

## Effect of mercury in virgin, pregnant and lactating rats

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Mercury is a toxic metal widely used in industrial activities. In Brazil, cases of mercury contamination occur mainly in the Amazon region, where mercury is used in mining to amalgamate the gold; people is so exposed to mercury occupationally and through the consumption of contaminated fish and water [1]. Mercury has a non uniform distribution after absorption, being accumulated mainly in the kidneys causing renal injury [2].

Numerous metabolic changes occur physiologically in pregnancy and lactation periods and induce a different response to exogenous substances, respect virgin animals. At this aim, we evaluated the pathogenetic mechanism, at kidney level, involved in the different responses of virgin, pregnant and lactating rats exposed to a single dose of mercury.

Interestingly, the mercury-induced nephrotoxicity differs among pregnant or lactating respect virgin rats. In particular, virgin rat showed kidney histopathological alterations including interstitial fibrosis and tubular damages and an altered modulation of heat shock proteins, damages that correlates with the overall loss of renal function. The distinctive responses between pregnant and lactating respect virgin rats observed in our study may be associated with some of several physiological changes that occur during pregnancy or lactation periods.

### References

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- [2] Favero et al. (2014) Lactating and nonlactating rats differ to renal toxicity induced by mercuric chloride: the preventive effect of zinc chloride. *Cell Biochem Funct* 32:420-8; doi: 10.1002/cbf.3032.

### Keywords

Mercury; virgin rat; pregnancy; lactation; kidney.