Analysis of the Rule of Application of Chinese Patent Medicine Containing Schisandra Chinensis

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Abstract. Purpose: In order to analyze the rule of Chinese patent medicine with schisandra fruit, it provides reference for clinical medicine. Methods: With the 2015 edition of the Chinese pharmacopoeia as the data source, the Chinese patent medicines containing schisandra were collected. With Excel 2013 and SPSS Modeler 14.1 statistical software, the collected prescriptions and single traditional Chinese medicines were statistically processed and the association rules were analyzed. Results: Among all prescriptions included in the standard, the top four herbs with the highest cumulative frequency were Schisandra chinensis (103 times, 17.20%), Ophiopogon japonicus (40 times, 6.68%), Poria cocos (40 times, 6.68%), Astragalus membranaceus (39 times, 6.51%). Among the statistics of the tetra qi, warm drugs (85 times, 39.34%) and cold drugs (76 times, 35.19%) accounted for a larger proportion. In the five flavors, sweet (104 times, 30.32%), bitter (97 times, 28.27%) and acrid (84 times, 24.49%) count for a large proportion. Meridians of the liver (123times, 22.28%), lung (84 times, 15.22%) and kidney (81 times, 14.67%) were the most common. In addition, combined with the comprehensive analysis of major therapeutic diseases such as palpitation and insomnia, the combination of Schisandra chinensis and tonic deficiency medicine (52 times, 30.95%), Ophiopogon japonicus and Astragalus membranaceus has the highest frequency, and the clinical application is mostly in the form of solid preparations such as pill and tablet. Conclusion: Chinese patent medicine preparation containing Schisandra chinensis is often used together with nourishing deficiency drug, heat-clearing drug, relieving phlegm and relieving cough and asthma drug. The most compatible drugs are liver meridian, kidney meridian, bitter, sweet, partial warm, cold medicine.

Introduction

Schisandra chinensis is the dry ripe fruit of the Schisandra chinensis (Turcz.) Baill or Schisandra sphenanthera Rehd. Et Wils.Astringency, nourishing kidney and mind. Used for long periods of asthenia and asthma, urinary incontinence, chronic diarrhea, spontaneous sweating, thirst, heart palpitations and insomnia. The latest research progress shows that schisandra has anti-tumor, protective liver, hypoglycemic, anti-aging, anti-bacterial and anti-bacterial, strengthening skeletal muscle, central regulation, anti-fatigue and anti-hypoxia, improving urinary system, protecting myocardial ischemia reperfusion injury and repairing immune organ injury[1-3]. Clinically, schisandra fruit is often used for the treatment of insomnia, anxiety, liver injury, heart disease, pneumonia, upper respiratory disease and tumor[4-5]. At present, the combination of traditional Chinese medicine famous formula with modern Chinese medicine preparation is an important trend of clinical use of traditional Chinese medicine. It is a great innovation for the development of traditional Chinese medicine to use mathematical statistics to sum up and sort out the potential network connection between different traditional Chinese medicine prescriptions. In order to promote the clinical application of schisandras, this paper summarizes the formulations containing fructus schisandrace in the Chinese pharmacopoeia 2015, and explores the regularities of the main treatment of diseases, syndrome rules and the commonly used combination by using mathematical statistics software in the form of database.
Materials and Methods

Prescription Screening

This paper conducts a search from the 2015 edition of China pharmacopoeia\(^6\). In the composition, there are 103 formulations of traditional Chinese medicine formula containing schisandra chinensis, involving 216 tastes of medicine. Among them, "southern schisandra", "northern schisandra", "vinegar schisandra" are all searched in.

Data Processing

All the above 103 prescriptions and the 216 traditional Chinese medicines contained in them were recorded into Excel 2013 for data analysis, and the main symptoms, syndrome types and Chinese patent medicine dosage forms of all prescriptions were listed. With reference to "traditional Chinese medicine" \(^7\), single traditional Chinese medicine has sorted out its corresponding characteristic flavor classic and drug category, and summarized the names of drugs. Such as Schisandra, southern schisandra, vinegar schisandra collectively known as schisandra. If a Chinese medicine has a variety of flavor classics, then all statistics. However, for the traditional Chinese medicine and its gunpowder products, due to the change of sex, taste and effect before and after the processing, the traditional Chinese medicine and its gunpowder products are classified as different drugs in statistics. It also classifies the diseases of all the 103 prescriptions.

