The Evaluation of Eggplant Leaves as a Potential Anti-Alzheimer Activity

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Alzheimer’s disease (AD) is a progressive neurodegenerative disorder.The main strategy for treatment of AD is based on the cholinergic hypothesis which relies on the repair of cognitive and memory deteriorations by elevating the reduced acetylcholine. For this purpose, AChE inhibitors have been used to treat the symptoms of AD butonly four drugs as aceylcholinesterase (AChE) inhibitors are currently marketed for the treatment of AD. On the other hand, decreasing the oxidative stress and improving the antioxidant defense is reported to haveneuroprotective effects.While there are more than one molecular mechanism in AD, it is a rational approach to find molecules that would target a multiple molecular mechanism. Eggplant is a plant that could be cultivated with low cost. Due to the high levels of phenolic and flavonoid structures, the eggplant has stronger antioxidant activity compared to other plants.The compounds such as flavonoids bearing chromenering and many alkaloids exhibit inhibitory activity against AChE. We have expected that the leaves could show AChE inhibitory and antioxidant activity so that it would have a potential to treat the disease with two mechanisms. With this respect, we evaluatedin vitro AChE inhibitoryand antioxidant activityof the leaves.We collected the leaves and preparedextracts.AChEinhibitory and antioxidant activity of the extracts were evaluated by Ellman’s method andDPPH method, respectively. Extracts displayed79-82%AChE inhibitory activity in 30 ?g/ml and antioxidant activity with IC50 value of 63.19-119.3 ?g/ml.Their cyctotoxicity was tested and no cyctotoxicity was determined.

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