

The Role of Aspirin in Alzheimer's Disease

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Short Communication

Dementia is a common disease in the elderly characterized by memory loss, cognitive dysfunction, disturbance of consciousness, self-care ability and social activities decline or even loss. According to its cause is divided into the following three class: Alzheimer's disease dementia, vascular dementia, mixed dementia [1]. The incidence of dementia increases with age. International estimated that there will be 11500000 people suffering from Alzheimer's disease/dementia in 2050 and a large part from developing regions or countries, such as Africa, India, Latin America, China, south Asia and the western Pacific region, Ferri et al. [2,3]. Dementia, a devastating as well costly disorder, is the leading causes of disability and mortality in old people. Dementia has a serious threat to the health of the elderly, which makes a serious burden on the state, society and family. Thus, it is an urgent need for effective interventions of treating dementia. Aspirin is a commonly drug which is used to treat headache and fever in daily life. In current, there is a few trials about the role of aspirin in Alzheimer's disease. The role of aspirin in Alzheimer's disease is still unclear. Therefore, I had searched some evidence about the role of aspirin in Alzheimer's disease in order to provide doctors or patients with some useful information.

I searched the Cochrane Library, Web of Science, PubMed, EMBASE, Chinese National Knowledge Infrastructure (CNKI) and Chinese Biology Medicine (CBM) using the following keywords: "Disease, Alzheimer", "Alzheimer Sclerosis", "Sclerosis, Alzheimer", "Alzheimer Syndrome", "Syndrome, Alzheimer", "Alzheimer Dementia (AD)", "Dementia, Alzheimer (AD)", "Alzheimer-Type Dementia (ATD)", "Alzheimer Type Dementia (ATD)", "Dementia, Alzheimer-Type (ATD)", "Primary Senile Degenerative Dementia", "Dementia, Senile", "Senile Dementia", "Dementia, Alzheimer Type", "Alzheimer Type Dementia", "Senile Dementia, Alzheimer Type", "Alzheimer Type Senile Dementia", "Dementia, Primary Senile Degenerative", "Alzheimer's Disease", "Disease, Alzheimer's", "Acute Confusional Senile Dementia", "Senile Dementia, Acute Confusional", "Dementia, Presenile", "Presenile Dementia", "Alzheimer Disease, Late Onset", "Late Onset Alzheimer Disease", "Alzheimer's Disease, Focal Onset", "Focal Onset Alzheimer's Disease", "Familial Alzheimer Disease (FAD)", "Alzheimer Disease, Early Onset", "Early Onset Alzheimer Disease", "Presenile Alzheimer Dementia", "Aspirin", "Acetylsalicylic Acid", "Acid, Acetylsalicylic", "systematic review" and "meta-analysis". The result is as follows:

A systematic review suggests that the use of aspirin can significantly reduce the risk of Alzheimer's disease (RR, 0.77; 95% CI, 0.63-0.95) [4]. Another systematic review shows aspirin with a protective effect in patients with Alzheimer's disease but the result is not significant [5]. However, aspirin in the treatment of Alzheimer's disease may increase the risk of intracerebral hemorrhage, with no effect on cognition [6]. All these systematic reviews only include a small number of trials, without sufficient credibility. Thus, large sample and multicenter randomized controlled trials are required to determine the effects of aspirin in Alzheimer's disease.

In my opinion, the mechanism of aspirin for Alzheimer's disease is possibly the increase of urinary excretion of 11-dehydrothromboxane B₂. Cardiovascular events may be associated with the increase of urinary excretion of 11-dehydrothromboxane B₂. Moderate amount of aspirin can prevent the occurrence of Alzheimer's disease. If cardiovascular indication occurs, patients should immediately stop the use of aspirin. Adverse reactions are closely related to the dose of aspirin, so further studies should explore the optimal and safe therapeutic of the dose of aspirin in the treatment of Alzheimer's disease. In addition, the race, sex, age and environment may also affect the efficacy of aspirin in the treatment of Alzheimer's disease. Thus, further study should explore the impact of these factors on aspirin in the treatment and the prevention of dementia.

References

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