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Evaluation of histopathological effects of contaminated unexpired gentamicin and penicillin g injections on the kidney tissues of juvenile wistar rats

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The histo-pathological effects of contaminated gentamicin and penicillin G injections on the kidney tissues of juvenile wistar rats have been investigated using standard microbiological and histo-pathological techniques. Freeze-dried and heat fixed thin sections of wistar rats' kidney were observed under the microscope using x10, x40 and x100 magnifications. The results revealed marked necrosis and erosion of proximal borders especially the focal epithelium of proximal convoluted tubules (PCT) of the kidney, with the retention of the cyto-architecture. Plasmolysis was observed in the epithelial cells of the distal convoluted tubules (DCT) when treated with contaminated unexpired gentamicin injection sample as compared with control. Glomerular hypoplasia and fibrosis of the Bowman's space occurred in the kidney when compared with the control. Also medulla interstitial oedema leading to focal tubular fibrosis as a result of microbial activity was observed when compared with control. Interstitial hemorrhage which led to complete tubular necrosis with loss of defined tubular cyto- architecture was observed. This effect made the tissue fibrous, resulting in a non-functional or shrunken kidney as compared to control. Results obtained from this work has raised serious health concerns, considering the risk posed by contaminated drugs on patients.

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