

EFFECT OF LEVOFLOXACIN ON INTESTINAL MICROBIOTA OF PATIENTS WITH COMMUNITY-ACQUIRED PNEUMONIA

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ABSTRACT: The gastrointestinal tract is a complex ecosystem that associates resident microbiota and cells of different phenotypes lining the epithelial wall that express intricate metabolic activities. The microbiota can be changed during the infectious process and/or medication use. This alteration can interfere in food digestion, nutrient absorption, rapid immune response against pathogens and hinder stimulation and maturation of the immune system. The ecosystem imbalance alters microorganism populations of intestinal microbiota, especially of *Bacteroides*, *Bifidobacterium* and *Lactobacillus*, that can provoke much damage to the host. Thus, this study aims to verify the influence of monotherapy with levofloxacin against community-acquired pneumonia, by oral administration, on normal intestinal microbiota of the patient. Through microbiological analysis of stool samples from 15 patients, it could be verified that community-acquired pneumonia affected intestinal microbiota leading to reductions in the *Lactobacillus* and *Bacteroides* populations. The treatment with levofloxacin altered these populations. However, 30 days after the end of the treatment, intestinal microbiota returned to its normal level. Since the incidence of community-acquired pneumonia is high and the most used antimicrobial drug for its treatment is levofloxacin, it is important to understand alterations imposed by this agent on intestinal microbiota and the right decisions to minimize its harmful effects.

KEY WORDS: intestinal microbiota, levofloxacin, pneumonia, *Bifidobacterium*, *Lactobacillus*, *Bacteroides*

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