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Investigation of Relationship Between Industrial Pollutants and Alzheimer's: Evaluation of Ginkgo Plants Extract in Reducing of Disease Rate

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Abstract

In this study, the extent of noise pollution in Alzheimer's was investigated. As the results show, noise pollution in the environment causes the brain cells to degenerate and eventually the brain volume to shrink. In this study, the effect of nitrogen, oxygen and carbon compounds on the progression of Alzheimer's has been discussed separately. The results presented in this study indicate that if a person is in a healthy environment and away from pollution, it will delay Alzheimer's and thus increase the quality of life. In this study, the relationship between the progression of this brain disease and the concentration of each of the pollutants in the environment has been shown. Clinical results show that when between 10 and 22 grams of ginkgo biloba extract was used during the month, the rate of Alzheimer's disease ranged from about 13.8% to 34.1%. This means that the use of ginkgo biloba extract will first delay Alzheimer's disease due to carbon compounds and then reduce Alzheimer's disease due to sulphur compounds, and finally the effectiveness of this plant extract on Alzheimer's disease caused by nitrogen compounds to some extent. It will be less. The results show the effect of the concentration of carbon compounds on Alzheimer's disease. In addition the obtained results show that increasing the concentration of sulphur compounds from 50 to 300 mg / l, the percentage of Alzheimer's disease progression as an important brain disease will increase from about 7.4% to 57.6%, respectively.

Keywords

Alzheimer, Ginkgo, Industrial Pollutants, Sulphur, Nitrogen, Carbon

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1. Introduction

In general, all kinds of pollutants in the environment not only endanger the environment but also cause various physical and mental illnesses [1]. Studies show that industrial pollution has a significant effect on Alzheimer's disease [2-4]. In principle, if humans are exposed to sulfur, nitrogen, and carbon pollutants, they are more likely to develop Alzheimer's disease and shrink their brain volume. In previous studies, Dr. Alzheimer's found spots and complications in his brain, symptoms that are now known as signs of Alzheimer's disease [5]. Although there is no cure for Alzheimer's disease, there are several treatments that can prevent it [6-8]. There are also ways to help AD victims and their nurse's deal with the effects. Early signs of Alzheimer's disease include difficulty remembering names, places, or faces, and difficulty remembering things that have just happened. Personality changes and confusion (for example, while driving or counting money) are also early symptoms [9-11]. Eventually, mild forgetfulness results in difficulty understanding concepts, speaking, reading, and writing, and physical breakdown occurs, in part because tasks such as eating and drinking are easily forgotten or become very difficult [12]. Although we do not yet

