



Delineation of a Giant Thrombus on a Prosthetic Mitral Valve Successfully Thrombolysed with Low Dose Slow Infusion of Tissue Plasminogen Activator

Düşük Doz Doku Plazminojen Aktivatörünün Yavaş İnfüzyonu ile Başarılı Şekilde Tedavi Edilen Dev Mitral Protez Kapak Trombüsünün Gösterilmesi

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A 46 year-old woman who had undergone mitral valve replacement (29 mm St. Jude Medical) five years earlier was admitted to our institution with exertional dyspnea and palpitation. She had no other complaints or previous history of stroke. International normalized ratio (INR) was sub-therapeutic^(1,2). Transthoracic echocardiography (TTE) revealed an increased mitral transvalvular gradient of 24/12 mmHg with a decreased mitral valve area of 1.4 cm² (Figure 1A). Two-dimensional (2D) transesophageal echocardiography (TEE) demonstrated a giant mobile thrombus located on the prosthetic mitral valve, which was prolapsing into the left atrial cavity during systole (Figure 2A) and obstructing the mitral inflow during diastole (Figure 2B). A subsequently performed real-time three-dimensional (RT3D) TEE clearly demonstrated the presence of a huge thrombus with two mobile components moving up and down during systole (Figure 2C) and diastole (Figure 2D). Thrombolytic therapy (TT) with slow-infusion (6 hours) of low dose (25 mg) tissue plasminogen activator (tPA) was administered according to our protocol reported previously^(1,2). TTE revealed a decreased mitral transvalvular gradient of 14/6 mmHg with an increased mitral valve area of 2.5 cm² (Figure 1B). Two-dimensional TEE after TT confirmed successful thrombolysis (Figure 3A) and RT3D TEE revealed a residual annular thrombus, which was published recently⁽²⁾ (Figure 3B). There was no evidence of embolic complications or bleeding. The patient was discharged under adequate anticoagulation. This case report highlights that TT with slow infusion (6 hours) of very low tPA (25 mg) doses may be successfully performed in a relatively short time as a first line therapy^(1,2). RT3D TEE has an incremental value in delineation of prosthetic heart valve thrombosis⁽³⁾.

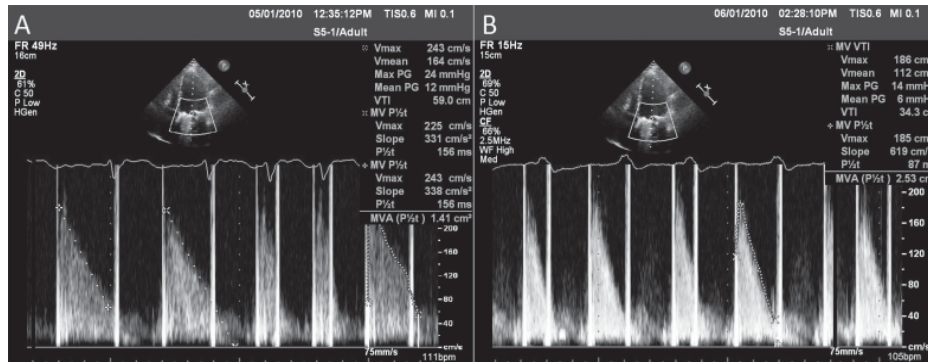


Figure 1. (A) Transthoracic echocardiography showing an increased mitral transvalvular gradient of 24/12 mmHg and a decreased mitral valve area of 1.4 cm² before thrombolytic therapy (TT) (B) and showing a decreased transvalvular gradient of 14/6 mmHg and an increased mitral valve area of 2.5 cm² after TT.

