What does a raised troponin 1 level in the elderly tell us?

Sir

The letter by Dr Al-Jawad et al (vol 66(9), 2005, p. 537) is very interesting and raises many more issues than just the cautionary note about the value of a raised troponin 1 in the elderly.

I am interested to know how the authors could so confidently generate specificity and sensitivity data for the troponin 1 test in their series with no mention of how coronary artery disease was investigated. I assume a 'normal' electrocardiogram (ECG) was used to label 16/50 (category 4) patients with a non-cardiac cause for their raised troponin 1. To dismiss a potential cardiac cause like this in a younger population would be totally unacceptable.

Equally no mention is made of renal function, or of why the remaining 22/50 patients (category 3) had elevated troponin 1 results – I presume they didn't all have a massive pulmonary embolism.

The troponin test has revolutionized the way cardiologists stratify ischaemic heart disease. What this letter shows simply reinforces what we already know, but unfortunately does not add to what we don't know: grossly elevated levels are most likely to correlate well with a 'cardiac event'; levels which are just above the reference range are less helpful at the bedside, and it is only with further investigations that the true extent of any coronary artery disease can be established.

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Sir,

First of all, we would like to thank Dr Dawson for his thoughts highlighting the need for further clarification on categorization of the patients in our study. We would like to take this opportunity to describe the methodology we used in categorization for the benefit of readers.

The clinical criterion was based on a combination of history, clinical examination, ECG and other biochemical and radiological findings within the first 24–48 hours of the admission. The categories were defined as follows:

- Category 1 was regarded as genuine cardiac cause characterized by a ST elevation myocardial infarction (STEMI) based on history and ECG evidence
- Category 2 was regarded as a genuine cardiac cause – other acute coronary syndromes based on the presence of either cardiac chest pain and/or ECG evidence of new ischaemic changes (ST depression or T wave inversion or both by currently recommended criteria for ECG diagnosis of cardiac ischaemia or new left bundle–branch block) in the absence of STEMI
- Category 3 non-cardiac with possible cause for raised troponin 1 rise – in absence of cardiac chest pain and ECG evidence of ischaemia (as above) but present with a condition which could lead to a raised level of troponin 1 as a result of cardiac strain which include acute pulmonary embolism, cardiac arrhythmias, sepsis, myocarditis or pericarditis, severe congestive cardiac failure, chest trauma and chronic renal failure
- Category 4 non-cardiac with no identifiable other possible cause for raised troponin 1, i.e. an incidental finding for the admission.

In the absence of cardiac troponin 1 testing, category 4 patients would not have been diagnosed as possible cardiac cases in any ages. However, it is the incidental finding of troponin 1 rise which intrigued us and lead to this small-scale study.

Only 3 out of 22 patients in category 3 had pulmonary embolism. There were no patients with renal failure included in category 3 in the current study.

We agree that this report does not inform us further about the prognosis of patients in category 4. Although troponin 1 testing has revolutionized the way cardiologists stratify ischaemic heart disease, its use in patients who do not have likely cardiac disease confuses the issue, particularly in the elderly. These findings highlight the need for further research in this area.

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Correction

The case report titled ' Large granular lymphocyte leukaemia' by Howard et al was published in the June issue of *Hospital Medicine* (vol 66(6), 2005, p. 364).

Unfortunately as a result of errors in the editorial process, the correct title was not given. This should have been 'Large granular lymphocyte leukaemia: a curable form of pulmonary arterial hypertension'. We would like to apologise for any confusion or embarrassment caused.