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[Focus]

Three-dimensional echocardiography of a subtotal mitral valve ring dehiscence

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This 77-year-old patient underwent a mitral valve repair during which a mitral valve ring size 28 was inserted. Postoperative echocardiography confirmed a competent valve with only a trace of mitral valve insufficiency. Five months later, the patient presented with subacute dyspnoea and lung oedema. After initial medical stabilization, a transthoracic echocardiogram was performed. This showed a new onset massive mitral valve insufficiency. The patient was referred to our hospital for further diagnostic and therapeutic workup. With transoesophagal echocardiography in a midoesophagal view at 120°, the mitral valve ring was visible just above the native posterior mitral valve leaflet (red arrow). Colour Doppler flow confirmed the massive mitral valve insufficiency with a large regurgitating jet through the ring (red arrow) extending to the roof of the left atrium (blue arrow). High resolution three-dimensional reconstruction clearly showed the circumferential mitral valve ring dehiscence (yellow arrow) with residual attachment only at the posterior rim of the mitral valve apparatus (P3-A3, red arrow), and stitch material on the ring itself. Semi-urgent surgical repair was successfully performed by resecting the anterior leaflet with preservation of the posterior leaflet, and implantation of a biological 31-mm mitral valve. The postoperative observation was uneventful, and the patient was discharged from the hospital on the 15th days after admission. He is currently doing well and is in ambulatory follow-up.

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