

IMMUNOMODULATORY AND ANTI-INFLAMMATORY PROPERTIES OF ANTIBIOTICS: A REVIEW

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Traditionally, the value of antibiotics is discussed in the context of their direct antimicrobial action. However, we must not forget that antibiotics are physiologically active substances with a wide spectrum of biological activities. These show scientific publications on nonantibacterial effects of antibiotics. They can further amplify or attenuate the clinical efficacy of antibiotics, especially when it comes to immunomodulatory, anti-inflammatory properties of antibiotics. A number of studies have confirmed the importance of such effects macrolide antibiotics to improve survival in patients with severe respiratory tract infections in the world is increasing research evidence to suggest that the addition of macrolides in the scheme of the treatment of severe infections even in small amounts has a positive effect on survival. pathogens. Nonantibacterial properties of macrolides - an extensive and interesting field of study. Separately, it should be said about the immunomodulatory effects of this class of antibiotics.

Proved directional dependence immunomodulatory activity of macrolides on the dose and / or duration of antibiotic administration. With azithromycin in vitro in a dose of 4 mg / ml, an increase in IL-8 production by alveolar macrophages, and the use of dose 400 mcg / ml caused reduced production of interleukin. In this study, roxithromycin showed similar immunomodulating effects. Dirithromycin in small doses has a prooxidant effect, whereas at high concentrations is a powerful antioxidant. Interestingly, the case of peritonitis in mice was accompanied by a distinct use of macrolide anti-inflammatory effect, while the use of other antibiotics did not give the same effect. The initial effect was to Sumamed to stimulate neutrophil degranulation, and the corresponding increase in the enzymatic activity of serum, while there were stimulated and increased oxidative response of neutrophils. These effects combined with the achievement of high antibiotic concentration in plasma and neutrophils.

Tetracyclines are expressed immunomodulators as inhibit matrix metalloproteases. Due to the fact that matrix metalloproteinases play an important role in angiogenesis, metastasis of malignant tumors and other pathological processes, the effects of tetracyclines nonantibacterial now also focused considerable attention in oncology. β -Lactams sometimes cause inhibition of platelet function (while maintaining their normal content in the blood), and, as a consequence, increased bleeding. The effect of β -lactams of more characteristic penicillins.

It is now known, most well-known and widely used in clinical practice, antibiotics are able to provide and nonantibacterial effects of one kind or another. Need to be aware of these effects by avoiding or minimizing the negative and improving outcomes favorable.