



The Study of Levofloxacin Effects on Liver Tissue in Wistar Rat

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Introduction

In this study, we examined the effects of the antibiotics levofloxacin on the liver as well as its devastating effects which are ensued from its over-prescription. Levofloxacin serves as one of the antibiotics of genitourinary system and inferior respiratory system. Since liver is the foremost organ that receives all the materials absorbed by intestine through the portal vein, and it is the organ that must neutralize venoms, the toxic effect of most medications on liver manifest itself quicker than other organs.

Materials and Methods:

for this study, 50 series of male rats from the strains of Wistar were used; the rats were eight weeks old and had a weight of about 250 g. During the study which lasted 60 days, the rats were exposed to lightness and then darkness for 12 hours respectively. The room temperature stood at 24.7-26.4 ° C as its moisture was counted as %55-60.30 series of rats were divided into three groups, receiving the antibiotics with different dilutions; 250,500 and 750 ml; the drug is taken orally. 20 series of rats were put in to the two groups—control and sham; the first group received treatment as the sham group received water through gavage. After the completion of this round, blood samples were taken from all groups, and dispatched to laboratory for medical diagnosis. The rats were then anesthetized with ether and slit open from the peritoneal area as transverse-abdominal cut, letting the liver out of the body; the samples of the liver tissue were stabilized in 10% formalin and sent to pathology laboratory for block making and preparing the slides.

Result:

Comparing the enzyme levels of SGOT and SGPT in the treatment, control and sham groups, it represented that there was a rise in the enzyme levels as a result of liver damage caused by taking antibiotics. Observing the microscopic slides of the liver tissue of the treatment group, it suggests sinusoid destruction, the loss of bile ducts, irregular placement of adjacent cells and the absence of Kupffer cells, which in turn confirms the negative effect of levofloxacin on liver tissue.

Conclusion:

Like other medications, levofloxacin can exert adversary effects as well as positive effects. Since one of the tissues which is susceptible to this effect is liver, we must bear in mind when it comes to prescribing this medication.

Key words: Antibiotic, Levofloxacin, Liver .

Poster Presentation, N 48

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