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# Neuroprotective effects of feeding Centella asiatica – Study of hippocampal neurons in pups born to Alcohol fed female Wistar rats

Rashmii K.S.

**Neuroprotective effects of feeding *Centella Asiatica (L) Urb*. – Study of hippocampal neurons in pups born to alcohol-fed female Wistar rats.**

**ABSTRACT:**

**Objectives**: To evaluate the neuroprotective function of *C. Asiatica* on the offsprings in maternal alcohol abuse. Centella Asiatica (*C. Asiatica*) has been known to Indian traditional medicine Ayurveda as an effective brain tonic. Alcohol is an abused substance and poses a health risk to all in society, including pregnant women. We force-fed alcohol to pregnant rats and studied its effect on rat pups' hippocampus, which were fed with C. Asiatica. The results were also correlated to the cognitive performance of the animals.

**Methods**: Adult female rats, confirmed of pregnancy, were fed with 30% (w/v) alcohol at a dosage of 20g/kg body weight, daily oral gavage. The pups were divided into seven groups (n=6 each) as control and experimental/treated.

**Results**: Hippocampus was isolated, and the slices were stained, and the cell count was done by applying appropriate techniques. The pup quality, cognitive parameters showed differences in alcohol-treated groups. The cell count was performed and compared among the groups. A significant increase in the cell count and the hippocampal neuron population's size was observed in the rats fed with *C. Asiatica* extract. The pup quality was also better. Their cognitive performance was significantly better.

**Conclusion**: This study revealed the adverse effects of fetal alcohol exposure, which reversed after treatment with C. Asiatica. This study confirms the role of C. Asiatica as an effective neuroprotective agent, and it could be useful to treat the patients suffering from the effects of exposure to alcohol in fetal life and early childhood.

KEYWORDS: Alcohol; Centella Asiatica; Hippocampus; Neuronal damage; Neurotropic agent.