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PANCREAS NEWS

Early Antibiotic Treatment in Acute Pancreatitis: More News

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Early antibiotic treatment still remains a therapeutic challenge in the clinical management of acute pancreatitis and several papers have been published in this field [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]. In particular, the antibiotic of choice in preventing the infection of pancreatic necrosis seems to be imipenem [4, 9, 10, 11, 13]. Subsequently, Manes *et al*. [15] have reported that meropenem, an antibiotic of the same family as imipenem having considerable stability in the presence of renal dehydropeptidase-I and enhanced activity against gram-negative bacteria including *Pseudomonas aeruginosa*, has an efficacy similar to imipenem in terms of the incidence of pancreatic infection and extrapancreatic infections. We have previously emphasized that further studies should be carried out to specifically decide on the optimal doses of meropenem in patients with acute pancreatitis and that there is a need for studies which answer the following questions. What should the timing of early antibiotic treatment be?. What are the resistant strains selected by meropenem?. Which are the nosocomial infections and fungal superinfections resulting from this new treatment? [16, 17]. These questions are still open and the study from Manes *et al*. is welcome to attempt to answer some of the aforementioned questions [18]. In this study, the authors compared antibiotic prophylaxis with early antibiotic treatment started after the demonstration of pancreatic necrosis. They studied 215 consecutive patients with acute pancreatitis who were randomized to either Group A (n=108), who started antibiotic therapy (meropenem 500 mg *tid*) at admission, or Group B (n=107), who received antibiotics after computed tomography showed necrosis. C-reactive protein was determined in all patients within 48 hours from the onset of symptoms and computed tomography was performed in both groups after at least 48 h of hospitalization; the clinical course of disease was also compared in the two groups. Thirty patients in Group A and 29 in Group B showed necrosis on CT; the two groups were similar in demographics and characteristics of the disease. Antibiotic treatment was started after 4.6±1.2 days from hospitalization in Group B and after 1.1±0.6 days in Group A. Pancreatic infection occurred in four patients in Group A (13.3%) and in nine in Group B (31%) without any statistical significance. Extrapancreatic infection occurred in about 17% of patients in Group A and in 45% in Group B ($P<0.05$). The need for surgery and length of hospitalization were also significantly and statistically higher in Group B. Mortality rates were similar in the two groups (3 of 4 patients with infected necrosis in Group A and 2 of 9 in Group B). What does this study add to what is already known in the early antibiotic treatment of acute pancreatitis? The first answer is that antibiotic prophylaxis does not seem to have any greater beneficial effect than early antibiotic treatment in preventing the infection of necrosis. The second answer is that the cost of antibiotic prophylaxis is unnecessary since it is not necessary to treat all patients with acute pancreatitis (57% of patients were

unnecessarily treated with antibiotic because they were affected by edematous pancreatitis). The third answer is that C-reactive protein is a useful marker in identifying necrotizing pancreatitis within 48 h from the onset of symptoms and, ideally, only these patients should receive antibiotic treatment. What are the conclusions? According to the studies published, computed tomography should be carried out in those patients in whom C-reactive protein is higher than 150 mg/dL [19] and antibiotic treatment should be started only after the demonstration of the pancreatic necrosis [11].

Keywords Antibiotic Prophylaxis; Clinical Trials; Controlled Clinical Trial; Pancreatitis, Acute Necrotizing

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