IInsufficient evidence that extended-spectrum cephalosporins effectively prevent metastatic infections related to Klebsiella pneumonae-caused liver abscess: letter to the editor.

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摘要

Abstract

Liver abscess due to Klebsiella pneumoniae is a well-established entity in Taiwan (3). We read with interest the article published recently by Cheng et al. (1) in which the authors concluded that extended-spectrum cephalosporins are optimal therapy for liver abscess and effectively prevent the development of severe complications, including metastatic infections. They reasoned that this was because "extended-spectrum cephalosporins were more effective than cefazolin when an obscure metastatic infection exists in the early stage of the disease."

There are serious flaws in the design of this study that can result in erroneous conclusions. These include (i) failure to randomize the patients, (ii) arbitrary treatment decisions made by individual physicians, (iii) arbitrary changes in regimen (cefazolin to extended-spectrum cephalosporins), (iv) insufficient data on potential delay in diagnosis, and (v) the retrospective nature of the study. For example, a few days' delay in initiating therapy in the cefazolin group could have accounted for much of the difference. Note that 76 out of 107 (71%) of the patients were initially treated with cefazolin, but the authors report only 59 patients in the cefazolin group in their comparisons. Therefore, 17 patients received both drugs. This is not an acceptable study design for the evaluation of an interventional drug therapy. It invites bias and unforeseen confounding factors. These problems may account for the unusually high rate (37.3%) of severe complications in the cefazolin group. The usual rate of metastatic complications was 10 to 21% (1).

There is insufficient evidence for their conclusion that "use of an extended-spectrum cephalosporin instead of the cephalosporin cefazolin optimized the outcome for liver abscess due to K. pneumoniae." This study does not conform to the requirements

stipulated by the Centre for Evidence-Based Medicine to provide an adequate level of evidence to support treatment decisions (http://www.cebm.net/levels_of_evidence.asp#levels).Nor does it provide sufficient evidence to comply with the Infectious Diseases Society of America—U.S. Public Health Service grading system for rating recommendations in clinical guidelines (2). We therefore caution readers to remain skeptical of the conclusions drawn from this study. Prospective, randomized, clinical trials need to be done.

An average of 60 cases of K. pneumoniae-related liver abscesses is admitted to our medical center each year. We routinely use narrow-spectrum cephalosporins and gentamicin for treatment. Almost all of the metastatic infections were either present on admission or could be readily detected within 3 days of hospitalization. A review of 110 episodes of K. pneumoniae-related liver abscess seen at our hospital during a recent 2-year period revealed that the rate of metastatic infections (any site) was 14.5%. Central nervous system disease was the most common metastatic infection (meningitis, 11 out of 16 [68.8%]; endophthalmitis, 4 out of 16 [25%]). These complications were detected within 3 days in 10 out of 14 (71.4%) cases. Only one case of endophthalmitis occurred while on treatment with cefazolin and gentamicin. We rarely missed any cases of meningitis and were able to target extended-spectrum cephalosporins specifically to these patients (S. S. Lee, Y. S. Chen, H. C. Tsai, S. R. Wann, C. H. Kao, C. C. Chi, and Y. C. Liu, unpublished data).
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