

REVIEW PAPER ON THE EFFECTS OF ANTIBIOTIC USE IN AGRICULTURAL ANIMALS ON THE HUMAN HEALTH AND FORMATION OF FOOD BORN ANTIBIOTIC RESISTANT MICROORGANISMS

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Abstract

The use of antibiotics in agricultural animals that are bred for human food has allowed for control of disease in livestock, improvement of growth and therefore overall better feed conversion. Although there are many positive sides for the use of antibiotics, in recent years the concern has arisen if excessive use of antimicrobial agents can lead to antibiotic resistant bacteria and how they can impact negatively on the human health and human infections. The purpose of this review is to summarize the published data in food transmitted antibiotic resistant bacteria.

The actual danger may seem small, because in many cases the same antibiotics used in humans are used to treat livestock, but there are papers that state the presence of antibiotic resistant strains of bacteria that derived from animals. Also in this review we look at the potential mechanisms of transferring the antibiotic resistant bacteria from animals to humans. One of the potential ways to transfer these pathogens is from direct infection from the animal. Other papers imply on breaking the species barrier, the antibiotic resistant strain of bacteria if formed in the antibiotic treated animals and then transmitted to humans. Some of the paths of transmission may be the transfer of resistant genes from meat and dairy into human pathogens. Although this potential mechanism is more difficult to study and is least represented in the published data, is most like the most important one to study.

In conclusion the use of antibiotics in agricultural animals and their impact on human health is a vast and under studied matter, that needs to be further analyzed so that the exact mechanisms of transmission are known. But the dangers are present and this matter needs to be dealt with great care and with involvement from all parties, from producer to consumer.

Key words: Antibiotics, Animals, Food, Human, Microorganisms, Pathogens.