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## Clearance of Amyloid Beta Plaques from Brain of Alzheimeric Rats by *Lavandula angustifolia*

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### ABSTRACT

An important marker in neurodegenerative Alzheimer's disease (AD) is abnormal production of amyloid beta ( $A\beta$ ) peptide leading to formation of plaques in the brain. Through decreasing  $A\beta$  aggregates, anti-inflammatory agents, phagocytosis, and proteolytic enzymes are known to decline risk of  $A\beta$  plaque formation. In the previous study we showed that aqueous extract of *Lavandula angustifolia* (lavender), with known anti-inflammatory effects, improves memory deficits in animal model of Alzheimer. Here, we assess if lavender play a role in clearance of  $A\beta$  plaques in the hippocampus. The Alzheimeric animals were created with intracerebroventricular injection of  $A\beta$  1-42. To confirm formation of  $A\beta$  plaques, brain sections were stained by Congo red method. Twenty days post-injection they were administered with different doses (50, 100 and 200 mg/kg) of the aqueous extract of lavender for duration of 20 days. Our results demonstrated that 50 mg/kg of lavender not effectively influenced the  $A\beta$  plaques. On the other hand, the herbal medicine at the doses of 100 and 200 mg/kg markedly decreased the extent of  $A\beta$  aggregates. We concluded that the lavender extract dose dependently underlies elimination of  $A\beta$  plaques. The exact mechanism by which the herbal medicine removes the  $A\beta$  aggregates needs to be elucidated.

### KEYWORDS

Alzheimer; Amyloid Beta; *Lavandula angustifolia*

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