Statistical Methods

The traditional Chinese medicine in the above database was classified and sorted. And SPSS Statistics 20.0 and Clementine12.0 were used for statistical processing and online presentation.

Results

Analysis of Diseases Mainly Treated with Formula Containing Fructus Schisandraceae Chinensis

By the above screening and sorting, there are about 35 diseases were concluded from 103 prepared formulations containing schisandra chinensis, a total of 217 times. According to the statistical analysis of drug frequency, there were a total of 161 times of 13 diseases with the frequency of drug use greater than 6. Palpitations (28 times, 17.39%), insomnia (25 times, 15.53%), and forgetfulness (13 times, 8.07%) were among the top three frequencies. Among them chest bi, night sweat, impotence use frequency lowest. Details are shown in FIG.1 below.

![Figure 1: Statistical analysis of main diseases in formula containing fructus schisandraceae chinensis (times).](image)

The Frequency Analysis of Drug Use of Formula Containing Schisandraceae Chinensis

According to the statistics, the single Chinese medicine with a frequency of more than 10 was used in 216 Chinese medicines, with a total frequency of 599 times. Among them, the frequency of combined use with schisandra chinensis in the top four was Schisandra chinensis (103 times, 17.20%), Ophiopogon japonicas (40 times, 6.68%), Poria cocos (40 times, 6.68%), Astragalus membranaceus (39 times, 6.51%). Statistics of single Chinese medicine with frequency of use greater than 10 are shown in FIG.2.
Statistical Analysis of Drug Category of Single Chinese Medicine

According to the classification standards of China pharmacopoeia 2015 and Chinese traditional medicine, 216 Chinese traditional medicines (with a total frequency of 1154 times) were classified, involving a total of 19 types of Chinese traditional medicines. The table below lists eight drugs with a frequency of more than 10. The top five categories of traditional Chinese medicine with large number and frequency of drug use were: tonic deficiency drug (52 times, 30.95% times), heat-clearing drug (32 times, 19.05% times), antiphlegm and cough and asthma drug (21 times, 12.5% times), antipsychotic drug (18 times, 10.71% times), and tranquilizer drug (13 times, 7.74%). Such as the following FIG.3.

Statistical Analysis of Drug Property of Formula Containing Fructus Schisandrae Chinensis

Referring to the classification standards of China pharmacopoeia 2015 and traditional Chinese medicine, 216 traditional Chinese medicines are summarized in accordance with "cold, hot, warm, cool and flat" of four qi, and "sour, bitter, sweet, xin and salty" of five flavors, as shown in FIG.4 and 5 below. According to the statistics of the siqi, warm drugs (85 times, 39.34% times) and cold drugs (76 times, 35.19% times) accounted for a larger proportion. In the five flavors, the bitter (97 times, 28.27%) and the bitter (84 times, 24.49%) account for a large proportion.

Statistical Analysis of Formulations Containing Schisandraceae Chinensis

According to the classification in Chinese pharmacopoeia (15 editions), there are collecting a total of 7 dosage forms of 103 formulas. Among them the pills (34 times, 33.01%), tablets (23 times, 22.33%), granules (17 times, 16.50%) and capsules (17 times, 16.50%) have a high proportion. Such as FIG.6.
The Rule of Drug Use in Common Diseases of Chinese Patent Medicine Containing Schisandra Fruit Is Lifted

Analysis of High Frequency Core Combination for the Treatment of Heart Palpitations. There were 28 prescriptions for palpitation in Chinese patent medicine containing schisandra chinensis. This paper uses SPSS Modeler 14.1 statistical software to analyze association rules and uses networking to show the links between drugs. The Apriori modeling was used to further explore the compatibility relationship between drugs, and the support degree was set to be 30%, the confidence degree to be 100%, the maximum foregoing number was 5, and the potential drug combinations in the commonly used formulations were increased to be more than 1[8]. A total of 20 core drug pairs were obtained. For example, the combination of schisandra and ophiopogon.