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know the cause of AD, we do know that there are diet-related factors and environmental factors [13-15]. A latent virus that has been dormant for years, like hereditary factors, has been investigated as a possible cause [16]. Aluminum has been suggested as an influential cause, but there is still no consensus on it. However, most researchers believe that if aluminum plays an important role in the development of AD, this effect is very small. Although there is still no cure for AD, it is not far-fetched to imagine a cure for the disease as it was ten years ago [17]. Research has found ways that can reduce symptoms and slow the progression of the disease, and also help people with AD, especially in the area of health, which can be a serious problem for a person with AD as they progress. Become and even make personal care difficult [18-21]. And the good news is that many of these treatments and aids can be found in your kitchen. In October 1997, JAMA published the results of a multidisciplinary study showing that ginkgo biloba extract may have "significant benefits" in treating Alzheimer's-related dementia. A double-blind study (meaning that neither the researchers nor the participants knew who was taking the active ingredient and who was just taking the sugar pill) looked at the effects of ginkgo biloba extract on 309 patients with mild dementia [22-25]. Severely associated with Alzheimer's disease, or a condition known as multiple stroke dementias (in which areas of poor circulation lead to tissue death in the brain) [26-29]. For 52 weeks, one group took placebo three times a day and another group took 40 mg of ginkgo biloba extract three times a day [30-33]. At the end of the experiment, a standardized test was performed on patients to measure cognitive impairment, social behavior, and general pathology [34-37]. The researchers reported that 27 percent of patients who received ginkgo biloba for 26 weeks or more scored four points higher on the ADAS-Cog scale, compared with 14 percent in the placebo group. In assessing daily life skills and social behavior, 37% of patients who took ginkgo biloba improved, compared with 23% of those who received placebo [38-41]. The overall condition of 40% of placebo users worsened during the study, compared with only 19% of those who used ginkgo biloba extract [42-44]. The ginkgo plant used in this study was a standard concentrated extract of the tree leaves that contained 24% of the flavonoid glycosides and 6% of terpene lactone, the same extract widely used in Europe to treat cognitive disorders [45-48]. This extract is available in the United States under various trade names. Similarly, another study on the ginkgo plant published in the phytomedicine journal found promising results. This double-blind, placebo-controlled, randomized study examined the effects of ginkgo biloba extract in 156 patients with Alzheimer's or multiple stroke [49-51]. After 24 weeks, 28% of patients who received Ginkgo Gora extract consistently scored higher on tests, compared with only 10% in the placebo group who scored high on tests [52-55]. In another study, 31 patients with low to moderate memory impairment started taking the standard extract of Ginkgo Gora and were monitored for six months [56-59]. This extract, as in previous experiments, contained 24% of flavonoid glycosides and 6% of terpene [60]. At the end of the experiment, the researchers reported that the ginkgo biloba plant clearly had “positive effect on mental performance” in elderly Alzheimer’s patients [61]. A 2005 study found that beta-amyloid levels decreased in people who used ginkgo biloba for more than two years [62]. This is important because beta amyloid, a protein, is associated with the progression of Alzheimer's disease [63]. One of the most well-known studies of ginkgo biloba for aging brain disorders was reported in 1986 by the French medical journal La Presse Medical [64]. The researchers developed a 17-item scale to assess 166 elderly patients at several centres [65]. Indicators include vitality, short-term memory, orientation disorder, anxiety, depression, emotional stability, initiative, cooperation, social status, personal care, ability to walk, appetite, confusion, fatigue, headache, sleep and Tinnitus. Subjects tested improved on each of these markers after receiving ginkgo biloba extract for three months and continued to improve over time [66]. A 1996 study in Germany focused on 216 patients with mild to moderate Alzheimer's symptoms [67]. Patients were divided into two groups [68]. The patients of the first group received the standard extract of Ginkgo Gora every day for one month. Patients in the second group received a placebo [69]. At the end of the experiment, the subjects were tested for mental, behavioral and motor skills. Those who received the extract of Ginkgo Gora experienced a significant increase in mental health and improved mood [70]. However, little improvement was observed among placebo patients. And in a study of eight women, short-term memory and reaction time improved dramatically after receiving ginkgo biloba [71]. How effective is Ginkgo biloba compared to medicines? A 24-week study published in the European Journal of Neurosurgery in 2006 found that ginkgo biloba extract was as effective as dopezil and both were superior to placebo. 76 patients with Alzheimer's in this study had fewer side effects than dopezil. These promising results still need to be confirmed by other studies, but at present it seems that Ginkgo biloba is a cheap, safe and effective alternative.

In this study, we try to investigate the relationship between carbon, nitrogen and sulfur pollutants on the rate of Alzheimer's disease.

2. Materials and Methods

In this study, different age groups, including 50 to 90 years old, have been studied. Also, in order to make the results of this study more practical, both men and women have been used as a statistical population. In addition, to make the results of this study more comprehensive, the effect of using ginkgo biloba extract on preventing the

progression of this disease has been shown.

3. Results and Discussion

Figures 1, 2, and 3 show the effects of each of the carbon, nitrogen, and sulfur contaminants on Alzheimer's disease progression and brain cell degradation. In these diagrams, the horizontal axis shows the concentration of each toxic compound in milligrams per liter and the vertical axis shows the percentage of Alzheimer's disease progression. As Figure 1 shows, the rate of Alzheimer's progression will increase from 11.8% to 75.9% by increasing the concentration of sulfur compounds from 50 mg / L to 300 mg/L.

