

**PATHOLOGICAL EVALUATION OF REPEATED DOSE ORAL TOXICITY STUDY OF TAMRA BHASMA IN WISTAR RATS.**

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**ABSTRACT**

**Ethnopharmacological Relevance:** The metal, *Tamra* though mentioned in Ayurveda with a wide range of therapeutic utilities; is attributed with *Ashta Maha Dosha*. If it is not prepared properly or *Shodhana* procedure is not done properly, it acts as a poison. To indicate its toxic potential, *Ashtamahadoshas* (eight major ill effects) have been quoted in classics and due emphasis have been given to its *Shodhana* procedure. In the present study, *Tamra Bhasma* prepared from *Shodhita* and *Ashodhita Tamra* was subjected to oral toxicity study to ascertain the role of *Shodhana* process on safety profile of *Tamra Bhasma* on subchronic administration to albino rat

**Objective:** To determine pathological evaluation of *Tamra Bhasma* in rats.

**Method:** Two treatment group animals were given with Therapeutic Dose (TD) and twice of Therapeutic Dose (2 TD) for 90 consecutive days, which were 1 and 2 times the proposed human therapeutic dose (HTD) and 3<sup>rd</sup> group was treated with *Ashudha Tamra Bhasma* (TD). The 4<sup>th</sup> group or control group, receive Carboxy Methyl Cellulose (CMC). The rat were fasted overnight prior to the terminal necropsy and their body weights were recorded. Blood samples were obtained for laboratory investigations from all the animals before necropsy. Weights of certain organ recorded. Histopathological evaluation was performed on brain, heart, kidney, lung, spleen, liver, and adrenal in all rats.

**Results:** Animals were evaluated using functional observation battery (FOB). The values of biochemical and hematological of rats treated with *Tamra Bhasma* were found to be comparable to the control group. The absolute and relative values of lungs from all treatment group were found to be lowered in both male and female rats as compared to control group. Absolute and relative weights of kidney in both male and female were found to be increased in all treatment group as compared to control group. The microscopic examination of tissues revealed some incidental findings, such as acute congestion in liver and lungs, round cell infiltration in liver in the treated and control groups rats and was considered unrelated to exposure to the *Tamra Bhasma*.

**Conclusion:** Based on these outcomes of the present chronic study, the NOEL (No Observed Effect Level) for *Tamra Bhasma* in Wistar rats could be concluded at that of doubled of human dose.

**Keywords:** *Tamra Bhasma*, metallic, Ayurvedic Formulation, Chronic toxicity study, No observed effect level (NOEL)etc