

Cystic Fibrosis website

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Why Long-Term Azithromycin Use Increases Infection With a Mycobacterium

Azithromycin is an antibiotic that also has antiinflammatory properties. It is these antiinflammatory properties that are thought to account for the improvement in clinical outcome observed when patients with chronic lung diseases such as cystic fibrosis are treated long-term with azithromycin.

However, a recent study indicated that azithromycin treatment in patients with cystic fibrosis is associated with increased infection with nontuberculous mycobacteria, a serious complication in such individuals. Now, a team of researchers -- led by Andres Floto and David Rubinsztein, at the University of Cambridge, United Kingdom; and **Diane Ordway, at Colorado State University, Fort Collins --** has confirmed that long-term use of azithromycin by adults with cystic fibrosis is associated with infection with nontuberculous mycobacteria and identified an underlying mechanism.

Specifically, the team found that in mice, azithromycin treatment inhibited the intracellular killing of nontuberculous mycobacteria within immune cells known as macrophages by impairing the cellular process autophagy. As azithromycin was not known to block autophagy prior to this work, these data highlight a clinical danger associated with inadvertent pharmacological blockade of this important cellular process.

Source : <http://www.sciencedaily.com/releases...0801122952.htm>