Application and Analysis of Chinese Patent Medicines Containing Dandelion

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Abstract. Dandelion tastes sweet and bitter, cold-natured , meridian tropism stomach and liver. It mainly contains phenolic acids, flavonoids, dandelion pigments, terpenoids, sesquiterpene lactones, phytosterols and other active components. The 2015 Edition Chinese Pharmacopoeia notes, dandelion has the function of clearing away heat and toxic materials, dispersing swelling and dissipating binds, inducing diuresis for treating stranguria, including 41 kinds of Chinese patent medicines containing dandelion. Since the Tang Dynasty New herb, there have been records of dandelion in ancient books of Chinese Medicine. It has a long history of medicine and is widely used in various diseases. However, there is a gap between experimental study and clinical application. In this paper, we summarized the Chinese patent medicines containing dandelion produced in the 2015 edition Chinese Pharmacopoeia, analyzed its function, indications, contraindications and clinical applications. Finally, the clinical application of dandelion and its Chinese patent medicine was discussed.

Introduction
Dandelion is one of the most common medicinal and edible plants, containing a variety of active components and nutrients, has a rich medicinal and nutritional value. The recent studies indicate that dandelion has the pharmacological effects of protecting liver, gallbladder, resisting stomach injury, anti-tumor, anti-virus, antibacterial, anti-infection and anti-free radicals, used in the treatment of inflammation, constipation, stomach, gall, hyperlipidemia, tumor and scald diseases [1-2]. Now all kinds of difficult miscellaneous diseases severely threaten people’s health and living quality. While the western medicine plays a therapeutic role, it will inevitably have other adverse effects on the human body, especially the chemotherapy and radiotherapy of the tumor, so the advantages of Chinese herbal medicine can be fully demonstrated. With the development of traditional Chinese medicine, many medicinal herbs with anti-cancer effect have been excavated, dandelion is a new species in recent years. However, it is difficult to control or cure complex diseases with single drug application. Chinese patent medicines contain a variety of active ingredients in medicinal herbs, so the development and application of dandelion Chinese patent medicines has potential medicinal value. Therefore, this article through query the 2015 edition Chinese Pharmacopoeia, summarize the dandelion Chinese patent medicines. According to their form, Chinese patent medicines containing single Chinese herb number, functions, clinical application make a simple classification. Then arrange the dandelion Medicine reported in the literature, summarized account of its application in clinical practice. Finally, combined with the above results, the functions, indications, contraindications and clinical applications of dandelion Chinese patent medicines were analyzed and summarized in order to provide a theoretical basis for the clinical application of dandelion and its Chinese patent medicines.
The Circumstances of Chinese Patent Medicines Containing Dandelion Recorded by Chinese Pharmacopoeia

In the 2015 edition of the Chinese Pharmacopoeia, 41 Chinese patent medicines containing dandelion were recorded, including 39 oral preparations, 1 external preparations and 1 rectal dosage forms. 41 kinds of Chinese patent medicines belong to 7 kinds of forms, the first three are tablets, granules and pills, which occupy all the proprietary Chinese medicines 75.6%. Among them, there are 14 kinds of tablets, 11 kinds of granules, 6 kinds of pills, 5 capsules, 3 liquid preparations, 1 kinds of suppositories and 1 kinds of pastes. The dandelion Chinese patent medicines is made up of 2 medicinal herbs at the lowest, and is made up of 28 medicinal herbs at the highest. This paper divides it into 5 sections, which are: 1-5 flavors, 12 kinds; 6-10 flavors, 11 kinds; 11-15 flavors, 11 kinds; 6-20 flavors, 3 kinds; >20 flavor, 4 kinds.

The Application Form of Dandelion in its Chinese Patent Medicine Recorded by Chinese Pharmacopoeia

It is worth mentioning that there are 40 kinds of raw materials to the dandelion as the main drug in 41 kinds of Chinese medicine, only 1 kinds of dandelion extractum as the main drug, in the 2015 edition of Chinese Pharmacopoeia. Take dandelion water decoction, fine powder, alcohol extract, extractum, as well as dandelion powder and water decoction at the same time as raw materials were 33 kinds, 3 kinds, 1 kind, 1 kind and 3 kinds, accounting for 80.6%, 7.3%, 2.4%, 2.4% and 7.3%, respectively. Among them, anti-inflammatory and antipyretic tablets, Sangge Jiangzhi pill, Yinpujiiedu tablets use the dandelion powder and water decocted solution as pharmaceutical raw materials.

