Veterinary Drug Residues, The relationship Human Health and disease

In animals, the usage of risky drugs to human health when they present in animal foods, such as meat, milk, egg and honey, is prohibited. Drugs, permitted for use in food animals, are subjected to a very strict residue and safety assessment due to adverse effectsthat can be reflected in human health. For this situation, the path followed in our countryis similar to the European Union (EU). Maximum residue limit (MRL) is defined as the permitted amount of drugs that are allowed to be used in food animals, in animal products. After applied drugs to the animal are expected to fall to the MRL levels in the animal's edible products, these products are allowed to be served.It is assumed that veterinary drug residues will not pose a risk to human health, when consumed at a lower level than MRL in animal products. According to European Union harmonization laws, pharmacologically active substance residues in animal products are subjected to annual controls to determine whether they exceed the MRL level. 519 substances (mostly plant extracts) which are evaluated for the use in food animals, are considered highly safe in terms of human health and it is not even necessary to specify MRL for these substances.The number of drug molecules that have passed the safety assessment and allowed to be used in food animals is rather low (167 units). There are 10 substances are never allowed to be found in foods. Including these 10 substances, there are 82 substances are not allowed to be used in food animals as a result of safety assessment. A drug that is allowed in a food animal species may be prohibited in another species, or even a drug may be allowed or prohibited in the same animal species.

In addition to prohibiting the use of drugs which poses a risk for human health when they present in foods, the European Food Safety Authority has taken the approach of a **reference point for action** for these banned drugs, in the **Panel on Contaminants in the Food Chain (CONTAM)**, 2013. Accordingly, it has been aimed to increase the sensitivity of the analytical method used between the union countries and to ensure equality in practice, in terms of control of prohibited substances. Therefore, the higher quantities of prohibited substances identified in the animal's offal tissues or fluids (hair, urine, etc.) than the daily consumption is accepted as a **reference point for action**. In this way, it is aimed to prevent both consumption and trade of products that exceed this point of action among the union countries.

Antibiotics and antiparasitic drugs are the most commonly used medicines for treatment and prevention of common diseases in food animals. Antibiotics are used only for therapeutic purposes (not used for productive purposes) and with veterinary prescription. The effects of antibiotic residues in animal foods, due to use of these drugs in animals, on the intestinal flora in people consuming these foods, are also examined under safety assessment. The other potential risk of antibiotic use is the possibility of antibiotic resistance in zoonotic bacteria. The screening of antibiotic resistance in zoonotic infectious agents that pass to humans from animals due to use of antibiotics in animals, is a requirement of EU harmonization laws.

In this presentation, it will be tried to examine the practice differences between our country and European Union, in order to manage the possible negative effects of drugs or other undesirable substance residues on human health, in animal products.