**Histo-morphometric changes in Methotrexate induced Hepatotoxicity in Albino rat**

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**ABSTRACT**

**Objective:** To observe the toxic effects of Methotrexate on the Histomorphometry of liver in rat model.

**Study Design:**An Experimental, Observational Study.

**Place and Duration:**  At Department of Anatomy, Baqai Medical University, Karachi from 1st July 2017 to 31st August 2017.

**Methodology:** Male adult albino Wistar rats (n=30), aged 10-12 weeks and weighing 180-200g of weight were divided in two equal groups. Group-A (control), received no intervention and Group-B received single dose of 20mg/kg of methotrexate (MTX) intraperitoneally. Liver was harvested and its architecture was assessed microscopically. Mean hepatocyte count, hepatocyte diameter and hepatocyte nuclear diameter were calculated with micrometer.

**Results:** Liver sections from Methotrexate treated group B exhibited a distortion in normal hepatic architecture. Deranged hepatic cords, large areas of parenchymal degeneration and hemorrhage, and dilation of sinusoids and central vein were observed. The hepatocytes showed advanced hydropic degeneration, fragmentation and pyknosis of nuclei. Mean hepatocyte count and mean hepatocyte nuclear diameter was decreased while hepatocyte diameter was increased significantly in Methotrexate group.

**Conclusion:** Methotrexate produces toxic cellular changes as seen in the histomorphometry of liver tissue in rat model.

**Keywords:** Albino rat, Methotrexate, Hepatotoxicity, Histomorphometry, Hepatocyte count, Hepatocyte diameter, Nuclear diameter.

**How to Cite This:**

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