

ABSTRACT

DISSERTATION ON “EVALUATION OF NEUROPROTECTIVE EFFECT OF CELASTRUS PANICULATUS ON COGNITION IMPAIRMENT CAUSED BY PHENYTOIN IN SWISS ALBINO MICE”

INTRODUCTION:

Cognition refers to an individual's thoughts, knowledge, interpretation, understanding and ideas himself and his environment. If the disturbances occur in these areas it leads to cognitive impairment. One of the established agents is Piracetam (PIM) which is also known for its anti-myoclonus activity and specific anti-amnesic activity in many experimental models is used for enhancing cognition. Loss of memory and cognitive function affects people worldwide, such loss may be the result of different progressive neurological disorders of the brain. It affects both men and women and is common in the elderly.

AIM:

PRIMARY OBJECTIVE:

- To evaluate the cognition enhancement property of *Celastrus paniculatus* in phenytoin induced cognition impairment.

SECONDARY OBJECTIVE:

- To determine the antiepileptic activity of *Celastrus paniculatus*.
- To assess the hepatorenal toxicity of *Celastrus paniculatus*.

MATERIAL AND METHODS: This study was conducted in Dhanalakshmi srinivasan medical college and hospital animal house, mice were separated in to twelve groups and was administered with drugs to specific groups and was evaluated with acute and chronic studies. Finally mice were sacrificed and estimation of neurotransmitter was done and evaluation was done using uv visible spectrophotometer and fluorescence spectrofluorimeter.

RESULTS: It is evaluated by behavior assessment of the mice using Radial arm maze apparatus test, Pole climbing apparatus test and Increasing current electroshock seizures. Among the groups results obtained stated that P value was not significant in all groups but in GROUP II, III, IV phenytoin group, Acute and Chronic study was found to be significant in intra- groups.

CONCLUSION: In this study the cognitive impairment was induced by phenytoin and the effect has been reversed by the standard drug piracetam and the experimental herbal (drug) Malkangani oil of celastrus paniculatus (CP). There is no difference between the two drugs and both exhibited similar efficacy.

KEYWORDS:

Cognition, Phenytoin , Piracetam, Celastrus paniculatus, Mices, Neurotransmitters.