Prednisolone not benficial in most cases of community-acquired pneumonia

February 23 2010

Patients hospitalized with mild to moderate community-acquired pneumonia (CAP) should not be routinely prescribed prednisolone, a corticosteroid, as it is associated with a recurrence of symptoms after its withdrawal, according to the first randomized double-blind clinical trial to address the subject.

"Prednisolone therapy next to antibiotic therapy in patients hospitalized with CAP should not be recommend due to lack of clincial benefit and a higher rate of late failures," said Dominic Snijders, M.D., lead author on the study and at the Medical Centre Alkmaar in the Netherlands.

The findings have been published online ahead of print publication in the American Thoracic Society's American Journal of Respiratory and Critical Care Medicine.

To assess the efficacy of prednisolone therapy along with standard doctor-managed care for patients admitted to the hospital with CAP, Dr. Snijders and colleagues prospectively enrolled 213 patients who had been hospitalized with CAP and randomly assigned them to receive the usual antibiotic therapy as prescribed by their physicians supplemented with either prednisolone (40 mg dose once daily) or placebo for a week.

They found that patients on prednisolone recovered more rapidly from their fevers and had a more rapid decline in their c-reactive protein (CRP) levels than patients on placebo, indicating decreased inflammation. However, after 14 days, the patients in the prednisolone

group had higher levels of CRP than the patients in the placebo group. Furthermore, three times as many patients in the prednisolone group had "late failure," defined as the recurrence of symptoms more than 72 hours after initial therapeutic success, and these patients were almost four times as likely to require additional antibiotic treatment than patients with late failure in the placebo group (6.7 percent versus 1.8 percent).

"Our study clearly shows that prednisolone therapy does not have a place in patients with CAP," said Dr. Snijders. However, he pointed out, in some cases such as when CAP is severe or occurs in conjunction with COPD, there is not enough information to draw a conclusion. Previous studies have found benefit of corticosteroid therapy among patients with severe CAP. Studies with patients with CAP and COPD have also indicated the possibility of a protective effect of prednisolone, but there have been no controlled trials.

Dr. Snijders suggested that the association of prednisolone therapy in CAP with late failures may be due to a rebound effect that could be precipitated by the abrupt withdrawal of the therapy. "Non-survivors on corticosteroid therapy died later than non-survivors without corticosteroids, respectively 13.8 versus 7.1 days," he wrote. "A tapering of the corticosteroids might protect against the rebound of inflammation."

"Further trials are indeed needed in patients with severe CAP," said Dr. Snijders. "Also, more information is needed about COPD patients, corticosteroids and pneumonia. Possible future intervention could be monoclonal TNF-alpha-antibodies or specific antibodies against other key mediators in the inflammation response. We are considering further studies in these directions."

Provided by American Thoracic Society