

World Conference on ADDICTION PSYCHIATRY

November 29, 2021 | Webinar

Pharmacological potential of NK1 receptor antagonism in bilateral common carotid artery occlusion induced experimental vascular dementia

Saurabh Sharma
CT University, India

Objectives: Substance P has been documented to attenuate the activity of PPAR- γ and is involved in neurogenic inflammation. Thus, the present study has been designed to investigate: effect of aprepitant, NK1 receptor antagonist, in vascular dementia (VaD) and downstream possible involvement of PPAR- γ shall also be investigated in bilateral carotid artery occlusion (BCCAO) induced vascular dementia.

Methods: BCCAO was done in male wistar rats to induce VaD. VaD was assessed in terms of impairment of learning and memory (Morris water maze (MWM) & Object recognition test (ORT)), increased acetylcholinesterase (AChE) activity, oxidative stress (TBARS, Nitrite level), tumor necrosis factor- α (TNF- α) level and decreased reduced glutathione (GSH) level.

Key findings: Administration of aprepitant for 2 weeks significantly improved learning and memory in terms of mean escape latency time & time spent in target quadrant in MWM and time spent to explore objects in ORT in demented rats. Aprepitant also reduced AChE activity, TBARS, TNF- α , nitrite and increased GSH level. Administration of BADGE (PPAR- γ antagonist) (30mg/kg/day, i.p.) with aprepitant (40mg/kg/day, i.p.) significantly reduced the protective effect of aprepitant that shows protective effect of aprepitant is PPAR- γ dependent.

Conclusion: Thus, it can be concluded that aprepitant attenuates vascular dementia in PPAR- γ dependent manner.

Biography

Saurabh Sharma is working as Head of School at Pharmaceutical Sciences, CT University, and Ludhiana (Punjab) India. He has to his credit teaching and research experience in Basic and Clinical Pharmacology. He has 3 Patents, authored 55 International research papers and 2 books with particular emphasis on investigation of molecular interventions on vascular dysfunction in Pathobiology of Cardiac, Brain and Pulmonary circulations. He has previously served in ISF College of Pharmacy (2006-2017) as Head of Department (Pharm D and Pharmacology). He has guided more than 60 PG students and 8 PhD Students in various research projects. He is the recipient of OD Gulati award in the area of cardiovascular research in 2009 and 2010. He has received major grants from PSCST, AICTE (Research promotion scheme) and Indian Council of medical research (ICMR) for projects on vascular biology.