Microbiological investigation of acute pericarditis needs a targeted approach

Sir,

Acute pericarditis accounts for 1% of patients presenting to the emergency department with an ST abnormality on electrocardiography (Brady et al, 2001) and 0.2% of hospital admissions (Kytö et al, 2014). In high resource countries pericarditis is most often non-severe and self limiting. While most uncomplicated cases are presumed to have a viral cause, the diagnostic yield for an infective cause has historically been low (Spodick, 2003).

The European Society of Cardiology guidelines on the management of pericardial disease do not recommend routinely searching for an infectious aetiology in patients stratified to a low risk group (Adler et al, 2015).

In a central London teaching hospital, the authors noted marked variation in the use of microbiological investigations for patients presenting with suspected acute pericarditis, and they retrospectively audited the utility of routine microbiological investigations in uncomplicated acute pericarditis.

The microbiological investigations requested for the most recent 100 adult patients presenting to the authors' hospital with a discharge diagnosis of pericarditis or myopericarditis over the past 4 years were reviewed. Of these patients 42% had a microbiological test requested, with a total of 272 individual tests performed. There was considerable variability in both the number and type of requests made; 58 patients had no investigations, 16 patients had between one and five investigations, 19 patients had between six and 10 investigations, and seven had between 11 and 19 investigations.

The majority of tests requested (76%) were virological. Only 5.2% (n=14) of all tests yielded an acutely positive result (IgM, polymerase chain reaction or culture), including group G streptococcus in a blood culture, detectable mycoplasma IgM, cytomegalovirus IgM, influenza A/B in a nasopharyngeal aspirate by polymerase chain reaction, and enterovirus detected by polymerase chain reaction in blood or CSF.

Based on current practice, the authors suggest that only a small number of these positive results were likely to have changed case management. In addition, review of the notes for these patients suggested that there were strong independent indications to perform these diagnostic investigations. These included fever over 38°C, flu-like symptoms and meningism. The cost of all microbiological investigations performed (assays only) was estimated to be £6000.

This audit suggests that it may be more cost effective to adopt a targeted approach to microbiological investigations based on the accompanying clinical syndrome, rather than requesting a predetermined panel of investigations in all patients presenting with acute uncomplicated pericarditis. However, the authors recognize that there may still be an epidemiological justification for these investigations when considering the wider, public health benefit of understanding the aetiology of pericarditis.

In this current economic climate, it would seem prudent to avoid the use of costly investigations which do not impact upon clinical management.

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