CRITICAL CARE

LETTER

Duration of antibiotic therapy in bacteraemia

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See related research by Havey *et al.*, http://ccforum.com/content/15/6/R267

Reducing duration of antibiotic therapy without a diminution in efficacy decreases cost, side effects, antibiotic related diarrhoea, and bacterial resistance. Havey and colleagues [1] reported the results of a systematic review and meta-analysis of antibiotic duration in bacteraemia and deduced short course therapy (<7 days) might be as effective as longer treatments. It is surprising given the obvious benefits and the frequency with which bacteraemia is documented in critically ill patients that there is such a paucity of randomised clinical trials (RCTs) comparing duration of therapy. Only one RCT, in neonates, had been performed in patients solely with bacteraemia. Accordingly, Havey and colleagues concluded that duration of antibiotic therapy in bacteraemia is poorly studied and would benefit from a large RCT.

Daneman and colleagues [2] performed a survey of Canadian infectious disease and critical care specialists to gauge the optimal duration of therapy in bacteraemic critically ill patients. Considerable variability existed amongst clinicians and undoubtedly reflects the lack of robust data to guide best practice. However, length of treatment is only one aspect of optimising outcomes from antibiotic use. Future RCTs need to take into account whether adequate source control has been achieved, as this will bias duration of therapy. Moreover, it is clear that since many antibiotics deployed in critical care demonstrate time-dependent killing, inadequate doses are frequently used, which increases treatment failure and the emergence of resistance [3,4]. Pharmacokinetic optimisation that ensures adequate time above minimum inhibitory concentration should therefore be an integral component of any trial that compares duration of antibiotic therapy [5].

Abbreviations
RCT, randomised clinical trial.

Competing interests
The authors declare that they have no competing interests.

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