ABSTRACT AND KEYWORDS

Inbred healthy Swiss female albino mice were reared in the laboratory. Two months old female mice of about 25-30 gms were used for the study. Animals were divided into four groups and each group was housed with four mice. They were fed with mice feed from Hindustan Lever and water was given *ad libitum*. The first group was considered as control. The second, third and fourth group of animals were exposed to endosulphan subcutaneously for a period of twenty one, sixty, and ninety days. After exposure they were sacrificed by decapitation, that is, on 22\textsuperscript{nd} day 61\textsuperscript{st} day and 91\textsuperscript{st} day respectively. The tissues like brain, liver and kidney were dissected out and processed for various biochemical, histopathological and gas chromatographic studies.

Studies like estimation of total proteins Glycogen, Total lipid, Acid and alkaline phosphatase, total Adenosine Tri Phosphatase, Succinic Dehydrogenase and Lactic Dehydrogenase and Acetyl Cholinesterase, were done on brain, liver and kidney of mice. Histopathological changes in the vital tissues and residue analysis by Gas chromatographic method were also done.

From the study it was come to the conclusion that endosulphan caused pronounced dose and time dependent decrease in Glycogen, Lipid, Protein, Total Adenosine Tri Phosphatase and Acetyl Cholinesterase. But there is a sharp increase in Acid phosphatase, Alkaline phosphatase. In the case of Succinic Dehydrogenase and Lactic Dehydrogenase there was an increase of enzymes up to 60 days and then there was decrease.
The histopathological alterations were characterized as oedema, cell swelling, necrosis, proliferation of astrocytes, sclerosis, and degeneration. Morphological changes like enlargement of cephalic region, loss of whiskers, red patches on the ear, expansion of chest, thinning of the lumber region, erosion of the extreme ends of the tail are noticed in the chronic conditions of exposure.

Residue analysis showed that maximum accumulation of endosulphan were on the brain tissue followed by kidney and liver after the chronic exposure. It can be concluded that the action of the toxicant brought overall changes in the physical, chemical and histological architecture of the body of organisms.

**Keywords**

*Mus musculus*, Endosulphan, 6 mg/kg body wt., brain, liver, kidney, glycogen, total protein, total lipid, alkaline phosphatase, acid phosphatase, total ATPase, acetyl cholinesterase, histopathology, residual analysis, pycnosis, Inflamation, necrosis, vacuolization, haemorrhage, tubular degeneration, cystic dilation.