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Toxopathological studies of hexaconazole fungicide on liver of male rats with special reference to neoplastic changes in hepatocytes

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A long-term study was conducted on hepatotoxic effect of hexaconazole fungicide in male rats. Hexaconazole was administered orally in two doses range at 75 or 150 mg/kg bw for 12 months. Absolute and relative liver weights were recorded. Total protein, albumin and globulin levels were determined. Serum gamma glutamyl transferase (γ -GT), alkaline phosphatase (ALP), aspartate transferase (AST) and bilirubin concentrations were also recorded. Histopathological lesions in livers of exposed rats were described. Liver sections were submitted to immunohistochemical staining using glutathion-S-transferase placental form (GST-P) tumor marker for detection of carcinogenicity. A pronounced toxic effect was observed on liver, where absolute and relative liver weight was significantly increased. A significant reduction in total protein and albumin was obtained. A significant increase in the enzyme activities and bilirubin concentrations in exposed groups was recorded. Liver histopathology exhibited various abnormalities, as hepatocellular swelling, hyperplasia of bile duct and hepatocytes hypertrophy with increase in microcytic degeneration. The most interesting finding was the presence of preneoplastic nodules which appeared by light microscope and confirmed with immunohistochemistry assessment. These results suggested that hexaconazole fungicide has a hepatotoxic effect and tumor promoting activity on liver tissue.

Biography

Eman Ezz El-Sharkawy has completed her PhD at the age of 31 years from Assiut University, Egypt and postdoctoral studies from Assiut University, Veterinary school of Medicine. Recently, she is the professor of forensic medicine and toxicology, faculty of veterinary medicine, a premier in toxicological studies of many environmental pollutants in the surrounding environment. She has published several papers in reputed journals.

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No association between TTTA short tandem repeat (STR) of the CYP19 gene and prostate cancer risk in Iranian population: A case control study

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Background: Prostate cancer appears in two versions: familial and sporadic. In the development of sporadic prostate cancer, sequence variations in some genes, especially in genes involved in steroid hormone metabolism has been considered important. CYP19 gene is one of the most interesting. The product of this gene converts the C19 steroid to estrogen. Some studies have shown long allele of TTTA in intron4, as a tetra nucleotide repeat is associated with increased risk of prostate cancer.

Material and methods: In this case/control research we studied the association of TTTA repeat variations and prostate cancer risk among 59 patients with sporadic prostate cancer and 95 healthy men which were referred to Shohada-e -Tajrish Hospital, under SBMU license.

Results: This study did not reveal significant association between various length of tetra nucleotide repeats (including long and short repeats) and prostate cancer risk (with P-value=0.4).

Conclusions: Results of our study do not support about considered role of TTTA repeat variations and prostate cancer in Iranian population.

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