Key words: Schisandra chinensis; Extraction component; Antioxidant activity

Alzheimer's disease (AD) is a neurodegenerative disorder characterized by loss of memory and cognition. In addition to cancer and cardiovascular disease, AD is difficult to cure, too. There are more and more elderly people in the world at present; Alzheimer's disease is a serious social problem which affects the health of old people[1]. The cause of AD is not clear at present, and thus the effective therapeutic options for AD are limited. In the wake of the development of modern science and technology and the theory of traditional Chinese medicine, the disease of traditional Chinese medicine treatment has concerned by many scholars, this therapic method has gradually become a new direction for the research of many scholars[2].

Schisamdra chinensis is a kind of traditional Chinese medicines, it has a long history. This medicine has been the focus of attention and research in China and foreign countries. In the wake of developments in modern pharmacology, the scope of pharmacological study of Schisandra chinensis is constantly expanding[3-4]. According to the cholinergic theory, oxidative stress theory, free radical theory in Alzheimer's disease, we have done a experiment about different extract parts of Schisandra chinensis antioxidant activity, the antioxidant activity of Schisandra chinensis extracts were studied in order to further reveal the potential of Schisandra chinensis in the treatment of Alzheimer's disease.

Objective To investigate the antioxidant activity of extracts from Schisandra chinensis.

Materials and methods Schisandra chinensis was extracted by ethanol heating reflux, respectively with dichloromethane, ethyl acetate, n-butanol and water extracted components, Vitamin C as a positive control. The clear DPPH free radical ability of each component was determined by DPPH method, the clear hydroxyl free radical ability of each component was determined by fenton reagent method, the higher the clearance rate, the stronger the antioxidant capacity of the samples.

Results and discussion The experimental results showed that the ethanol extract of Schisandra chinensis and dichloromethane, ethyl acetate, n-butanol and water extracted components showed different antioxidant activities, with the concentration gradually increased antioxidant activity showed an increasing trend. The scavenging rate of DPPH free radical (IC50=0.62±0.01 mg/ml) and hydroxyl free radical (IC50=0.07±0.01 mg/ml) of ethyl acetate component was the highest in all components. The scavenging effect of the other components on DPPH radicals was from strong to weak: dichloromethane component> ethanol extract> water component> n-butanol component, IC50 values were 0.91±0.01 mg/ml, 1.08±0.02 mg/ml, 1.64±0.02 mg/ml, 1.75±0.06 mg/ml. The scavenging effect of the other components on hydroxyl radicals was from strong to weak: ethanol extract> n-butanol component> water component> dichloromethane component, IC50 values were 0.19±0.01 mg/ml, 0.21±0.02 mg/ml, 0.51±0.01 mg/ml, 0.72±0.01 mg/ml.

Ethyl acetate fraction of Schisandra chinensis can be showed good antioxidant activity, the results for the further study of antioxidant activity of Schisandra chinensis provide a theoretical basis.

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RESEARCH PROGRESS OF FLAVONOID SASAN ACTIVE COMPONENT IN THE TREATMENT OF ACUTELUNG IN JURY

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Abstract Acute lung injury is one of the most common and refractory diseases in clinic.It can develop into acute respiratory distress syndrome.The mortality rate of this disease is high,up to 30%-40%.Traditional Chinese medicine and its active components usually have good biological activity and curative effect.This article will review the Research progress of flavonoids as an active component in the treatment of acute lung injury.

Key words: traditional Chinese medicine,active ingredient,flavonoids,Acute lung injury/acute respiratory distress syndrome.

Objective To summarize the research progress of the effect of flavonoids on acute injury, and to provide reference for the development of effective traditional Chinese medicine for the treatment of acute lung injury.

Materials and methods Taking "traditional Chinese medicine", "effective component", "acute lung injury" and "Protective effect" as the key words.Comprehensive query the relevant literature which in PubMed, CNKI, and WanFang database from January 2000 to April 2017.

Results and discussion Flavonoids is a class of plant secondary metabolites widely found in nature.It has many physiological functions, such as anti inflammation, anti - cancer, anti - oxidation, decreasing blood glucose and so on.According to the current research progress, the effective Flavonoidscomponents of traditional Chinese medicine for the treatment of acute lung injury include: kaempferol, morin,quercetin, breviscapine.

1 Kaempferol Compound effect:Reduced mortality in mice,To improve the pathological changes of lung tissue.Reduce the number of inflammatory cells such as macrophages, lymphocytes and neutrophils.Reduce the content of TNF-, IL-6, IL-1 and MDA,Inhibit the activity of MPO and increase the activity of SOD.

2 Morin Compound effect:Reduce inflammatory cell infiltration in lung tissue, reduce pulmonary edema. Reduce the expression of TNF- and IL-1, inhibit the phosphorylation of NF- κB and IKK, and inhibit the up regulation of TLR4 protein expression.

