

A ping-pong ball in left atrium

Akshaya Pradhan, Sameer Ganpat Vankar, Pravesh Vishwakarma, Rishi Sethi

Department of Cardiology,
Chatrapati Shahu Maharaj
Medical University, Lucknow,
Uttar Pradesh, India

Correspondence to

Dr Sameer Ganpat Vankar,
samvan7@yahoo.co.in

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DESCRIPTION

Rheumatic heart disease (RHD) is much prevalent in low/middle-income country like India with the prevalence ranging from 0.2 to 1.1/1000 for RHD and from 0.0007 to 0.2/1000 for rheumatic fever.¹ Factors that precipitate the formation of clot are atrial fibrillation (AF) rhythm, left atrial (LA) size, duration of symptoms, advanced age and severity of mitral stenosis (MS).² The prevalence of LA clot in patients with MS is 26% in the AF group and 13.5% in the normal sinus rhythm group.³ The risk of thromboembolism is 9–14% of patients suffering from RHD.^{4,5} Anticoagulation (vitamin K antagonist or heparin) is indicated in patients with MS with (1) AF (paroxysmal, persistent or permanent) or (2) prior embolic event or (3) a LA thrombus.⁶

We present a case of a 30-year-old man, a known case of RHD who had balloon mitral valvotomy (BMV) 10 years ago. He presented with increase in frequency of palpitation and dyspnoea on exertion (New York Heart Association (NYHA) class III) for the last 5 months. The patient was in sinus rhythm

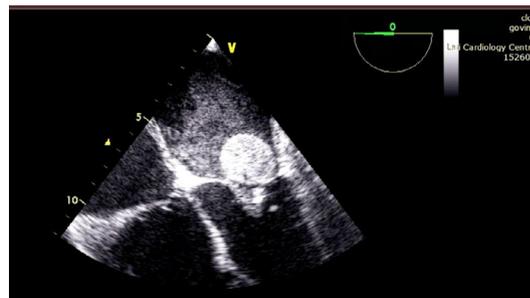
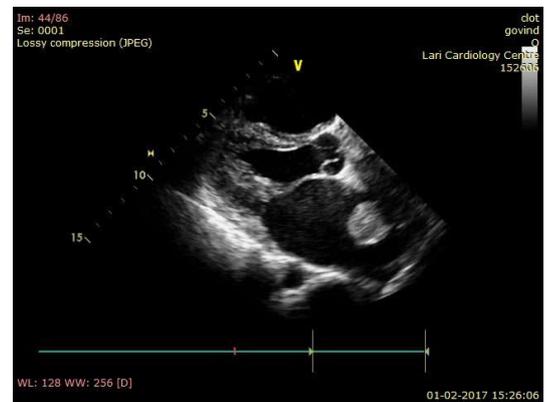


Figure 1 Transoesophageal echocardiography at mid oesophagus showing four-chamber view with 5.2×7.2 cm large left atrial clot.



Video 1 Transthoracic echocardiography parasternal long-axis view showing the large freely mobile thrombus bouncing to and fro into the mitral apparatus like a ping-pong ball.



Video 2 Transoesophageal echocardiography mid oesophagus four-chamber view showing large left atrial (LA) thrombus bouncing against the mitral apparatus like a ping-pong ball. Also note the LA smoke in the background.

and was receiving beta-blocker and diuretic. His transthoracic (TT) 2D echocardiography (ECHO) revealed moderate mitral valve stenosis with mitral valve area reduced to 1.1 cm² (planimetry method) and 1.2 cm² (pressure half time method). The peak and mean gradient across the mitral valve were 11 and 6 mm Hg, respectively. He also had trivial mitral regurgitation and left ventricular ejection fraction was 65%. LA size was 5.2×7.2 cm. Both TT and transoesophageal (TOE) ECHO revealed a large freely mobile LA clot measuring 2.2 cm in diameter. The large LA clot was seen falling intermittently into the mitral apparatus to be hit back again by the mitral leaflet (figure 1, video 1, video 2). The large thrombus in LA gave appearance similar to the ping-pong ball moving to and fro in the mitral apparatus. Patient was not on any anticoagulation or antiplatelets at the time of diagnosis of LA clot. Patient was started on oral anticoagulation (warfarin 2 mg once a day and gradually increased to achieve

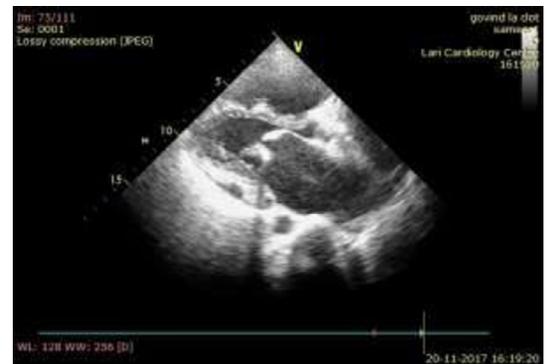


Figure 2 Transthoracic echocardiography parasternal long-axis view showing dense left atrial smoke at 8-month follow-up visit.



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Images in...

therapeutic international normalised ratio [between 2 and 3) as he was not willing for surgical removal of thrombus and injectable anticoagulation. At his follow-up visit 1 month later, the patient was in NYHA class II with INR measuring 2.2 on 5 mg of warfarin. His review TT 2D ECHO done at 8 months follow-up visit revealed LA clot was resolved; however, spontaneous echo contrast was present (figure 2). TOE ECHO was not done as patient did not consent and he was continued on oral anticoagulation.

This case emphasises on the importance of ECHO immediately prior to the planned BMV procedure. It also highlights the mismatch between large LA thrombus and stenosed mitral valve which prevented thrombus from undergoing systemic embolisation.

Learning points

- ▶ Importance of transoesophageal echocardiography immediately prior to balloon mitral valvotomy .
- ▶ Large freely mobile thrombus need not present with thromboembolic phenomenon due to mismatch in the size between the large left atrial thrombus and mitral valve apparatus protecting it.

Contributors All the authors contributed to discussion, comments and editing the case report. AP was the cardiologist in charge and initiated and edited the manuscript. SGV: ECHO recording, drafting and finalising the manuscript. PV: expert comment and critical analysis of the manuscript. RS: overall concept and final finishing touch to the manuscript.

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