



Poster

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## Mercury vapor caused liver damage in female rats: A histopathological and stereological study

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### ABSTRACT

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Heavy metals and their compounds, especially chemical waste, are released into the environment through various emission sources. In this study, liver structures of female rats exposed to elemental mercury vapor were intended to be examined by histological and stereological methods. In this study, 12 adult female *Sprague Dawley* rats (200-250 gr weight) were used and divided into equal both group. Experimental group were exposed to mercury vapor for 45 days (1mg/m<sup>3</sup>/day). Untreated subjects were considered as control group. At the end of the study, sections obtained from the subjects of the control and the experimental groups according to routine histologic procedure. Then, they were histologically and stereologically assessed under the light microscope. Quantative data obtained from stereological method displayed significantly changes in terms of liver volume and number of hepatocytes in mercury vapor exposure group. Liver volume, volume of parenchyma and volume of sinusoids were meaningfully enhanced in examination group. Also mean numerical densities of hepatocytes and binucleated hepatocytes, total number of hepatocytes and binucleated hepatocytes and nuclear height of hepatocytes were declined in mercury treated group. In addition, histopathological investigation demonstrated injuries in structure of liver including an increase of connective tissue, degeneration of hepatocytes and vasodilatation. Our results relied on particularly stereological approach indicated that mercury vapor exposure has hazardous effects on the liver. Therefore, it is required that the use of mercury is more controlled and conscious. Hence, present results confirmed this supposition that mercury vapor has a disorder and toxicant effect on liver.

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