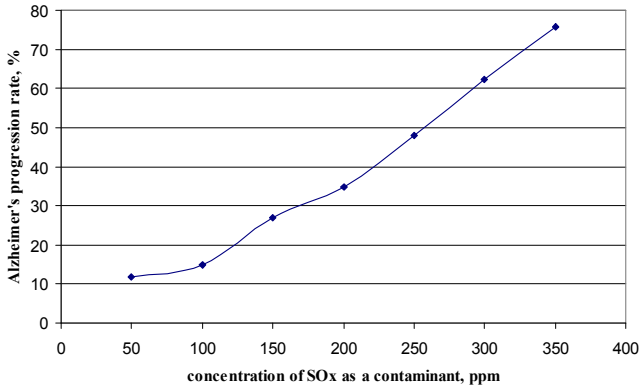

Figure 1. Effect of sulfur compounds on the progression of Alzheimer's disease.

However, the rate of Alzheimer's progression will be from about 8.4% to 63.9% when the concentration of nitrogen compounds increases from 50 to 300 mg / L. This means that sulfur compounds will have far more destructive effects on the human brain system.

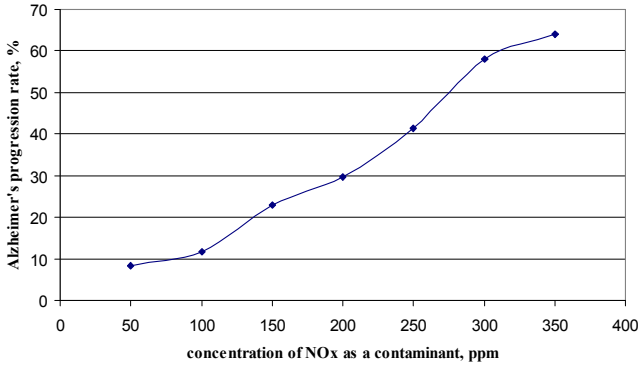

Figure 2. The effect of nitrogen compounds on the progression of Alzheimer's disease.

The results presented in the Figure 3 show the effect of the concentration of carbon compounds on Alzheimer's disease. As shown in Figure 3, by increasing the concentration of sulfur compounds from 50 to 300 mg/l, the percentage of Alzheimer's disease progression as an important brain disease will increase from about 7.4% to 57.6%.

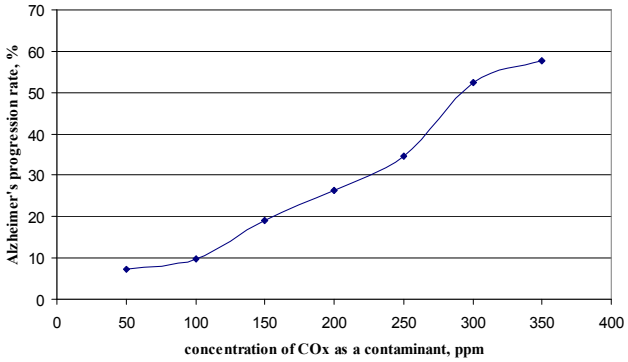

Figure 3. Effect of carbon compounds on the progression of Alzheimer's disease.

The results of further studies show that if you use ginkgo biloba extract, you can significantly prevent Alzheimer's disease. As shown in the Figures 4, 5 and 6. By increasing the consumption of this substance during the month, a significant effect can be observed in delaying the onset of Alzheimer's. The results presented in Figures 4, 5 and 6 are shown for pollutants of sulfur compounds, nitrogen compounds and carbon compounds, respectively.

