

Two-Dimensional Transthoracic Echocardiographic Demonstration of Reduction in Fibrin Content in Purulent Pericarditis Following Intrapericardial Fibrinolytic Therapy

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Introduction

Purulent pericarditis (PP) is a devastating condition with constriction as a feared complication that can be acute, subacute or delayed. Intrapericardial fibrinolysis has shown to be effective in preventing this complication and recommended by some in management of purulent pericarditis.

Case History

55 year old male with prior infected sacral decubitus ulcer and chronic indwelling Foley catheter presented with worsening shortness of breath. Physicality exam was remarkable for toxic appearance, tachycardia and tachypnea. Lab work up revealed leukocytosis with elevated inflammatory markers. 2D transthoracic echocardiogram (TTE) demonstrated a large circumferential pericardial effusion with signs of tamponade echogenic material consistent with fibrinous material was surrounding cardiac walls. Pericardiocentesis was performed and 490 mL of purulent fluid was drained with relief of dyspnea. Culture of pericardial fluid came back positive for methicillin-resistant staphylococcus aureus and

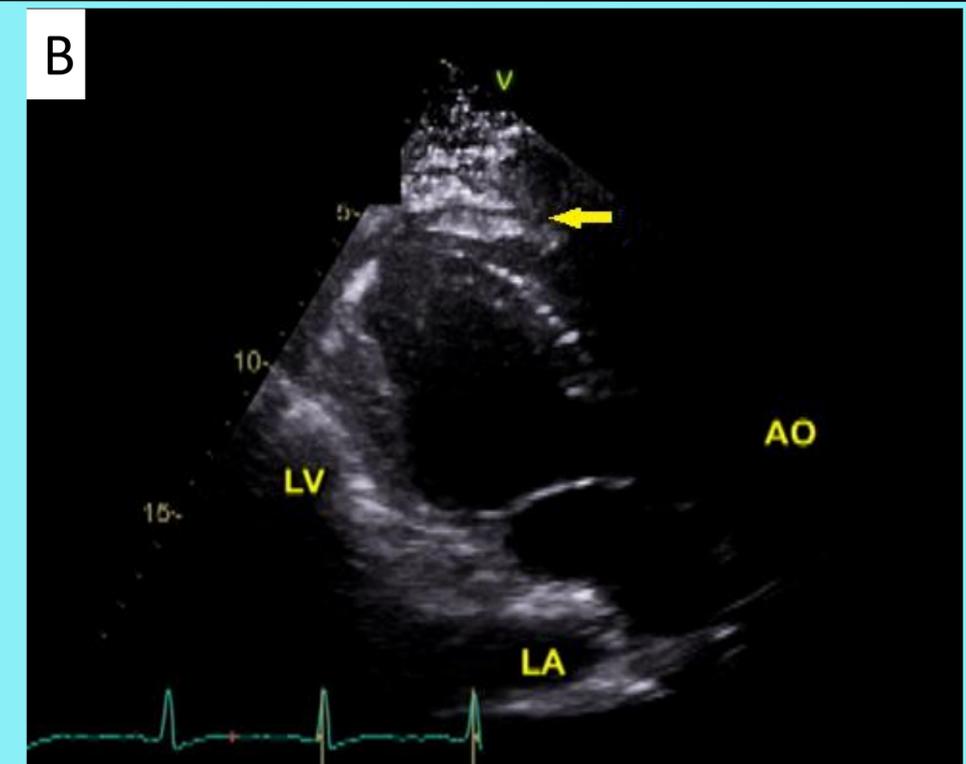
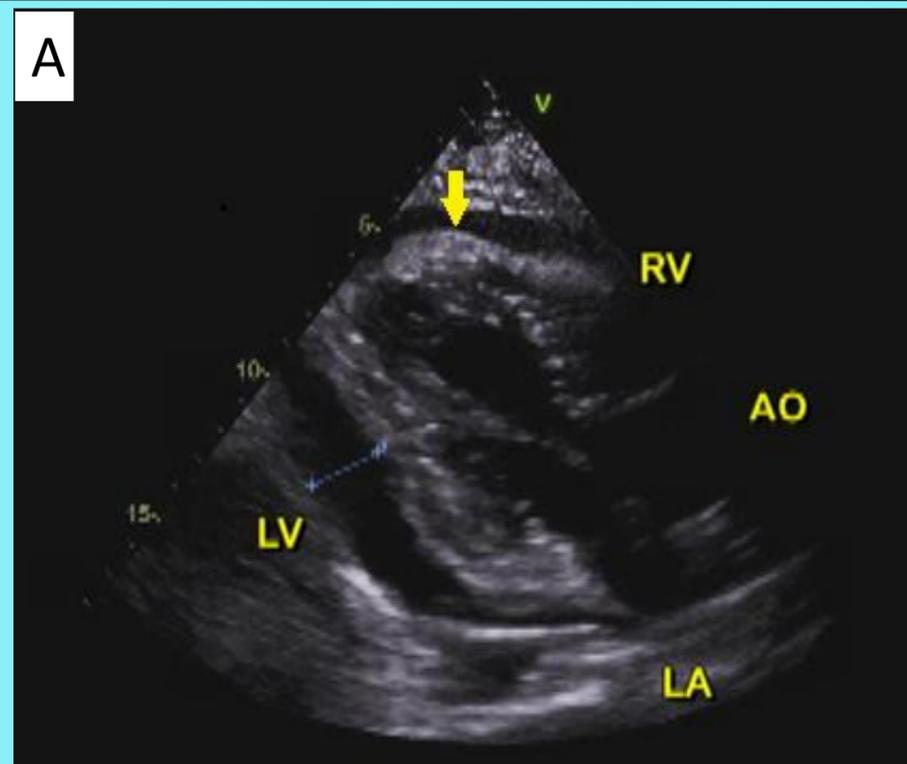


Figure A, B. Two-dimensional transthoracic echocardiography in long axis view. A. The area of the right ventricular with the overlying fibrin (arrow) before intrapericardial injection of fibrinolytic agent. B. Following injection, with reduction of the in size of echogenic fibrinous material overlying the right ventricle. AO= aorta; LA= left atrium; LV=left ventricle; RA= right atrium; RV= right ventricle.

patient was started on intravenous daptomycin. Repeat TTE after 2 days showed small amount of residual effusion but persistent fibrinous material. 2mg alteplase diluted in 10mL of normal saline was administered intrapericardially with another 10mL of normal saline. Pericardial drain was clamped for 24 hours. The next day, the patient drained 450cc of pericardial fluid. Repeat TTE after 3 days showed trivial pericardial effusion with significant decrease in size of echogenic fibrinous material.

Conclusion

There is a paucity of literature regarding the role of intrapericardial injection of fibrinolytic agents. However, our case shows a substantial decrease in fibrin content using 2DTTE following intrapericardial injection of fibrinolytic agent in an adult patient presenting with PP. Our case clearly illustrates by images the significance of this technique in decreasing fibrin content in case of purulent pericarditis.