

search has indicated that one of the components of cotoneaster is glucose, which can increase bilirubin excretion [5].

## 5. Conclusion

At present, pharmacotherapy should choose high safety and less adverse reactions drug because of the complexity of the pathogenesis of neonatal jaundice. Although some of the above studies have not been applied to clinical, they will provide a theoretical and experimental basis for the future treatment of neonatal jaundice.

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## HERBAL MEDICINE LINGONBERRY FOR ALZHEIMER'S DISEASE

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**Abstract :** Alzheimer's disease (AD) is a neurodegenerative disease, which is common in the elder people with gradually seriously cognitive impairment and memory loss. Because of the complicated pathogenesis, the mechanism of AD is not explained clearly. Rely on the current level of medical care, AD cannot be cured. It is necessary to develop a new drug to intervene AD in the early phase. Recently, it was reported that some components from lingonberry have effect to retard the aging process in the brain and inhibit the development of neurodegenerative diseases. In this paper, we introduce the intervention effect of lingonberry on AD and the mechanism.

**Key words:** lingonberry, Alzheimer's disease, phenolic compounds, oxidative stress

**Introduction** Alzheimer's disease (AD) is a neurodegenerative disease which makes people gradually lose memory and become dementia. The effective drug treatment of AD was anticholinesterase, but only 12% patients accept treatment because of the high cost. Lingonberry (*Vaccinium vitis-idaea* L.) widely distributes in north-east China with abundant resources. Clinical practice has proved that the berries and leaf of lingonberry are beneficial for health. It has many pharmacological actions, including anti-inflammatory, antioxidant and preventing cardiovascular disease.[1] In this article, we introduce the intervention effect of lingonberry on AD.

**Active components of lingonberry** In fruit of lingonberry, phenolic components are the major components. There are 28 kinds of phenolic components, and most of them have an excellent antioxidant effects. Proanthocyanidins (PC) is the most significant active compounds of lingonberry. Some bioactive flavonoids, arbutin, hyperoside and quercetin, also existed in the stem and leaf. Besides, there are 10 kinds of organic acids, 19 kinds of free amino acids and many triterpenoids.[3]

**The effects of active compounds from lingonberry on AD** There are several hypothesis of AD including oxidative stress and the loss of the cholinergic neuron. Researchers found that the extract of lingonberry has effects on the cognitive disorder, and they want to know whether lingonberry can intervene AD in the early phase. Via comparing some biochemical indexes associated with the oxidative stress injury such as SOD and acetylcholinesterase (AChE), they found that the extract can improve the learning ability and the cognitive disorder induced by chronic stress.[4] PC, the main component from lingonberry, can prevent the cells from apoptosis induced by HNE that can induce the nerve cell apoptosis under the presence of oxidative stress by reducing the accumulation of ROS. Besides, PC also can control the neurovirulence of A $\beta$ , and the suitable concentration of PC can dissolve aggregation of A $\beta$ . It proves that PC can control the development of AD in a certain extent.[5] Except PC, other components also have effects on AD. It was reported that quercetin have beneficial effects on nervous system. According to the quercetin administration on a triple-transgenic AD model mice, the intervention effects on AD was obtained by observing the neuropathological manifestation of AD.[6] A research about hyperoside on AD showed that hyperoside can prevent neurite injury and control the mitochondrial dysfunction induced by A $\beta$ 25-35.[7]

**Results and discussion** In this paper, we introduce the effects of different components from lingonberry on it. Based on related literature review, we found that the components of lingonberry, PC, quercetin and hyperoside, have effects on AD. These components may product mechanism by enhancing the activity of mice brain cells antioxidant stress, reducing oxidative stress injury and inhibiting the AChE activities. Comparing with the drugs approved by FDA, lingonberry has a cheaper cost and more abundant source. Lingonberry may become a new drug to intervene AD in the early phase.

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## REVIEW: RESEARCH OF MORNING GLORY SEED

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**Abstract** Morning glory seed also known as Caojinling(Master Lei's Discourse on Drug Processing), HeiChou or BaiChou(Compendium of Materia Medica). It belongs to convolvulaceae. It can diuresis, insecticidal and treat constipation ect. This article studies on chemical constituents, pharmacological action and clinical effect of morning glory seed through the literature search. And puts forward the theory of property and flavor of traditional Chinese medicine, start to explore cold-heat nature of the Morning glory seed and its main ingredient.

**Key word** : morning glory seed, TMC

Morning glory seed is the dry and mature seed of *Pharbitis nil* (L.) Choisy or *Pharbitis purpurea* (L.) Voigt of the convolvulaceae family. It has the discharge water aperient, sputum polyester away to drink, and insecticidal attack product function. Clinically, it is used for the treatment of edema puffiness, fecal and urinary stoppage, retention of phlegm and fluid, inverse gas and cough, abdominal pain due to parasitic infestation, etc. In recent years, a lot of chemical composition and clinical application research about morning glory seed have been studied. This paper will explore morning glory seed and the main effective components from the aspects of cold-heat nature of traditional Chinese medicine(TCM) , so as to lay the foundation for further clinical research.

**1 Chemical constituents of morning glory seed** Morning glory seed contains pharbitic glycoside about 3%. Pharbitic glycosides is a kind of resin glycosides, which is glycosides of various organic acid esters of hydroxy fatty acids [1]. Morning glory contains other ingredients, ChuanQiMinNan extracted rhamnose, glucose, fructose, sucrose and so on from White Morning glory seed [2]. GangBuChangZi have further studied that morning glory seed contain plant sugar [3]. Lina Chen [4] obtained effective components of phenolic acids(phycion, emodin, chrysophanol, ethyl caffeate, ect.) from morning glory seed for the first time. The content of fatty oil in morning glory seed was about 11%. Lina Chen [5] got 39 kinds fatty oil by GC-MS for the first time, and identified 36 kinds component. PengHao Li [6] determined that morning glory seed contains large amounts of fatty acids by supercritical fluid extraction and GC-MS. It is said that morning glory seed contain a variety of alkaloids, such as Lysergol, Ergosine, Ergosline, Penniclavine, Ergonovine. etc [7].Morning glory seed are rich in mineral elements and essential trace elements, such as Fe, Mn, Cu, Zn, Mo. Morning glory seed contains 8 kinds of essential amino acids, which accounts for about 34.98% of the total amino acids, while the content of glutamic acid was the highest in the non-essential amino acid [8]. In addition, immature seeds of morning glory seed also contain gibberellin A20, gibberellin A3 (GA3), gibberellin A5 (GA5), protein, cholesterol and pigment. ect [7].

**2 Pharmacological effects of Morning glory seed** It is reported that chemical properties of pharbitic glycoside is similar to Jalapin, having a strong purgative effect [8]. Pharbitic glycoside not only have direct stimulation of the stomach and intestines with vomiting, abdominal pain, diarrhea and bloody mucus, but also may stimulate the kidneys, causing hematuria. Seriously, it can also damage nervous system and induce language barriers and coma [9]. Morning glory seed can accelerate the inulin excretion in the kidney, suggesting that may have diuretic effect. Meanwhile, it proves that pharbitic glycoside have excitatory effect on rabbit intestine and rat uterus in vitro [10].

**3 Clinical effects of Morning glory seed** Mr. Qi [11] treat intractable constipation with morning glory seed powder, the total effective rate was 96%. Mr. Yan [12] used fried morning glory seed powder for treating intractable constipation in 25 cases, and the total efficiency was 96%. Mr. Hu [13] treated liver ascites by morning glory seed, together with zingiber officinale, welsh-onion stalk and brown sugar, and had a good effect. Morning glory seed is often used