

## PHYTOCHEMICAL INVESTIGATION AND ANTICONVULSANT ACTIVITY OF *ACORUS CALAMUS*

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*Acorus calamus* is a traditional drug and it is kept on using from ancient time. *Acorus calamus* is used as main ingredient of various ayurvedic preparations. In the present study preliminary phytochemical study, acute toxicity study and anticonvulsant activity of *Acorus calamus* were investigated. Three extracts of *Acorus calamus*, petether, ethanolic and aqueous were prepared, the former two were prepared by hot percolation method by soxhlet apparatus and the later one was prepared by cold maceration method. All the three extracts were exposed to various groups test for preliminary phytochemical studies. All the three extracts of *Acorus calamus* were checked for acute toxicity studies and a dose of 200m.g./k.g. body weight per oral was decided for anticonvulsant activity. Anticonvulsant activity of all the three extracts like petether, ethanolic and aqueous of *Acorus calamus* were checked by studying the effects on seizures induced by Pentelentetrazol, and maximal electroshock convulsive methods in mice. Alcoholic extract of *Acorus calamus* significantly reduced the duration of convulsions like flexure ( $1.58 \pm 0.25$ ), extensor ( $9.24 \pm 0.45^{**}$ ), clonic ( $5.50 \pm 0.35$ ) and stuper ( $28.33 \pm 0.45$ ) respectively in maximum electroshock method. In second method, convulsions induced by Pentelentetrazol, alcoholic extract of *Acorus calamus* significantly increased the time of onset of clonic ( $235.49 \pm 0.548$ ) and tonic ( $564.99 \pm 2.548$ ) convulsions as compared to petether and aqueous extract. The data obtained suggest that *Acorus calamus* have anticonvulsant property and may probably due one or more lead chemical entity. So there is need of further studies to identify and isolate the lead responsible compound.

### INTRODUCTION

*Acorus calamus* is a well known plant for present researchers as well as for ancient systems of medicine. In Ayurveda it is known as Vacha. *Acrous calamus* is a perennial plant with creeping and extensively branched aromatic rhizomes, cylindrical up to 2.5 c.m. thick, purplish brown to light brown internally and white internally (Balakumbahan R.*et al*, 2010). It is confirmed by lots of researches in past that *Acorus calamus* showed the presence of large number of Phenylpropanoids, Sesquiterpines and Monoterpines as well as Xanthone Glycosides, Flavones, Lignans, Steroids and Inorganic constituents. Moreover lots of research also done for their therapeutic potentials and some are waiting

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