Modern Research and Application of Raspberry

Hui ZHAO and Ming-san MIAO*

Henan University of Chinese Medicine, Zhengzhou, China

*Corresponding author

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Abstract. Chinese scholars use a variety of spectral data, chromatographic separation techniques and chemical methods to determine the structure of raspberries, separation and identification of raspberry chemical composition and bioactive substances, and to prove its pharmacological function. Experiments show that raspberry contains high activity of chemical substances, with anti-aging, anti-inflammatory and other pharmacological effects. Raspberry mainly contains terpenoids, organic acids, flavonoids, trace elements, alkaloids, amino acids and other chemical composition, in which the terpene composition is the characteristic chemical composition of Rubus plants. Raspberry with anti-aging, Warming kidney yang, anti-inflammatory, anti-thrombosis and other effects. Because of its biological activity is very high, in addition to the effectiveness of nourishing liver and kidney, as a food and medicine homologous herbs, and now also began to lose weight, beauty, food industry processing and other fields, with broad prospects for development and utilization.

Raspberry is the dried fruit of the Rosaceae Rubus chingii Hu in the East China raspberry [1]. Raspberry with Yishen solid fine urine, Liver eyesight effect, mainly for spermatorrhea fine sperm, enuresis urinary frequency, impotence, premature ejaculation, dark eyes dim. In addition, raspberry is also used for diet and health care, mainly for anti-mutagenesis, anti-aging and enhance immunity. In order to further explore the direction and focus of raspberry modern research, it is in-depth analysis of its chemical composition, pharmacological effects, clinical and therapeutic applications.

Chemical Composition

Terpenes

Chinese scholars have studied the chemical constituents of the genus Rubiaceae for a long time, and more than 50 new compounds have been isolated, which are mostly diterpene (glycoside) and triterpene (glycoside) compounds [2]. Diterpenes (glycosides) and triterpenes (glycosides) compounds are the characteristic components of Rubus plants, in which the triterpenes (glycosides) compounds are high. Takashi et al. Were separated from raspberry to obtain 5 diterpene glycosides, and 14 triterpenes (glycosides) were obtained.

Organic Acids

Raspberry contains a variety of phenolic compounds, raspberry heating water extraction, combined extract, concentrated shikimic acid can be obtained, p-hydroxybenzoic acid, ellagic acid, gallic acid, stearic acid, tricosanoic acid Etc. [3]. Wang Bing et al. [4] used potentiometric titration to determine the content of gallic acid in raspberry, while Li Tianao et al. Used high performance liquid chromatography to analyze the content of gallic acid in raspberry. The results showed that gallic acid content in different areas big different.

Flavonoids

The content of flavonoids in the raspberry of the leaves was analyzed. The content of flavonoids in the raspberry was 363.12mg / 100g, and its pharmacological effect was in the antioxidant effect [5]. Researchers through the hydrocortisone induced kidney yang deficiency and testicular pathological lesions in the raspberry extract found in the kidney yang deficiency play a protective effect of the material. The results showed that glucosides, kaempferol and quercetin were found in the extraction.
sites of n-butanol, and these three substances belonged to flavonoids [6]. It was found that the flavonoids in the raspberry were determined by spectrophotometry. The flavonoids in the raspberry were tested by the combination of phenolic hydroxyl groups and chlorinated ions on the nucleus of the flavonoids. The flavonoids in the raspberry were resistant, Pharmacological effects [7].

**Trace Elements**

Researchers have experimentally demonstrated that Mn in raspberries can compensate for infertility due to manganese deficiency [8]. Our scholars have proved that raspberries have enrichment ability for Zn elements. Wu Shuwen et al [5] by ICP-MS method of trace elements in raspberry content determination and analysis, proved raspberry contains two kinds of beneficial elements and five kinds of harmful elements, harmful elements are not exceeded, and the human essential element Mn/Zn content is higher[10].

**Pharmacological Effects**

**Hypoglycemic Blood Lipids**

The rats in the rat raspberry were treated with alloxan. The effects of dosing on blood glucose and glucose tolerance and the area under the curve were observed. The model group and blank group were set up. The experimental results showed that Hubei Palm leaf raspberry water extract has obvious hypoglycemic effect. The rats were randomly divided into experimental group and control group. The rats in the experimental group were treated with raspberry tea. The serum TC and TG contents in the serum of the rats were significantly lower than those of the high fat model group after 30 days. So that raspberry has the effect of lowering blood sugar and lowering blood fat.

