

Clin Infect Dis. 2008 Sep 1;47(5):642-50.

Predictors of septic metastatic infection and mortality among patients with *Klebsiella pneumoniae* liver abscess.

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BACKGROUND: Primary liver abscess caused by *Klebsiella pneumoniae* is an infection that is emerging worldwide and that is associated with severe morbidity and considerable mortality.

METHODS: A retrospective analysis of 110 episodes of primary liver abscess caused by *K. pneumoniae* that required hospitalization during 2001-2002 was conducted to identify predictors of metastatic infection, mortality, and the efficacy of first-generation cephalosporins and percutaneous drainage. The potential role of *Klebsiella* *rpmA* and *magA* genes was also evaluated.

RESULTS: The study included 59 men and 51 women, with a mean age of 61.8 years. Diabetes was noted in 67 patients (60.9%). Metastatic infection occurred in 17 patients (15.5%), with meningitis accounting for 11 patients (64.7%) and endophthalmitis accounting for 4 patients (23.5%). The overall mortality rate was 10.0% (11 patients). Most of the severe complications occurred within the first 3 days after hospital admission. Ninety-two patients (83.6%) received treatment with cefazolin for >3 days. Four patients (4.3%) of the group who received cefazolin had metastatic infection, 1 patient (1.1%) experienced septic shock, and 3 (3.3%) experienced acute respiratory failure. Five (5.4%) of those 92 patients died. Multivariable analysis revealed that *rpmA* (odds ratio [OR], 28.85), Acute Physiologic and Chronic Health Evaluation (APACHE) II score ≥ 20 (OR, 8.08), and septic shock (OR, 4.33) were statistically significant predictors of metastatic infection. Metastatic infection (OR, 6.73), severity of disease (APACHE II score ≥ 16 ; OR, 11.82), septic shock (OR, 8.30), acute respiratory failure (OR, 69.92), and gas formation revealed on imaging (OR, 13.26) predicted mortality. Pigtail drainage protected against both metastatic infection (OR, 0.25) and mortality (OR, 0.14).

CONCLUSION: Management of primary liver abscess caused by *K. pneumoniae* with use of first-generation cephalosporins and percutaneous drainage was associated with low rates of mortality, metastatic infection, and complications. These rates are comparable to those reported for third-generation cephalosporins.

PMID: 18643760 [PubMed - in process]