'Smoking left atrium': an alarm to be vigilant and aggressive

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DESCRIPTION

We are presenting an interesting image of an echocardiographic appearance of spontaneous echo contrast (SEC) in the left atrium (LA), which resembled 'Smoking LA'.

A 40-year-old man presented with severe rheumatic mitral stenosis, with a history of surgical mitral valvotomy and left hemiparesis at the age of 19 years, diagnosed with NYHA class III dyspnoea and orthopnoea since the last 5 months. Subsequently, he was treated successfully with balloon valvuloplasty.

Transthoracic echocardiogram revealed the presence of an enlarged LA with severe mitral stenosis. SEC was seen in LA moving into left ventricle, which appeared to resemble a puff of smoke coming from the LA (videos 1–3 and figures 1 and 2). The echocardiographic image appeared as though the 'LA was smoking'. Diastolic jet of SEC across mitral

Video 3 A transthoracic echocardiogram in apical four chamber view showing colour Doppler across mitral valve in comparison with one without colour.

Video 1 A transthoracic echocardiogram in parasternal long axis view showing thickened mitral valve and enlarged left atrium having spontaneous echo contrast moving into left ventricle.

Video 2 A transthoracic echocardiogram in apical four chamber view showing spontaneous echo contrast moving into left ventricle resembling a "puff of smoke".

Figure 1 A transthoracic echocardiogram in apical four-chamber view showing large left atrium (LA) with spontaneous echo contrast (SEC), moving from LA to left ventricle (LV) appearing as a 'puff of smoke'.

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Figure 2 An echocardiogram in apical four-chamber view showing colour comparison of mitral valve flow.

valvular or structural heart disease, which needs timely and vigilant evaluation for prevention of catastrophic thromboembolic complications.

Learning points

- ▶ Spontaneous echo contrast is a marker of increased thrombogenicity in cases with sluggish blood flow in two-dimensional echo in absence of an obvious clot, especially in sinus rhythm patients.
- ▶ It may be considered as an indication for anticoagulation and for aggressive follow-up and monitoring for thromboembolic complications, to avoid potentially ignoring a large chunk of patients who are denied anticoagulation therapy despite being at increased risk as has been demonstrated previously.
- ▶ It can be taken as an evidence of disease severity and an indication for therapeutic intervention.

Correction notice This article has been corrected since it was published online on 2 July 2013. Videos 1-3 was previously omitted and has now been included.

Contributors All authors have contributed to the manuscript and in patient care.

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