The Functions Indicated, Representative Drug and Number of Dandelion Chinese Patent Medicine Recorded by Chinese Pharmacopoeia

On the basis of the 2015 edition Chinese Pharmacopoeia, make a simple classification for 41 kinds of Chinese patent medicines containing dandelion according to the functions indicated. After a summary, dandelion Chinese patent medicine can be broadly divided into 5 categories. The classification is as follows, clearing away heat and toxic material, promoting blood circulation to arrest pain: Yiganning granules, Nankang tablets and breast Masses Clearing Capsule; clearing heat for detumescence, resolve toxin and disinhibit the throat: Anti-inflammatory antipyretic tablet, Compound Huanglian granules and Compound Huangbai liquid paint; Clearing away heat and promoting diuresis, Cooling blood and removing blood stasis: Bai Pu films, Compound pearl acne and Fule granules; Dispelling wind and detoxicating, inducing diuresis to alleviate edema: Nephritis tablet, Yinpu detoxicating tablet and Shenyanjiere tablets; regulating qi-flowing and eliminating phlegm, detoxification and detumescence: Dalitong granule, Jinpu capsule and Shuanghu qinggan granule. The first category contains 9 species, accounting for 22%; the second category contains 11 species, accounting for 26.8%; the third category contains 13 species, occupying 31.7%; the latter two kinds contain 4 species, occupy 9.75%.

The Matters Need Attention of Dandelion Chinese Patent Medicine Recorded by Chinese Pharmacopoeia

The 2015 edition Chinese Pharmacopoeia record 41 kinds of dandelion Chinese patent medicine, among them 24 kinds indicate the matters needing attention clearly, and the other 16 kinds don't mention. The Pharmacopoeia notes 24 kinds of Chinese patent medicines, the attention is as follows: There are 8 kinds of Chinese patent medicine need to notice diet (give up smoking and alcohol, not eat greasy and spicy food) during the medication; There are 18 kinds that pregnant women need to pay attention during the medication, 12 of them clearly indicated that pregnant
women should be careful, and 6 indicated that pregnant women were forbidden to take them; There are 8 kinds that need to be used with caution when suffering from other diseases, (diabetes patients carefully take 1 kinds, weak or low blood pressure take with caution 1 kinds, peptic ulcer, heart disease and myasthenia gravis avoid taking 1 kinds, deficiency of spleen and stomach should take with caution 5 kinds); 2 kinds shouldn't take on an empty stomach. In addition, *Chinese Pharmacopoeia* record that while taking Qianliexin capsule, occasionally stomach abdominal discomfort, generally does not affect the continuation of treatment; For the compound golden Coptis granule, allergies are disabled. Because there are more than one kind of attention to the Chinese patent medicine, there are overlaps in the classification of Chinese patent medicines as far as possible in detail. Therefore, there are more than 24 kinds of Chinese patent medicines.

**The Clinical Application of Dandelion Chinese Patent Medicine**

The 2015 Edition *Chinese pharmacopoeia* notes, dandelion has the function of clearing away heat and toxic materials, dispersing swelling and dissipating binds, inducing diuresis for treating strangurtia. Referring to the literature, we know that besides the above functions, the dandelion Chinese patent medicine also has the functions of regulating qi and descending ni, dispersing stagnated liver qi for regulating stomach and other effects. Clinically, dandelion is commonly used in the treatment of inflammation, stomach trouble, tumor, gynecological diseases, male urinary system diseases, etc.

**The Fuction of Clearing Away Heat and Toxic Material**

Pelvic inflammatory disease is the floorboard of pelvic peritonitis of female genital organs and connective tissue, which seriously affects the reproductive health and quality of life of women. The disease belongs to the category of vaginal discharge, infertility of Chinese medicine and so on. Damp-heat blocking in the body and chronic disease involving kidney is the pathogenesis, treatment should be based on clearing away heat and detoxicating, promoting blood circulation and removing stasis. The main ingredients of Kangfuxiaoyan suppository are dandelion, and rographis paniculata, pig bile powder etc. It has the effect of clearing away heat and toxic materials, killing parasites to relieve itching, cooling blood and expelling blood stasis. Clinical studies show that pelvic inflammatory patients treat with Kangfuxiaoyan suppository, symptom improvement and immunity also increased at the same time[^4]. Acne is a common disease in the Department of dermatology, it is very common in adolescence. The local inflammation caused by Propionibacterium infection is a major cause of acne. Chinese medicine believes that the cause of pathogenesis of acne is the lung feel cold, or lung and stomach heat caused by food, blocking the skin and caused to disease, so the treatment should be based on clearing away heat and toxic material. Twoding pellet is made by dandelion, tokyo violet herb, Chinese lobelia and isatis root, with the effect of heat clearing and detoxifying. Among them, dandelion contains chlorogenic acid, dandelion sterols and other active components, when sterilizing, it also can improve the immunity of organism. After the treatment of acne, inflammatory skin lesions have better efficacy, and no adverse reactions occur[^5].

