

SUMMARY AND CONCLUSION

Antimicrobial agents constitutes a rapidly expanding group of drugs that are useful for treatment of various types of infections such as respiratory tract infection and in surgical operations.

This work was performed to study the biochemical effects of claribiotic as a recent macrolide antibiotic (1998) on the liver of sixty adult male albino rats which were divided into four groups as follows.

Group 1 : Thirty rats were used as controls and each one was given acetic acid 0.1% solution orally every 12 hours as the drug not dissolved in water but only in 0.1% acetic acid solution.

Group II: Ten rats each one was given claribiotic 7.5 mg/kg body weight / 12h for one week.

Group III. Ten rats, each one was given claribiotic 7.5 mg/kg body weight / 12h for two weeks.

Group IV : Ten rats, each one was given claribiotic 7.5 mg/kg body weight/12h for three weeks.

Liver specimens were taken immediately after sacrificing of the animal by suden knock on the head, two specimens were taken from each rat one for electron microscopic examination and the second was processed through paraffin technique for light microscopic examination.

Assesment of liver functions was achieved through biochemical analysis of serum carrying out (serum glutamic oxaloacetic transaminase) SGOT and (serum glutamic pyruvic transaminase) SGPT the result obtained can be summarized as follows.

Histological picture after Hx & E and Masson's trichrome stains :

Group I (Control group) : showed classical hepatic lobule which was composed of a central vein and mass of liver cells, portal tract which was found at angle of hepatic lobule, minimal connective tissue around central vein and portal area.

Group II : Showed mild vacuolation of cytoplasm of hepatocytes, mild dilatation of blood sinusoids with minimal cellular infiltration at portal tract and mild change in amount or distribution of connective tissue.

Groups III: Showed more vacuolation in the cytoplasm of liver cells, also there were dilatation and engorgment affecting central vein, blood sinusoids and portal vein. Mononuclear cellular infiltration and fibrous tissue streaks in central regions and between hepatocytes were observed.

Group IV : Had marked vacuolation in the cytoplasm of liver cells, there were more dilation and congestion affecting central vein, blood sinusoid and portal vein. Marked mononuclear infiltration and fibrous tissue streaks in portal tract and between hepatocytes were observed.

Electron microscopic Picture:

Group I : examination of liver sections of control rats showed at hepatocytes had abundant cytoplasm packed with organelles, their nuclei were oval or rounded and the mitochondria were rounded with double membranes.

Group II : showed mild change in mitochondria in the form of pleomorphism, proliferation of some endoplasmic reticulum and normal nucleus.

Group III and IV: some nuclei of hepatocytes showed condensation of their chromatin in the form of small clumps, some hepatocytes showed small areas of degenerated cytoplasm and increase in number of mitochondria with mild pleomorphism with interrupted outer membrane, proliferation and dilation of some rough endoplasmic reticulum cisterna, multiple lipid droplets, glycogen particles were apparent and lysosomes were also proliferated. The blood sinusoids showed hypertrophy of the lining endothelial and Kupffer cells, some of the blood sinusoids were dilated congested and filled with inflammatory cells and some of blood sinusoids were surrounded by collagen fibers.

Biochemical Changes:

Biochemical changes showed mild increase in SGOT and SGPT enzymes and marked increase in their level in Group III and IV with increase intake of drug in the body.

The results of this work attract our attention to restrict the use of claribiotic for short duration and urgent indication and it must never be used in liver dysfunction.