

Dr. B.K. Anand Oration
Orator : Dr. B.N. Dhawan, FAMS

EXPERIMENTAL AND CLINICAL EVALUATION OF NOOTROPIC ACTIVITY OF *BACOPA MONNIERA*

SUMMARY

Bacopa monniera Linn. (*Brahmi*) is an annual creeper belonging to family Scrophulariaceae and growing all over the Indian sub-continent in marshy areas. It is a major *Medhya Rasayana* used in *Ayurveda* for treatment of memory disorders. Large number of saponins and glycosides has been isolated from the plant. Most of the experimental and clinical studies have been done with crude extracts or standardized preparation of the two active saponins Bacosides A and B.

Extracts or saponin mixture facilitate learning, improve consolidation of learned behavior and delay extinction in several models of learnt behavior in normal rats and mice as well as in chemically induced or transgenic models of Alzheimer's disease. They also prevent or reverse amnesia produced by drugs, stress or ischemic hypoxia. Other CNS effects include anti-anxiety, anti-convulsant and analgesic activity. Several mechanisms have been proposed to explain the mechanism of these CNS effects.

Extracts as well as the bacoside preparation have been found safe and well tolerated in healthy volunteers in single dose or chronic administration for several weeks in a number of double blind placebo controlled studies in India and abroad. Chronic administration significantly improved information processing, learning and memory consolidation. It was found more effective than caffeine in a comparative study.

Double blind placebo controlled studies with bacoside preparation have demonstrated beneficial effects and safety in elderly patients with Age Related Memory Impairment and in

children with Attention Deficit Memory Disorder. It has also been found useful in anxiety neurosis, epilepsy and sleep disturbances in post menopausal women.

The standardized preparation is marketed as a prescription drug after having obtained the necessary regulatory approval in India, Australia, New Zealand and South Africa and as an OTC product in several other south east Asian and African countries.