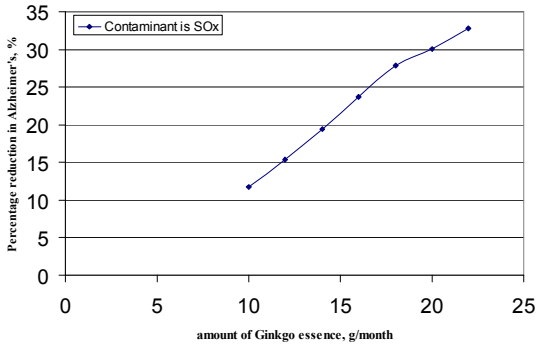

Figure 4. The effect of ginkgo biloba extract on the reduction of Alzheimer's disease caused by sulfur compounds.

The results presented in Figures 4, 5 and 6 show that when ginkgo biloba extract is used, the rate of Alzheimer's delay due to sulfur compounds will be from about 11.7 to 32.8%.

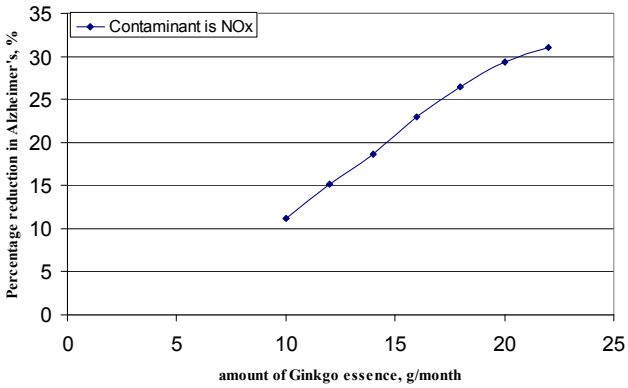

Figure 5. Effect of Ginkgo biloba extract on the reduction of Alzheimer's disease caused by nitrogenous compounds.

However, if you use 10 to 22 grams per month of ginkgo

biloba extract, you can delay the progression of Alzheimer's from about 11.2 percent to 31 percent.

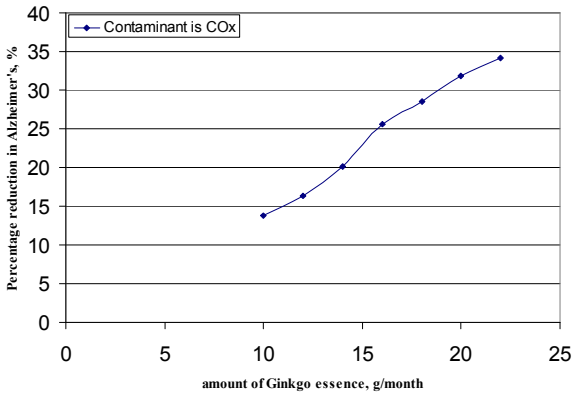

Figure 6. The effect of ginkgo biloba extract on the reduction of Alzheimer's disease caused by carbon compounds.

Also, when between 10 and 22 grams of ginkgo biloba extract was used during the month, the rate of Alzheimer's disease ranged from about 13.8% to 34.1%. This means that the use of ginkgo biloba extract will first delay Alzheimer's disease due to carbon compounds and then reduce Alzheimer's disease due to sulfur compounds, and finally the effectiveness of this plant extract on Alzheimer's disease caused by nitrogen compounds to some extent. It will be less.

4. Conclusion

The clinical results presented in this study show that the rate of Alzheimer's progression with increasing concentration of sulfur compounds from 50 mg/l to 300 mg/l will be from 11.8% to 75.9%. However, the rate of Alzheimer's progression will be from about 8.4% to 63.9% when the concentration of nitrogen compounds increases from 50 to 300 mg/l. This means that sulfur compounds will have far more destructive effects on the human brain system. Clinical results show that when between 10 and 22 grams of ginkgo biloba extract was used during the month, the rate of Alzheimer's disease ranged from about 13.8% to 34.1%. This means that the use of ginkgo biloba extract will first delay Alzheimer's disease due to carbon compounds and then reduce Alzheimer's disease due to sulfur compounds, and finally the effectiveness of this plant extract on Alzheimer's disease caused by nitrogen compounds to some extent. It will be less.

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