Analysis of High Frequency Core Combination of Insomnia Medicine. Containing schisandra Chinese medicine altogether has 25 first prescription to treat insomnia. According to the statistics, there are about 25 Chinese patent medicine containing schisandra for insomnia. Through the above statistical software analysis, a total of 18 groups of potential core drug combinations were found. For example, the combination of schisandra and salvia miltiorrhiza.

Summary

Schisandra chinensis is the top-quality medicine in shennongbeng herbal scriptures and has a good tonic effect. The health committee indicates that it can be widely used in the health food industry [9], for example, health drinks related to schisandra chinensis are emerging in an endless stream. In recent years, there are also significant effects on drug-induced liver injury [10], pneumonia [11], asthma in children [12], ventricular premature beats of coronary heart disease [13], and insomnia of both heart and spleen deficiency. In this paper, mathematical statistics software was used to explore the rules of application of Chinese patent medicines containing schisandra chinensis. The results showed that the single traditional Chinese medicine with the most frequently used Chinese patent medicines containing schisandra chinensis was schisandra chinensis, radix ophiopogonis, astragalus and cooked ground. In this paper, mathematical statistics software was used to explore the rules of application of Chinese patent medicines containing schisandra chinensis. The results showed that the single traditional Chinese medicine with the most frequently used Chinese patent medicines containing schisandra chinensis was schisandra chinensis, radix ophiopogonis, astragalus. In addition, in the study of the distribution of dosage forms, there were more solid preparations such as pill, tablet, granule and capsule, while the application frequency of dosage forms such as oral liquid, mixture and syrup was relatively less. In the statistical analysis of the main diseases, palpitations, insomnia and dreaminess were the top three among the 35 corresponding diseases. In the research and analysis of insomnia, the combination of schisandra chinensis - Fried date kernel, schisandra chinensis - salvia miltiorrhiza, schisandra chinensis - angelica, yuanzhi - angelica - schisandro - schisandra chinensis has higher support, which is in line with the spirit of peace and calm to treat insomnia. In recent years, clinical studies of schisandra fruit have shown that it has excellent effects on chronic cough and asthma, spermatorrhea, chronic diarrhea and more than quenching thirst, palpitation and insomnia. In view of this clinical study, it is suggested that as a blindly astringent medicine, schisandra fruit has a
very significant role in the treatment of such symptoms as palpitation and insomnia, which can be combined with anti-asthenia medicine, heat-clearing medicine, and tranquilizing medicine, as well as the medicine of returning to liver meridian, heart meridian, kidney meridian, etc, to jointly play the effect of invigorating qi and nourishing kidney and mind. From the above analysis result, the proprietary Chinese medicine containing fructus schisandrae more is given priority to with solid preparation, liquid preparation is relatively small, and the ructus schisandrae itself possess solid acerbity convergence effect, pharmacological studies have shown that it has a good effect on ulcerative colitis\textsuperscript{14} oral ulceration \textsuperscript{15} and promote wound healing effect. Thus fructus schisandrae should have certain governance in terms of external chuangdu wet out of skin, which is blank in the 15th edition of Chinese pharmacopoeia. And there are only 2 clinical examples from 2000 years on CNKI, there're a total of 12 in a database of ten thousand articles; In addition, there are a lot of researches on the decoction containing schisandra fruit on CNKI, but there are only a few studies on the pharmaceutical preparations.

To sum up, through summarizing and statistics of Chinese patent medicines containing schisandra chinensis, this paper has preliminarily discussed the rule of drug use and the rule of compatibility with different drugs, so as to make the clinical application of schisandra chinensis more standardized and scientific, and provide theoretical guidance for future research on new formulations, development of new formulations and expansion of pharmacological research.

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References


