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## Comparing the impact of SGLT2 inhibitors and GLP-1 agonists on lipid profile among the patients with type 2 diabetes

**Yun Liu<sup>1</sup>***Southeast University, China***Headings Ethnopharmacological Relevance:**

Pushen Capsule is a traditional Chinese medicines compound functioning as 'stimulating blood circulation to remove blood stasis', which widely used to treat hyperlipidemia. Recent clinical research showed that Pushen Capsule ameliorated cognitive function in patients with vascular mild cognitive impairment.

**Aim of the Study:**

Explore the potential mechanism of Pushen Capsule in Vascular dementia (VaD) using network pharmacology analysis and experimental verification.

**Materials and Methods:**

Active ingredients and its related targets of Pushen Capsule, and VaD-related targets were searched from the public databases. Core targets, potential functions and mechanisms of Pushen Capsule on VaD were predicted by protein-protein interaction (PPI), Gene Ontology (GO) and Kyoto Encyclopedia of Genes and Genomes (KEGG) analysis. In vivo experiments were conducted to demonstrate the potential mechanisms of Pushen Capsule in treatment of VaD.

**Results:**

155 active ingredients and its 273 related targets of Pushen Capsule, 1035 VaD-related targets were selected from the public databases. 147 common targets of Pushen Capsule against VaD were obtained. The PPI network, GO and KEGG enrichment analysis revealed some of core targets and signaling pathways are related to inflammation. Experiments results showed that Pushen

Capsule treatment largely alleviated hippocampal glial activation, accelerated the polarization of activated microglia from M1 to M2 phenotype and reduced associated inflammatory factors expression to protect against VaD-induced neuronal loss, synaptic protein reduction and cognition defects in a dose-dependent manner. Moreover, Pushen Capsule reduced mRNA expression of NF- $\kappa$ B p65, and STAT1.

**Conclusion:**

Our study demonstrates that Pushen Capsule alleviates hippocampal neuroinflammation to protecting against VaD-induced cognitive impairment in a dosedependent manner. The neuroprotective effect of Pushen capsule on VaD might be regulated by NF- $\kappa$ B, and JAK-STAT pathway.

**Keywords:**

Pushen Capsule, Vascular dementia, network pharmacology, experimental verification, neuroinflammation

**Biography**

Yun Liu is in Department of Neurology, Affiliated ZhongDa Hospital, School of Medicine, Southeast University, China. He has published more than 25 papers in reputed journals and has been serving as an editorial board member of reputed. His research interest are [elderly epilepsy](#), [glycolipid metabolic](#), logistic regression, AED, Chronic sleep deprivation; Cognitive impairment; Intestinal dysbiosis; Intestinal/blood-brain barrier; [Microbiota-gut-brain axis](#).

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