Potentials of Gangetin based Phytopharmaceutical formulation Mysgan-2 in management of Dementia

Hanumanthachar Joshi and **Majed Mohammed Alkanad & Charan C S**
Sarada Vilas College of Pharmacy, India

Ba : Management of cognitive disorders like dementia and Alzheimer's disease has been challenging since no potential drug is available with proved e cacy. Some nootropic drugs like piracetam, aniracetam and cholinesterase inhibitors such as Donepezil® have found to exhibit severe toxic e ects in elderly. In Ayurveda, dementia is known as Smutibhransh. In the present study, phytochemical based formulations with clues from ayurveda and alternative and complementary medicines were investigated for their e cacy in the management of dementia in animal models relevant to Alzheimer's disease.

M : Elevated plus Maze, Passive Shock Avoidance and Morris watermaze were the exteroceptive behavioral models. Scopolamine, ibotenic acid, β-amyloid and ageing induced amnesia were the interoceptive behavioral models. *In vitro* acetylcholinesterase (AChE) and cycloxygenase-1 (COX-1) enzymes activity was also determined. Anti-oxidant activity using DPPH was assessed.

R : MYSGAN-2 signi cantly improved the transfer latency, step down latencies and TSTQ when tested on exteroceptive and interoceptive behavioral models. It profoundly improved learning and memory in amnesic mice when tested on interoceptive behavioral models. e cerebroprotective e ect of MYSGAN-2was well supported by photomicrographs of Hippocampus of brain, where as severity of cell damage, number of pyknotic black neurons, formation of karyorrhexis, karyolysis and number of neuronal cell death were less comparative to scopolamine, ibotenic acid and β-amyloid treated groups.

C : MYSGAN-2 can be useful in restoring memory in the treatment of various types of dementia.

amanjoshi17@yahoo.com

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