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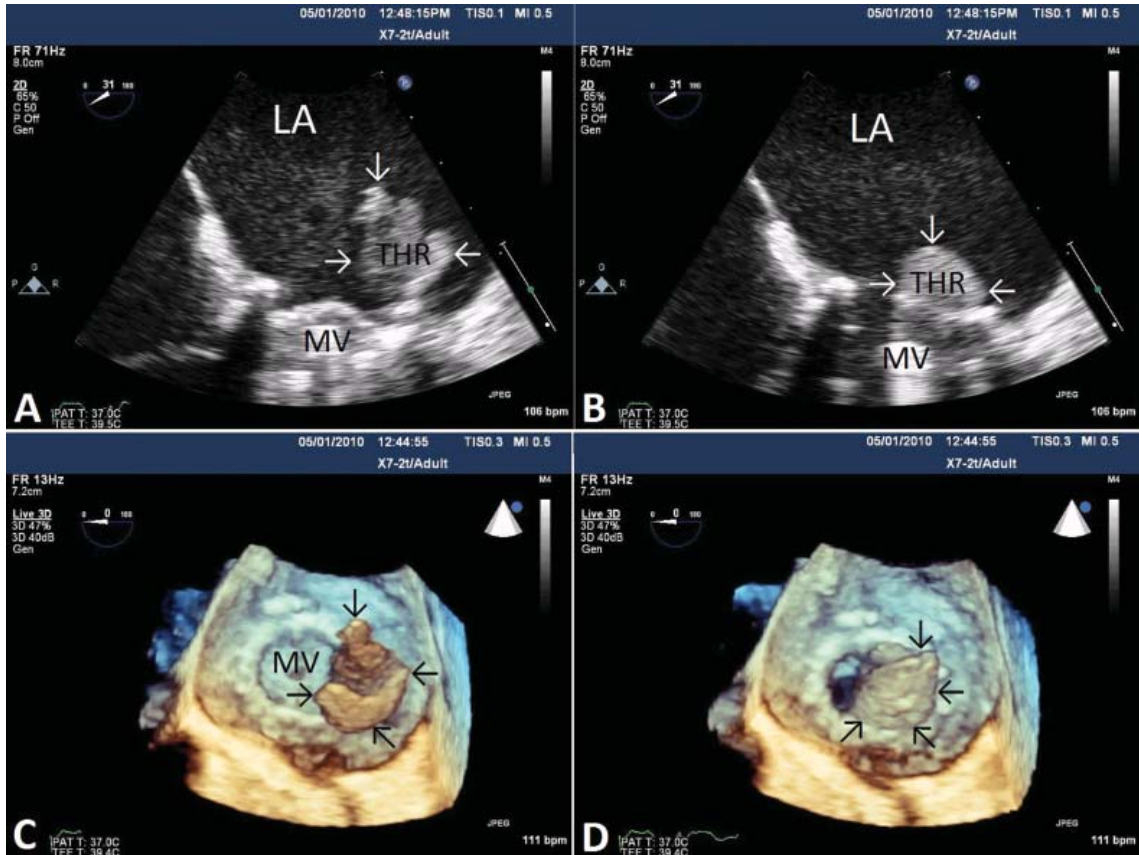


Figure 2. (A) Two-dimensional transesophageal echocardiography (TEE) image with a giant mobile thrombus located on the prosthetic mitral valve, prolapsing into left atrial cavity during systole and (B) obstructing the mitral inflow during diastole. (C) Real-time three-dimensional TEE clearly demonstrating a huge thrombus with two mobile components moving up and down during systole and (D) diastole (LA: Left atrium, LV: Left ventricle, MV: Mitral valve, THR: Thrombus, Arrows show the thrombus).

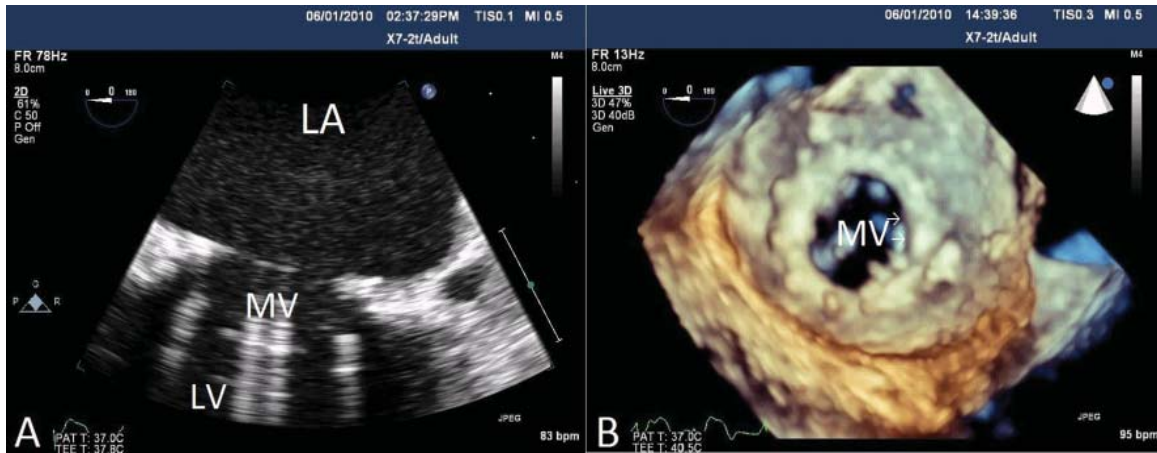


Figure 3. (A) Two-dimensional transesophageal echocardiography (TEE) after thrombolytic therapy showing successful thrombolysis and (B) real-time three-dimensional TEE showing a remnant annular thrombus without any mobile components. (LA: Left atrium, LV: Left ventricle, MV: Mitral valve, Arrows show the annular thrombus).

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