1.Formation of ChinmedomicsTheory Finding a strategy for evaluating effectiveness of TCM is full of hardships for for its complex constituents. Based on such problems, Chinmedomics, by integrated serum serum pharm-chemistry[1] of TCM with metabolomics technology, is a unique method of TCM research, made outstanding contributions in solving international concerns such as the effectiveness and security aspects of TCM. The correlation between the endogenous biomarkers of syndrome and exogenous constituents of formulation is analyzed to find the highly associated compounds as the effective substances, and further clarifying their activities, and may discover lead compounds.

2. Applications of Chinmedomics in Bioactive Components of Formulas This article introduces and reviews the concept of chinmedomics, and highlights recent examples of the approach, such as potentially bioactive components and metabolites of Kaixin San, [2] Shengmai San, [3] Liuwei Dihuang Wan, [4] Shaoyao-Gancao decoction, [5] ShenQiWan, [6]Wen Xin Formula, [7] Zi Shen Wan, [8]AS1350,[9] and Shuanghuanglian formula by integrating UPLC-ESI-Q-TOF-MS technique and MetaboLynx data processing method and multivariate statistical analysis. We also conclude that chinmedomics is a powerful and versatile tool for both biomarker discovery and exploring the complex relationships between biological pathways and drug response, highlighting insights into drug discovery.

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DRUG RELEASE BEHAVIOR OF COLLOIDAL PHASE IN BAI-HU-TANG

LIANG Jing-xian , ZHU Ting, LIU Ting-ting, GUAN Xian-tong, LI Yong-ji

(Heilongjiang University of Chinese Medicine, Heilongjiang Harbin 150040)

Abstract The colloidal phase in Bai-Hu-Tang of the classical prescription may have a better antipyretic effect. In order to make the colloidal phase apply to clinical treatment, this paper reviews drug release behavior of the colloidal phase from the theoretical level by referring to the relevant books and summarizing the literature in recent years.

Key words: Bai-Hu-Tang, Colloidal Phase, Drug release behavior

Decoction is one of the most common traditional Chinese medicine compound dosage forms, and its group is complex. The various components may be dispersed with dispersed particles of different sizes in the dispersion medium to form a complex dispersion system which includes solution, colloid, emulsion and suspension, namely a mixed dispersion system [1]. The existence of mixed dispersion system in Dang-Gui-Bu-Xue-Tang [2] and Ma-Xing-Shi-Gan-Tang [3] has been confirmed. Bai-Hu-Tang (BHT) is a heat-clearing prescription in “Shang Han Lun” and also includes mixed dispersion system. It has been speculated that the colloidal phase (multi-component nanodisperse) in the BHT may have a better antipyretic effect. In view of this, this paper reviews the drug release behavior of the colloidal phase in BHT from the theoretical level.

Studies have shown that colloidal particles in the decoction are in the nanometer level and with the characteristics of nano drug delivery system [4]. To some extent, it can be seen that the colloidal particles in BHT may be a special structure of nano drug carrier solid colloidal particles which is free assembled between the effective components and the non-pharmacological components [5]. Therefore, the drug release behavior of the colloidal particles formed during the decoction of BHT may be similar to that of modern nanoparticles. The drug release process may be accomplished by surface desorption, particle diffusion, polymer diffusion, swelling and dissolution [6].

Firstly, the colloidal particles with large specific area and charge have strong adsorption. The particles adhered

to the surface can occur to desorption. The active components fall and release on the surface. Secondly, some of the components may also be wrapped in the colloidal particles. The components on the surface are first dissolved in the beginning of the release. The internal active components are further released through the fine channel of the nanoparticles in the structure. Thirdly, the colloidal polymer is likely to spread as a whole and be ingested directly. After taking the drug, the drug-loaded colloidal particles are first adsorbed on the cell surface in some way, and then are taken into the cell by adsorption endocytosis and transported to the blood by the same mechanism. Finally, the high concentration of polymer solution after swelling will form a network of gel. After gel is contacted with medium, hydrophilic fragments are dissolved in the gel to form a large number of water-based channels. The active components are dissolved and spread out from the skeleton structure. The dissolution rate of the active components in the structure may be less than the diffusion rate of the active components.

By the drug release behavior in BHT can be seen that release behavior of the colloidal solution is multi-channel and has a certain sustained-release effect, which fully embodies the characteristics of safety, effective, stable and controllable of traditional Chinese medicine preparation.

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EFFECTS OF TOTAL SAPONINS FROM RHIZOMA DIOSCOREANIPPONICA ON BIOMARKERS IN URINE OF GOUTYARTHRITIS RATS

LIN Fang-fang, ZHOU Qi

Graduate School, Heilongjiang University Of Chinese Medicine, Harbin 150040, China; Research Institute of Chinese Medicine, Heilongjiang University Of Chinese Medicine, Harbin 150040, China;

Abstract The primary compositions of Dioscorea nipponica Makino are steroidal saponins, which have some inhibitive effects on humoral and cellular immunity. Gout is immune metabolic disease which is caused by deposition of monosodium-urate in the articular cartilage due to high concentration of uric acid as a result of purine metabolic disorder. For the past few years, there are many experimental researches on pharmacological effects of total saponins from Dioscorea nipponica Makino demonstrating treatment of gouty arthritis and it was found that they regulated the synthesis, excretion of uric acid and treat gouty arthritis by regulating the relating signal pathways. In this study, We compare those biomarkers changesin the urine between before and after administration of the total saponins.

Key words:total saponins from Dioscorea nipponica Makino, gouty arthritis; guanosine, creatinine, uric acid, HPLC

The metabolism of the human body involves a large number of small molecular compounds, including carbohydrates, lipids, nucleotides and so on. These compounds, as biomarkers in the body, are characteristic materials in anatomy, physiology, biochemistry, or imaging, which can ensure the diagnosis and prognosis of disease, and can evaluate the therapeutic effect. In this study, We compare those biomarkers changes in the urine between before and after administration of the total saponins.To determine whether it will control the body by biomarker synthesis and metabolism of material to achieve the purpose of anti gout arthritis.

Objective To explore the effect of total saponin of Rhizoma Dioscorea nipponica (RDN) on contents of guanosine, uric acid and creatinine in urine of gouty arthritisrats by high performance liquid chromatography(HPLC) with UV detection and UV spectrophotometric.

Materials and methods 60 Wistar rats were randomly divided into six groups.They were normal group, model group, total saponins groups of high(160mg/kg) ,middle (80mg/kg) and low(40mg/kg) doses and colchicine group. Total saponins of RDN were given for 7 successive days. An hour after total saponins of RDN were given at the third day,0.2ml 25mg/ml MSU suspension was injected into articular cavity through anadesma of kneecap in the knee-joint to induce model of gouty arthritis. HE and eosin dyeing were used to observe the histopathological change. A DiamonsilC18 column(5um ,250×4.6mm) was used for the analysis at 25℃, The separation was carried out with the mobile phase consisting of methanol-ammonium acetate(0.03mol/L) at a flow rate of 1mL/min.The eluates were monitored by the programmed wavelength at254nm for guanosine; The contents ofuric acid and creatinine in urine were detected by UV spectrophotometric.

Resultsand Conclusion In the model group, the levels of guanosine and creatinine were significantly decreased and the content of uric acid was significantly increased. Compared with the model group, guanosine, uric acid and creati-