The value of raised troponin I levels in the elderly

Sir

Raised troponin I levels are associated with higher mortality (Antman et al, 1996; Ohman et al, 1996). As older patients with cardiac events can present with non-specific symptoms, the measurement of troponin I levels in this population has increased. The authors have noted elevated troponin I levels in older patients even in the absence of clinical evidence suggestive of cardiac damage, where a raised value is not fully understood. Most of the literature relates to a younger population (Bakshi et al, 2002).

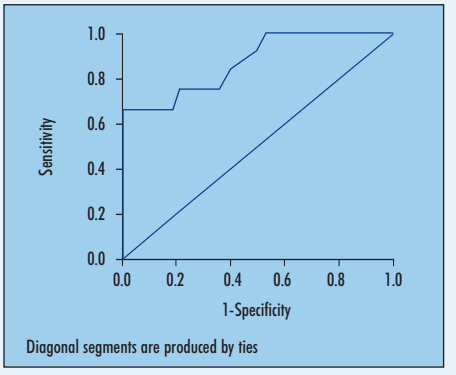
The authors collected data on 50 consecutive patients admitted to their hospital (male=58.0%; median age=81 years, range=65–95 years). All had troponin I ≥0.04 μg/litre, risk range as determined by use of the Beckman assay, at least 8 hours after symptom onset. The patients were categorized into:

1. ST elevation myocardial infarction
2. Other acute coronary syndromes
3. Other cause of troponin I rise (e.g. pulmonary embolism)
4. Incidental finding, i.e. none of the above (categories 1 and 2 = cardiac, 3 and 4 = non-cardiac).

The majority (38/50) did not have any signs or symptoms suggestive of cardiac cause. A third (16/50) were classified as category 4. These 16 patients were relatively older and had lower magnitudes of troponin I raise (median (range) = 0.07 μg/litre (0.04–1.31 μg/litre)) compared to 0.13 μg/litre (0.04–100 μg/litre) in those who had cardiac cause (12) or other causes (22). There was also a significant difference in troponin I levels between cardiac cases (12/50) and the rest (38/50) (U=58, $P<0.0001$).

We also evaluated the sensitivity and specificity of using different cut-off points (≥0.04, ≥0.06, ≥0.08, ≥0.10 or ≥0.12 μg/litre) of troponin I. The receiver operating characteristics curve (*Figure 1*) suggests that a higher cut-off point (≥0.10) has better specificity of 60.5% (43.4–76.0) compared to 0% (0.0–9.3) using ≥0.04 with slightly lower sensitivity (83.3% (51.6–97.9) and 100.0% (73.5–100.0) respectively). Therefore, troponin I levels should be interpreted with caution in older patients. Further research in this area involving an older population is required.

Figure 1. Receiver operating characteristics curve for troponin I in those with an elevated troponin I (≥ 0.04 μg/litre).



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