3 Quercetin Compound effect:Reducing the content of MDA in plasma and BALF.Elevated GSH-Px and SOD activity.It relieves congestion, thickening of the alveolar wall .Decreased the expression of NF- κB p65 and W/D in lung tissue.

4 Breviscapine Compound effect:Significantly reduce the degree of lung injury.To relieve congestion, hemorrhage, edema, neutrophil infiltration in alveolar space and vascular wall.To decrease the levels of W/D, MPO and MDA in acute lung injury of rats, and increase the activity of SOD, which was dose dependent.

APPLICATION OF HYALURONIC ACID IN TARGETING TUMOR

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Abstract Tumors have become important killers of human health, especially malignancies. Currently, chemotherapy is the most important means of treatment of cancer, but chemotherapy drugs can not be targeted enrichment in the tumor area, and its toxicity is often not selective. Hyaluronan(or named Hyaluronic acid, HA) with simple chemical structure and complex physicochemical properties is an acidic mucopolysaccharide and an important member of glycoaminoglycan family. Because the hyaluronic acid receptor CD44 is specifically overexpressed in a variety of tumor cells, the natural ligand of hyaluronic acid has become a hot research topic, and on this basis, many hyaluronic acid-CD44 As the core of the tumor for the active range of nano drug delivery system research. This review focuses on the application of hyaluronic acid in tumor targeting.

Key words: Hyaluronic acid, Tumor targeting

Hyaluronic acid (HA) is composed of N-acetylglucosamine and D-glucaldehyde Acid monosaccharides consist of a repeating linear molecule, which is Meyer and Palmer Isolated from the bovine vitreous body separation in 1934 for the first time. HA surface contains a large number of negatively charged carboxyl, so can reduce the macrophage phagocytic system uptake thus hyaluronic acid drug delivery system can effectively extend the drug blood circulation time. Additionally, HA has attracted great attention as a targeted ligand, since manykinds of cancer cells overexpress HA receptor like CD44 [1]. As reported , HA modified nanocarriers could enter into the cells quickly via CD44-medicated endocytosis pathway to increasethe drug accumulation specifically in cancer cells over-expressing CD44, thus improve the anti-tumor efficacy of chemotherapeu-tic drugs.

The HA-drug conjugate is a prodrug prepared by covalently bonding between the small molecule antineoplastic agents and HA. These covalent bonds are not easily cleaved in the blood, but after reaching the target, they are cleaved by hydrolysis or enzymolysis to release the drug. Xin Wei et al. [2] synthesis of nanogel–drug conjugates based on membranotropic cholesteryl-HA (CHA) for efficient targeting and suppression of drug-resistant tumors. Importantly, CHA–drug nanogels demonstrated 2–7 times higher cytotoxicity in CD44-expressing drug-resistant human breast and pancreatic adenocarcinoma cells compared to that of free drugs and nonmodified HA–drug conjugates. Anchoring by cholesterol moieties in the cellular membrane after nanogel unfolding evidently caused more efficient drug accumulation in cancer cells compared to that in nonmodified HA–drug conjugates. CHA–drug nanogels were able to penetrate multicellular cancer spheroids and displayed a higher cytotoxic effect in the system modeling tumor environment than both free drugs and HA–drug conjugates.

Amphoteric HA derivatives can be self-assembled in aqueous solution core - shell - structured nanoparticles .Self-assembled nanoparticles have been regarded asan advanced system for hydrophobic drugs or nucleic acids delivery [3]. After self-assembly, the hydrophilic segments serve as protective shell to avoid being removed by the reticuloendothelial system (RES). .Linet al[4] were prepared the pH-sensitive and targeted nanoparticles LHRH-HA-cys-ADOX and HA-cys-ADOX by the self-assembly of HA. The uptake of LHRH-HA-cys-ADOX was higher than free drugs and HA- Cys-ADOX. Detection of cytotoxicity using 3T3 cell lines The above two nanoparticles reduced the toxicity of doxorubicin .

HA surface modification nano-drug delivery system, not only can improve the targeting of nano-formulations, but also to extend the body cycle time.Rivkind et al.[5] first PTX paclitaxel and lipid blending to form nanoclusters, and then with EDAC activated hyaluronic acid added to the drug suspension, the preparation of hyaluronic acid-coated nano-drug-containing system. The results of this experiment show that the HA-coated carrier has significant tumor enrichment and antitumor activity compared with the drug carrier without HA.

Discussion HA has the advantages of good biocompatibility, diversity of chemical modification and targeting of tumor cells. It has attracted much attention in the anti-tumor drug delivery system and has a good carrier platform for the delivery of tumor therapeutic drugs. The development potential and unique advantages. HA as anti-tumor drug carrier research has