**The Fuction of Disperse Swelling and Dissipate Binds**

Breast hyperplasia is a common disease of frequently occur in middle-aged women. The clinical manifestations were breast nodules and swelling and pain, and have a potential risk of worsening breast cancer. The disease belongs to the category of "Rupi" in traditional Chinese medicine, the etiology and pathogenesis were liver depression and skin injury, blood and qi, phlegm , blood stasis are obstructed in local. The treatment should be based on clearing away heat and toxic substances, softening the weak and dissipating the blood stasis, and promoting blood circulation to relieve pain. Rupixiao granule has the benefits of inducing diuresis to alleviate edema and resolving hard lump, the effective rate of the treatment of breast hyperplasia was 97.22%. The toxicity is low and it is not
Diabetic foot (diabetic foot DF) is one of the complications of diabetes, diabetic foot ulcers with disability characteristics, and the incidence rate increased year by year. Chinese patent drug compound fluid of cortex phellodendrihas the effect of detoxify and drain pus, dissipate binds and disperse swelling. After four weeks the drug used in patients with diabetic foot ulcer treatment, the level of growth factor got improved the level of growth factor, the ulcer healing is good, worthy of promotion and the ulcer healing is good, so it is worthy of clinical promotion.

The Function of Inducing Diuresis for Treating Strangurtia

Chronic prostatitis can lead to male infertility, belongs to the category "drenching syndrome", "refined turbid" of Chinese medicine. Chinese pharmacopeia records that Nankang tablets can be used for the treatment of drenching syndrome. The clinical research shows that the traditional Chinese medicine can improve the symptoms of chronic prostatitis and improve the curative effect. Cholelithiasis is a common disease in surgery, which is easy to recur and has high risk of operation. Dan shi tong capsule has the effect of gallbladder drainage, clear heat and promote diuresis, can be used in the treatment of cholelithiasis and cholecystitis. The clinical study was performed on 60 patients with gallstone disease who were unwilling to undergo surgery, with a total effective rate of 90%.

Others

Infantile acute pharyngitis is a common disease in Otolaryngology, belongs to Chinese medicine "moth" and "acute pharyngitis" category. The treatment should be with disperse swelling and relieve pain, clear heat and relieve sore throat. The clinical study confirmed that Pudilan Xiaoyan Oral Liquid has a better effective in the treatment of this disease. Dyspepsia and reflux gastritis was a multiple disease, clinical manifestations were abdominal fullness, anorexia and so on. Dalitong granule medicine in TCM is put forward, has the effects of regulating qi-flowing and harmonizing stomach. After taking it, the clinical effect is remarkable, the safety is high, and the total effective rate is 96%.

Upper respiratory tract infection is the common diseases in children, affect the healthy development of children. Compared with the antibiotic, the children relieving exterior granule can significantly shorten the course of treatment and relieve the symptoms.

Outlook

Dandelion has a long medicinal history, was contained in the New herbal of Tang Dynasty. Dandelion is widely used in folk medicine for the treatment of inflammation and skin diseases. In recent years, many studies have been made on its clinical applications and pharmacological. The recent studies indicate that dandelion has the pharmacological effects of protecting liver, gallbladder, resisting stomach injury, anti-tumor, anti-virus, antibacterial, anti infection and anti free radicals, and gradually applied to the clinical. But compared to Chinese patent medicine, herbal drugs has great limitations in clinical practice to some extent. In the 2015 edition Chinese Pharmacopoeia records 41 kinds of dandelion Chinese patent medicine, can be used for the treatment of 50 kinds of diseases.

The following problems still exist in the spread and application of Chinese patent medicines containing dandelion. China has a vast territory, and the distribution of medicinal dandelion is limited, which affects its spread and application. The majority of domestic residents' awareness of the dandelion stay in food hunger level, lack of the knowledge of medical treatment level. Just 12 kinds of dandelion Chinese patent medicine are made of 5 medicinal herbs, only occupy 29.2% which lead to the mechanism of dandelion is not clear. The material basis of efficacy is ambiguous, studies on the single active constituents of Taraxacum mongolicum is lack. Dandelion Chinese patent medicine is seldom used alone, and quite a half of it is combined with Western Medicine. There are only two kinds of topical preparations of dandelion Chinese patent Medicine.
In combination with the above questions, the following suggestions are made. Optimize the transport chain of traditional Chinese medicine in the process of transmission and application, so that the Chinese patent medicines are sold at all levels of pharmacies; Strengthen the importance of Chinese herbal medicines and Chinese patent medicines in education, so that promote their dissemination and popularization; Based on the theory of Chinese medicine, expand the study and application of dandelion Chinese patent medicine in external use; Try to apply dandelion Chinese patent medicine separately to clinical research, excluding the impact of Western medicine and other treatments. Above all, dandelion Chinese patent medicine has broad prospects for development and economic benefits, both in the field of medical, diet therapy, and education.

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