine, 3-2-7, Miya-machi, Mito, Ibaraki, 310-0015, Japan. Email: kazunagasaki@yahoo.co.jp.

Conflicts of Interest: By the CPC-EM article submission agreement, all authors are required to disclose all affiliations, funding sources and financial or management relationships that could be perceived as potential sources of bias. The authors disclosed none.

Copyright: © 2021 Nagasaki et al. This is an open access article distributed in accordance with the terms of the Creative Commons Attribution (CC BY 4.0) License. See: http://creativecommons.org/licenses/by/4.0/

REFERENCES