

Aucklandia lappa reduces A β , hyperphosphorylated tau and memory deficits in 3xTg Alzheimer mice

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Background

Alzheimer's disease (AD), the most common cause of dementia, is an age-dependent neurodegenerative disease. Previous ethnobiological approaches on traditional medical literature showed that *Aucklandia lappa* (Mu Xiang) has been used for treating dementia in traditional Chinese medicine for decades

Aims & Objectives

In this study we examined the effects of *A. lappa* on cognitive deficits, anxiety behavior, A β and tau accumulation in young and elderly triple transgenic (3xTg-AD) mice.

Methods

3xTg-AD mice were fed with *A. lappa* powder-supplemented chow between 4 and 8 months, or between 14 and 18 months at late AD stage.

Results

Compared to untreated 3xTg-AD mice, the performance of Morris water maze task in both young and old 3xTg-AD mice was significantly improved with *A. lappa* treatment. At late AD stage, *A. lappa* -treated transgenic mice showed a significant decrease in A β and hyperphosphorylated tau (PHF-tau) immunoreactivity at cortex and hippocampus. Behavioral tests showed that *A. lappa* did not improve depression- and anxiety-related behaviors evaluated by forced swimming test and elevated arm maze.

Discussion & Conclusion

Our findings suggested that treatment of young and elderly 3xTg-AD mice with *A. lappa* can reduce cognitive deficits, lower A β plaques, and prevent hyperphosphorylated tau immunoreactivity. Based on these results, *A. lappa* could be a potential remedial agent against AD.