

# A special cause of acute coronary syndrome in patients supported with VA ECMO

Shek-Yin Au, Ka-Man Fong, Henry Jeffrey Yuen, Ka-Chung Jack Shek, Wing-Yiu George Ng

Intensive Care Unit, Queen Elizabeth Hospital, Kowloon, Hong Kong, China

Correspondence to: Shek-Yin Au, FHKAM (Medicine). B6 Ward, Intensive Care Unit, Queen Elizabeth Hospital, 30 Gascoigne Road, Kowloon, Hong Kong, China. Email: asy029@ha.org.hk.

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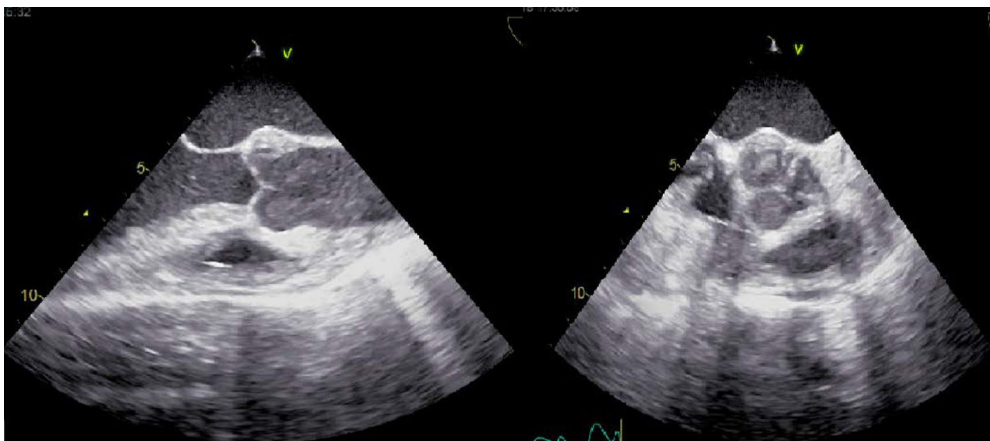
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A transesophageal echocardiography was performed for a patient supported with peripheral veno-arterial extracorporeal membrane oxygenation (VA ECMO) for his acute decompensated heart failure. One of the main aims of echocardiography was to assess whether the aortic valve could open despite increased afterload from the retrograde ECMO flow. The absence of forward blood flow across the aortic valve would lead to elevated left ventricular diastolic pressure and intra-ventricular clot formation. In this patient with poor left ventricular ejection fraction, the aortic valves did not open. The left ventricle was not dilated and there was no intra-cardiac clot. However, there was stasis of blood in aortic root (*Figure 1*), and blood clots were formed at the sinuses of Valsalva (*Figures 2,3,4*). These clots could



**Figure 1** Transesophageal echocardiography showing stasis of blood in the aortic root (1).

Available online: <http://www.asvide.com/watch/33001>



**Figure 2** Transesophageal echocardiography showing clot formation at the sinuses of Valsalva.



**Figure 3** Transesophageal echocardiography at mid esophageal short axis view showed clot formation at the sinuses of Valsalva (2). Available online: <http://www.asvide.com/watch/33002>

obstruct the ostium of the coronary arteries, resulting in acute coronary syndrome. If such clots were not noticed before coronary angiography, they could dislodge during catheterization and resulted in systemic embolism. An echocardiography to rule out clots in the sinuses of Valsalva was recommended before coronary angiography in patients supported with peripheral VA ECMO.

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### Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related

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**Figure 4** Transesophageal echocardiography at mid esophageal short axis view showed clot formation at the sinuses of Valsalva (3). Available online: <http://www.asvide.com/watch/33003>

to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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