



Azithromycin may reduce treatment failure in acute COPD exacerbations



Low-dose azithromycin may reduce treatment failure in patients hospitalised for acute exacerbations of chronic obstructive pulmonary disease (COPD). This finding is from a multicentre, randomised controlled trial published online in the American Journal of Respiratory and Critical Care Medicine.

The antibiotic azithromycin prevents acute exacerbations in COPD as shown in previous studies. It was unclear, however, whether the antibiotic could reduce the need to intensify care of patients hospitalised for an exacerbation or improve their chances of not having another exacerbation after hospital discharge.

In the new study, "Belgian trial with azithromycin for COPD exacerbations requiring hospitalisation" (BACE), a low dose of azithromycin was used in addition to the medicines prescribed while in the hospital and followed by a low dose of the antibiotic for three months after hospitalisation. This strategy, according to researchers, reduced treatment failure in COPD patients compared to standard of care alone. For this study, treatment failure was defined as the need for treatment intensification with systemic corticosteroids and/or antibiotics, transfer of the patient to the intensive care unit (ICU) or readmission to the hospital after discharge, and all-cause mortality.

The study included 301 patients at 20 Belgian hospitals who were randomised to azithromycin ($n = 147$) or placebo ($n=154$), in addition to the medicines prescribed to resolve the exacerbation. Patients in the azithromycin group received 500 mg/day for three days while in the hospital, and then received 250 mg twice weekly for three months after leaving the hospital.

Overall, the rates of treatment failure were 49 percent for those in the azithromycin group compared to 60 percent in the placebo arm. Since BACE failed to reach its target of 500 participants, the trial was unable to prove statistical significance of its primary endpoint – i.e., time to treatment failure.

Other important findings of the trial include:

- Those in the treated group spent 24 percent fewer days in the hospital and 74 percent fewer days in the ICU than those taking the placebo.
- Mortality was lower in the azithromycin group than in the placebo arm: 2 percent vs. 4 percent.
- Treatment benefits were more apparent among non-smokers; there was little or no benefit derived by current smokers from low-dose azithromycin.

BACE also studied the effects of terminating azithromycin intervention at the end of three months and, according to the researchers, the clinical benefits of the antibiotic were lost six months later. This finding

suggests that prolonged treatment may be needed to maintain clinical benefits.

While the trial was underpowered to demonstrate statistical significance of its primary endpoint, still the results indicate that "our strategy reduced hospital time, days in the ICU and recurrent exacerbations in the most severe COPD group," said senior study author Wim Jannssens, MD, PhD, professor of medicine at KU Leuven and a pulmonologist at University Hospitals Leuven.

Source: American Thoracic Society

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