**Remove Melasma**

Raspberry in the bioactive substances in the composition of ellagic acid, can eliminate the activity of catalase and tyrosinase, thus eliminating the role of tyrosine formation of melanin, and to achieve the effect of inhibition of chloasma formation. Chloasma is a common pigment metabolism abnormalities, mostly in young women. The subjects with light brown to dark brown on the face of the face, using their own control and component control of the experimental method, compare the consumption of raspberry before and after the melancholy color and area changes. Edible raspberry 30 days later found that chloasma area decreased, the color integral decreased, and did not produce new chloasma, so that raspberry has the effect of removing melasma.

**Other**

Raspberry is rich in vitamins known as the "fruit of life", raspberry is not only blindly traditional Chinese medicine, but also high nutrition medicine and food homologous fruit. In the experimental study, the effects of the extracts from the raspberry on the model animals were studied by cutting the bilateral testes of the adult rats. The results showed that the raspberry extract could not only improve the penis of the ovariectomized rats Stimulating excitability, and can enhance the model of animal cold, fatigue resistance, the number of independent activities increased significantly, so raspberry extract with the role of warm kidney to help Yang. With the replacement of medical equipment and extraction and separation equipment, raspberry active substances are gradually understood by people, the current raspberry with the pharmacological effects, also has anti-thrombosis, fat loss, anti-oxidation, anti-tumor health care Function [13].

**Clinical Application**

**Gynecological Diseases**

Raspberry sweetener, warm, kidney, bladder "Materia Medica" records: "Raspberry and sour bitter power, governance special solid photo, benefit under the possession of the power." "Materia Medica prepared" records: "beneficial kidney and solid fine, liver deficiency and name, From the impotence,
shrink will. "It can be seen, the ancient doctors to raspberry as nourishing liver and kidney, solid fine urine of the clinical medication. Raspberry is widely used in clinical practice, common in the treatment of gynecological diseases.

**Acne**

With the extraction of raspberry chemical active ingredients, raspberry clinical application is no longer confined to nourishing liver and kidney, can also be used for clinical treatment of acne. Chinese researchers use honeysuckle, berberine, scutellaria, raspberry, lute root, and other drugs, made of external water, 4-6 times a day, applied to the affected area, with 30 days, cured 27 cases, markedly 15 cases, the cure rate 64.3%, the effective rate was 35.7%.

**Osteoporosis**

At present, in addition to the domestic embryo as a health care products development object, the study found that raspberry also has the effect of treatment of osteoporosis. The osteoblasts were isolated by isolating the frontal bone of the newborn rats. The anti-osteoporotic activity of different compounds was determined according to the different concentrations of different compounds on osteoblast proliferation, osteoblast alkaline phosphatase activity, osteoclast acid phosphatase activity and bone resorption trap. The results showed that raspberry A, raspberry B, quercetin and kaempferol in raspberry showed different anti-osteoporotic biological activity. The treatment of osteoporosis with natural drugs compared with synthetic drugs with less adverse reactions, convenient source, less cost [14].

**Improve Memory Impairment**

Raspberry has anti-aging effect, experimental study using D-galactose Aβ has a moral memory disorder model, raspberry can increase the brain SOD and CAT content, and reduce the MDA content. On the basis of this, three kinds of memory impairment models were established by using scopolamine, sodium nitrite and 40% ethanol. The experimental results showed that the different extraction sites of raspberry were different for scopolamine, sodium nitrite, 40% ethanol The results of the experimental results show that the chemical extraction components in the raspberry are different from those in the memory. The results show that the three kinds of memory impairment models have different degrees of shortening latency, increasing the number of traversing platforms in space exploration, entering the target quadrant and the target quadrant. Obstacles have a certain improvement [15].

**Discussion**

Raspberry return to the kidney, bladder by, so the clinical application of raspberry to kidney-assisted. It is a very high nutritional value of the fruit, sweet taste, the fruit is rich in vitamins, but also blindly food and medicine homologous Chinese herbal medicines. In the modern medical and pharmacological studies have shown that palm leaf raspberry is the ideal anti-aging life of traditional Chinese medicine plants, but also nutrient-rich health fruit, in which the content of superoxide dismutase among the first variety of fruits, vitamin E content is also very rich , And contains a lot of anthocyanins. These three substances can be a lot of people to eliminate harmful metabolites and oxygen free radicals, improve human immunity. At present, the incidence of cancer in China will continue to maintain the trend, the total anti-tumor health care products market will continue to expand. Palm leaf raspberry as a tumor clinical nutrition, has aroused the government, medical experts and other people from all walks of life attention.

In the next research process, we should pay attention to the extraction of raspberry prescription process and the effective composition of the theoretical mechanism of in-depth study to expand its development and utilization prospects. The research direction should not only focus on the source, shape and microscopic characterization of raspberry, but also pay attention to the quality inspection standard of raspberry prescription, expand the application of advanced and mature detection technology, bring the raspberry to bring more Social and economic benefits.
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