

Too Long a Thrombus in Transit: Complication of Femoral Venous Cannulation in a Sick Neonate

Saktheeswaran Mahesh Kumar, MD^{1,*}; Sasidharan Bijulal, MD²

¹Department of Cardiology, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry, India

²Department of Cardiology, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, India

*Corresponding author: Saktheeswaran Mahesh Kumar, Department of Cardiology, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry, India. Tel: +91-9159494128, Fax: +91-4132279672, E-mail: maheshpaed@yahoo.co.in

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1. Introduction

A 27-day-old boy weighing 2300 g was referred for evaluation of hepatomegaly with swelling of the abdomen and feet. He had been admitted to a neonatal intensive care unit with pseudomonas sepsis and was on intravenous antibiotics via a right femoral venous catheter. Clinical evaluation showed features of right heart failure with no cardiomegaly or murmur. **What is the echocardiographic diagnosis?**

2. Answer

Transthoracic echocardiography revealed the presence of a long ribbon-shaped thrombus, extending from the inferior vena cava through the right atrium, tricuspid valve, and right ventricle into the pulmonary artery (Figures 1 and 2, Videos1 and 2).

3. Comment

The neonate was started on intravenous heparin but succumbed to the massive venous thrombosis 3 days later. Critically ill neonates are at a particularly high risk of venous thrombosis because of inflammation, disseminated intravascular coagulation, abnormal liver function, and fluctuations in cardiac output. Peripheral catheters have a lower incidence of thrombosis compared to centrally placed catheters; the highest incidence of thromboembolism is seen with femoral lines. Though heparin infusion at a dose of 0.5 IU/kg/h is recommended to maintain line patency, this does not reduce the risk of

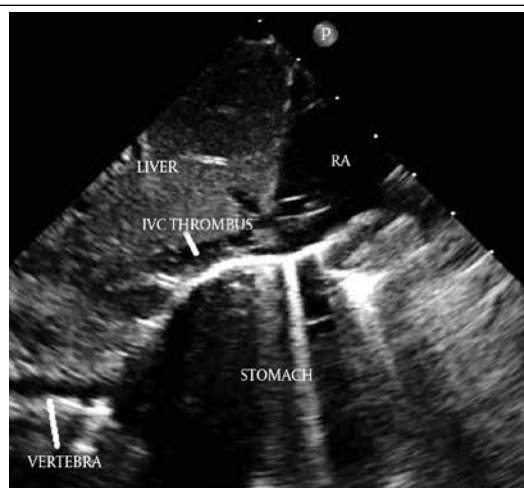


Figure 1. Sub-costal Four-Chamber Echocardiography View, Showing the Thrombus Traversing the IVC-RA Junction and RA into the RV



Figure 2. Modified Apical Four-Chamber View, Showing the Thrombus Extending From the RV into the Pulmonary Artery (PA)

catheter-related thrombosis (1, 2). Heparin-coated catheters may be effective in preventing thrombosis. Heparin infusion, thrombolysis, transcatheter interventions, and surgical clot removal have been described for the treatment of this problem, though the general condition of this child permitted the use of only heparin. Such events can be avoided through the use of appropriate preventive measures and careful reassessment of the need for central venous and arterial catheters on a daily basis.

Authors' Contribution

Sasidharan Bijul conceived and revised the manuscript for important intellectual content. He will act as guarantor of the paper. Saktheeswaran Mahesh Kumar

collected data and drafted the paper. The final manuscript was approved by both authors.

Financial Disclosure

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