

P-711**The effect of methanolic extract of fenugreek on learning and memory in an experimental model of Alzheimer's disease in the rat****Leila Nasiri¹, Hooria Zardooz², Zahra Kiasalari³, Mehrdad Roghani³**

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Background and Objective: Alzheimer's disease (AD) is regarded as the most prevalent phenotype of dementia with debilitating disability in learning and memory. With respect to anti-oxidative and neuroprotective potential of Trigonellafoenum-graecum (TFG; fenugreek), this study was conducted to evaluate the effect of its alcoholic seed extract on learning and spatial memory in an experimental model of AD induced by amyloid beta 25-35 in rats.

Materials and Methods: In this experimental study, 32 male Wistar rats were divided into 4 groups, i.e. sham, extract-treated sham, AD, and AD group treated with TFGextract. For induction of AD, β -amyloid 25-35 (at a dose of 10 $\mu\text{g}/2 \mu\text{l}$) was bilaterally microinjected into CA1 area of the hippocampus. The treatment groups received alcoholic extract of TFG (i.p.) at a dose of 200 mg/kg for 1 week till 1 h before the surgery. At 4th week post-surgery, learning and memory was assessed using passive avoidance test and spatial memory was evaluated in Y maze.

Results: Treatment of AD group with the extract significantly prevented the reduction of step-through latency and extract treatment had no significant effect on spatial memory. In addition, extract treatment did not have a significant effect in the sham group.

Conclusion: TFG extract pretreatment of Alzheimeric rats could improve the ability of information consolidation and retrieval in passive avoidance test, however it could not affect recognitive spatial memory.

Key words: Alzheimer's disease, Trigonellafoenum-graecum, Amyloid beta, Learning and memory

P-712**The Therapeutic Potential of Losartan in Colorectal Cancer****Nazari, E.¹, Hashemzahi, M.², Asghrzadeh, F.³, Khazaei, M.⁴**

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Background: Colorectal Cancer (CRC) is a disease with high incidence rates and mortality. The Renin-angiotensin system (RAS) is a hormone system that is upregulated in CRC. In current study, we evaluated the therapeutic potential of Losartan as a known angiotensin receptor antagonist in CRC model.

Methods: We used animal model of CRC by injection of 2×10^6 CT-26 cells in the left flank to investigate anti-tumor effects of Losartan, 5-Fluorouracil (5-FU) and losartan+5-FU (combination). After 14 days, tumor samples were used for the evaluation of oxidative stress-balance and angiogenesis using immunohistochemistry.

Results: Combination of Losartan and 5-FU significantly inhibited tumor growth and histological staining of tumor tissues showed more necrosis and reduction of fibrosis compare to control. Our results also indicated a significantly reduction of tumor vasculature and capillary density following treatment with Losartan and combination of losartan and 5-FU. In tumor tissue, Malondialdehyde (MDA) level was increased and total thiol and catalase activity were decreased in treated group which were more significant in combination group.

Conclusion: These data showed anti-cancer potential of Losartan in combination with a standard chemotherapy agent can be mediated by reduction of fibrosis and tumor angiogenesis, modulating of oxidant/anti-oxidant status, supporting further studies on this therapeutic approach for colon cancer.

Keywords: Losartan, Renin-angiotensin system, Colorectal Cancer