



**FIGURE 1:** CW (Spectral) Doppler trace through the mitral valve on an apical 4 chamber view via transthoracic echocardiography.

A 65-year-old female patient presented to our medical emergency department with dyspnoea at rest due to acute pulmonary oedema without chest pain. She had been treated for an acute coronary syndrome with transient ST-elevation in the infero-lateral leads 12 days prior to this admission. Angiography on her initial admission revealed a chronic total occlusion of her left circumflex artery and a reperfused, non-obstructive lesion of the right coronary artery that was treated medically. Examination revealed a pulse rate of 115 bpm and BP 70/45mmHg and no murmurs were audible over the precordium. She required invasive ventilatory support for her pulmonary oedema.

**QUESTION: Which ONE of the following best describes the CW tracing?**

- (a) Severe mitral stenosis (MS)
- (b) Mixed mitral valve disease with predominant MS
- (c) Severe aortic stenosis (in a patient with impaired LV function from the infarct)
- (d) Mild to moderate mitral regurgitation (unrelated to the patient's decompensation)
- (e) Acute severe mitral regurgitation (MR)
- (f) Chronic severe MR (in a patient now decompensated because of the infarct)

Please analyse the spectral Doppler trace carefully and commit yourself to an answer before checking the explanation.

**ANSWER** on page 272