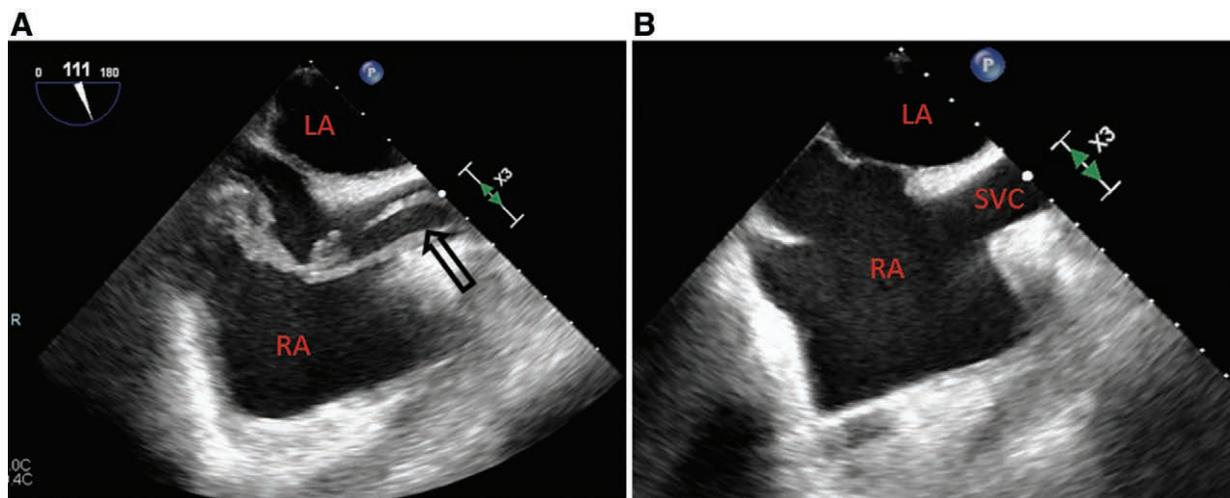


Fibrin Sheath Formation during Mechanical Circulatory Support

Another Reason for Transesophageal Echocardiographic Monitoring

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Discontinuing mechanical circulatory support is often guided by transesophageal echocardiography (TEE).^{1,2} TEE was used to guide removal of an bicaval dual-lumen catheter (Avalon Elite, Maquet, Rastatt, Germany) after recovery of lung function in a patient supported with venovenous extracorporeal membrane oxygenation. TEE assessment of the right atrium showed a large fibrin sheath after removal of the catheter (*arrow* on panel A; LA, left atrium; RA, right atrium). Because of the large size and mobile nature of the retained fibrin sheath, it was percutaneously removed (panel B; LA, left atrium; RA, right atrium; SVC, superior vena cava; AngioVac system, AngioDynamics, USA) to avoid pulmonary embolization.

Mechanical circulatory support therapy requires cannulae placement in central vessels for hemodynamic or ventilatory support. The presence of large catheters in central vessels, even for a brief period, can be complicated by fibrin sheath formation as shown in the presented image.^{1,3} Although unproven, low blood flow rate between a mechanical circulatory support catheter and a central vessel may be the reason for fibrin sheath formation around the catheter. Consequently, a fibrin sheath may form regardless of the degree of anticoagulation during mechanical circulatory support therapy, making routine TEE examination during mechanical circulatory support decannulation potentially important.² Treatment options for a catheter-related fibrin sheath depend on the size,

location, and mobility of the fibrin sheath and include observation, anticoagulation or percutaneous or open surgical removal.³

Competing Interests

Dr. Essandoh is a consultant for Boston Scientific (Marlborough, Massachusetts).

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