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CARDIOVASCULAR FLASHLIGHT

Vanishing pulmonary oedema, a visual delight!

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A forty-two year male patient with bileaflet mechanical mitral valve prosthesis presented with sudden onset breathlessness and haemodynamic collapse. He was in New York Heart Association (NYHA) class IV status with a pulse rate of 120 b.p.m. and blood pressure of 90/60 mmHg. Bilateral extensive crepitations over lung fields could be auscultated. He had stopped oral anticoagulation for past 15 days and had a subtherapeutic international normalized ratio of 1.5.

Urgent transthoracic echocardiogram revealed an elevated mean diastolic gradient (MDG) of 37 mmHg across mitral prosthesis and cine-fluoroscopy (Supplementary material online, Video S1 and Panel C) showed completely immobile one leaflet with restricted movement of the other leaflet, confirming prosthetic heart valve thrombosis (PHVT). Considering imminent threat to the life and non-availability of surgical team due to logistic issues, thrombolysis with streptokinase was considered. He received an accelerated thrombolytic regime with 1.5 million unit streptokinase intravenously over 1 h followed by 100,000 units per hour continuous infusion. There was significant clinical improvement within 6 h of therapy, with opening of both valve leaflets (Panels D and E; Supplementary material online, Videos S2 and S3) and fall in MDG to 6 mmHg. The pre- (Panel A) and post- (Panel B) therapy chest radiograph taken 24 h apart, showing complete resolution of pulmonary oedema, is testimony for this dramatic clinical response.

Though surgery is recommended treatment for left-sided prosthetic valve thrombosis, thrombolytic therapy is still the first line therapy for PHVT in countries with limited resources. This case demonstrates utility of thrombolytic therapy in managing PHVT.

(Panels A) Chest Roentgenogram at presentation shows mitral prosthetic valve (black arrow) and pulmonary oedema. (B) Chest Roentgenogram at 24 h shows complete resolution of pulmonary oedema. (C) Cine-fluoroscopy shows completely immobile one leaflet with partial movement of other leaflet of the bileaflet mechanical mitral prosthetic valve, confirming prosthetic heart valve thrombosis. (D) Completely opened both leaflets of mitral valve prosthesis on cine-fluoroscopy and (E) on transthoracic echocardiography.

Supplementary material is available at European Heart Journal online.