

OP 04

## Hepatoprotective Activity of *Osbeckia octandra* Capsule against Non-Alcoholic Fatty Liver Disease in Rats

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**Background:** Non-Alcoholic Fatty Liver Disease (NAFLD) is an asymptomatic disorder that is characterized by the accumulation of excessive fat (triglyceride) in hepatocytes without significant alcohol consumption. Novel herbal medicines are tested for NAFLD due to high prevalence and lack of effective treatment. Carbon tetrachloride (CCl<sub>4</sub>) is a common model used in studies on hepatotoxicity. A single dose of CCl<sub>4</sub> at 1mL/kg is known to be responsible for developing a centrilobular necrosis and fatty changes in rat liver. Alanine Transaminase (ALT) is a better maker of steatosis in rats.

**Objective:** To evaluate the effect of a capsule made from *Osbeckia octandra* plant extract by Fairway Biotech (Pvt) Ltd, against NAFLD in Wistar rats

**Methods:** Twelve male Wistar rats with elevated liver parameters were divided into two groups (n = 6) and the test group was treated with *Osbeckia octandra* capsule (16.67 mg/kg) for 14 days as a preliminary study to evaluate the effect of capsule on liver abnormality. In proper study, thirty new male Wistar rats were divided into five groups (n = 6). A single dose of CCl<sub>4</sub> (1 mL/kg body weight in 1:1 in olive oil) was used to induce NAFLD. Normal, vehicle, disease control, therapeutic and preventive group were respectively treated with distilled water, olive oil, only CCl<sub>4</sub>, CCl<sub>4</sub>-followed by capsule (7 days) and capsule (7 days) followed by CCl<sub>4</sub>. Serum levels of transaminases (ALT, AST), Alkaline phosphatase (ALP), Gamma glutamyl transferase (GGT) and total protein were assessed on 1<sup>st</sup>, 7<sup>th</sup> and 10<sup>th</sup> day.

**Results:** Serum levels of AST and ALT were significantly reduced to normal level in preventive and therapeutic ( $p < 0.05$ ) groups proving the efficacy of the tested capsule. Levels of GGT too have reduced. Elevated ALP level is indication of bone mineralization of young rats. No significant difference in total protein was observed.

**Conclusion:** *Osbeckia octandra* capsule exerts significant preventive and therapeutic effects against NAFLD in Wistar rats.

**Keywords:** Alanine transaminase, Alkaline phosphatase, Aspartate transaminase, Gamma glutamyl transferase, Non alcoholic fatty liver disease

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