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A Study of histopathologic effects of co-supplementation of vitamins E and C on Gentamicin-induced hepatotoxicity in the rat

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Gentamicin (GM) is an effective antibiotic against gram-negative infections. It has well-known toxic side effects on kidney and liver. The present study was designed as an endeavor to ascertain and establish the role (if any) of vitamin C and vitamin E supplementation for the protection/elimination of the toxic effects of Gentamicin. For this purpose, 30 male Wistar rats weighing between 250-300 g were divided into five groups with six rats in each. The drugs were given as follows: Group (A), the control group, Group (B) Gentamicin (100mg/kg), Group (C) Gentamicin (100mg/kg)+Vit C (200mg/kg), Group (D) Gentamicin (100mg/kg)+VitE (50mg/kg) and Group (E) Gentamicin +Vit E+Vit C as Group (C) and (D), injected intramuscularly, except Vit C that was added to the drinking water, daily for 7 consecutive days after which the rats were euthanased and their livers were removed, divided, fixed and evaluated structurally at histological levels with light microscopy. The morphological changes in the structure of livers of Group (B) rats (hepatotoxic group) were analyzed and compared with other groups i.e.(A), (C), (D) and (E) to reach the conclusion that the liver toxicity produced by Gentamicin could be inhibited effectively by simultaneous vitamin C and vitamin E treatment. In liver microscopic observation of Group (B), compared with Group (A), lymphocytic inflammation, distension of central veins, fatty change of peripheral hepatocytes of central vein, fatty change of liver parenchymatous cells were seen ($p<05$). The rats of Group (C), (D), (E) had less toxic changes of liver compared with Group (B) ($p<05$). This study showed that co-supplementation of vitamins (E), (C), and (E+C) decreased hepatotoxic effects of Gentamicin on liver in rat ($p<05$).

Keywords: Gentamicin, Vitamin C, Vitamin E, Hepatotoxicity, Histopathology, Rat

Drug resistant pattern of isolated bacteria from normal intestinal flora of ostrich in Shiraz, Iran

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Normal intestinal flora are important reservoir of antimicrobial resistance patterns. In order to study the distribution of antibiotic resistant patterns, 66 faecal samples were collected from healthy ostriches. The isolates were identified according to standard procedures. Most frequently isolated bacteria were *Escherichia coli*, *Bacillus*, *Enterococcus*, *Micrococcus*, and *Lactobacillus*. The antibiotic resistance was determined against 16 antibiotics commonly used in human and veterinary medicine. disc diffusion method, was performed for all the bacterial isolates. Susceptibility testing indicated that the inhibitory antibiotic was florfenicol (100%) and the least was penicillin (32.35%). Resistance pattern of isolates to penicillin, furazolidone, cephalothin, cefotaxim, lincospectin, tetracycline, cotrimoxazole, erythromycin, tylosin, enrofloxacin, gentamycin, ampicillin, nitrofurantoin and difloxacin were 67.65%, 65.52%, 47.05%, 41.17%, 35.29%, 29.41%, 23.53%, 20.59%, 20.59%, 17.65%, 17.65%, 14.7%, 8.8%, 5.88% respectively. Multiple drug resistance (more than 6 antibiotics) was observed in 41.17% of isolates.

Keywords: ostrich, normal flora, stool, antimicrobial, drug resistance