

Results and discussion LcSSy effective component have significant effective in inhibit ovarian cancer tumor growth, the dose group is the best compared with the model group( $P < 0.01$ );The analysis of gene microarray show that there are four hundred differentiated lncRNAs.Co-expressed mRNAs for differentiated lncRNAs are enriched in the functional terms of JAK/STAT Signaling pathway and STAT3 transcription factor.Since STAT3 signaling pathway plays an important role in tumor angiogenesis,it is speculated that LCSSY may regulate the expression of STAT signaling pathway by regulating the expression of lncRNA in ovarian cancer.

Key words: LCSSY,effective component,ovarian cancer,lncRNA, gene chip

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## **A CLINICAL STUDY OF ACUPUNCTURE COMBINED WITH REHABILITATION TRAINING IN THE TREATMENT OF SHOULDER-HAND SYNDROME AFTER STROKE**

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**Abstract** Objective To observe the effects of acupuncture combined with rehabilitation training on neurological function ,upper limb motor function,pain degree, comprehensive function in the patients with shoulder-hand syndrome(SHS) after stroke. To study the therapeutic effects of acupuncture combined with rehabilitation training on SHS after stroke and to supply the Evidence of its clinical application.

**Methods** All the cases were the inpatients of the second hospital affiliated heilongjiang university of chinese medicine. 90 cases of shoulder-hand syndrome after stroke enrolled according to inclusion criteria were randomized into three groups : the acupuncture group(groupA),the rehabilitation training group (groupB) and the acupuncture combined with rehabilitation training group (groupC) ,30 cases in each group . Patients in the acupuncture group (groupA) were treated only with acupuncture , patients in the rehabilitation training group (groupB) were treated only with rehabilitation training, and the patients in acupuncture combined with rehabilitation training group (groupC) were treated with both acupuncture and rehabilitation training . The treatment course lasted for 28 days, acupuncture and rehabilitation training were given five days a week , and basic drug therapy was given throughout the whole course in all the three groups . The three groups were evaluated before treatment , 14 days after the treatment and after the whole treatment course .Neurological function was evaluated by Neural Dysfunction Scale (NDS) , upper limb motor function was evaluated by Simplified Fugl-Meyer Assessment (FMA),pain degree was evaluated by Visual Analogue Scale (VAS) , and comprehensive function was evaluated by Functional Comprehensive Assessment (FCA) . The comprehensive effect was evaluated after the treatment course.

**Results** Before the treatment , there was no significant difference of age ,sex , NDS score, Simplified FMA score , VAS score and FCA score between three groups( $P > 0.05$ )

1. Results of NDS : Compared with before treatment, the NDS scores decreased significantly both after 14 days of treatment and after the whole treatment course in all the three groups ( $P < 0.01$ ) . By the reduced scores of NDS after 14 days of treatment and after the whole treatment course from higher to lower, three groups were sorted as : the acupuncture combined with rehabilitation training group (groupC) , the acupuncture group (groupA) and the rehabilitation training group ( groupB ) . There was no significant difference between group C and group A ( $P > 0.05$ ) . The difference was significant between group C and group B , as well as between group A and group B ( $P < 0.01$ ) .

2 . Results of Simplified FMA : Compared with before treatment , the Simplified FMA score increased significantly both after 14 days of treatment and after the whole treatment course in all three groups ( $P < 0.01$ ) . By the increased score of Simplified FMA after 14 days of treatment and after the whole treatment course from higher to lower, three groups were sorted as :groupC,group A and group B.There was no significant difference between three :groups after 14 days of treatment (  $P > 0.05$  ) . The increased score of group C was significantly higher than group B (  $P < 0.01$  ),and the increased score of group A was also significantly higher than group B (  $P > 0.05$  ). There was no significant Difference between group C and group A (  $P > 0.05$  ).

3. Results of VAS : Compared with before treatment , the VAS score decreased significantly after 14 days of treatment and after the whole treatment course in all the three groups (  $P < 0.01$  ) . By the reduced scores of VAS after 14 days of treatment and after the whole treatment course from higher to lower . The three groups were sorted as : group C , group A and group B . There was no significant difference between group C and group A (  $P > 0.05$  ) . The difference was significant between group C and group B (  $P < 0.01$  ) , as well as between group A and group B (  $P < 0.05$  ) .

4. Results of FCA : Compared with before treatment , the FCA score increased significantly both after 14 days of treatment and after the whole treatment course in all the three groups (  $P < 0.01$  ) . By the increased scores of FCA after 14 days of treatment and after the whole treatment course from higher to lower, the three groups were sorted as : group C , group A and group B . There was no significant difference between group C and group A (  $P > 0.05$  ) . the difference was significant between group C and group B , as well as between group A and group B (  $P < 0.01$  ) .

5. Results of the comprehensive effect evaluation : Apparent rate of the three groups was : group A 26.7%, group B 3.3% and group C 36.7%. Total effective rate of the three groups was : group A 90.0%, group B 83.3% and group C 96.7%. By the effect of therapy from better to worse three groups were sorted as: group C , group A and group B. There was no significant difference between group C and group A (  $P > 0.05$  ), and the difference was significant between group C and group B (  $P < 0.01$  ), as well as between group A and group B (  $P < 0.05$  ) .

Conclusion Acupuncture , rehabilitation training and acupuncture combined with rehabilitation training can all improve the neurological function, upper limb motor function and comprehensive function and release pain of patients with shoulder-hand syndrome after stroke. Acupuncture combined with rehabilitation training is significantly more effective than simple rehabilitation training. Although the difference was not significant, acupuncture combined with rehabilitation training improved the condition better than simple acupuncture, and the difference was more obvious as the treatment course extended. There is a synergetic effect of acupuncture and rehabilitation training in the therapy of SHS after stroke.

Key words stroke: shoulder-hand syndrome; acupuncture; rehabilitation training

## PREPARATION OF SOLID SELF-EMULSIFYING SYSTEM FOR POORLY WATER-SOLUBLE DRUG SOPHORAFLAVANONE G

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Abstract SFG has many pharmacological activities that SFG may become a promising new molecular entity (NME), but its water insolubility affects its application. By this experiment, SFG was made into a new solid self-emulsifying system (S-SMEDDS) to increase the dissolution and absorption of SFG and evaluate the bioavailability in Sprague–Dawley (SD) rats by oral gavage. This paper provides a method to improve its solubility in order to provide a reference for the research and application of SFG.

Key words: Sophoraflavanone G; self-emulsifying system ; bioavailability

Introduction Sophoraflavanone G (SFG) is for leguminous plants of *Sophora flavescens* flavonoids. Studies have shown that *flavescens* flavonoids have a good antibacterial activity [1], anti-inflammatory [2], anti-malarial and the role of enzymes [3]. However, the hydrophobicity of the isopentenyl compound may affect its bioavailability in vivo to a certain extent. Self-emulsifying drug delivery system (SMEDDS) is a solid or liquid formulation that contains an oil phase, an emulsifier, and a co-emulsifier, and is a lipid delivery system [4]. Therefore, in this experiment, SFG was made into solid self-emulsifying system to increase both the dissolution and the absorption, while improving its bioavailability.

Materials and methods SFG was synthesized by the Heilongjiang University of Traditional Chinese Medicine (China). Methanol (chromatographic purity, Fisher Co., Ltd., USA) All other chemicals and solvents used were of analytical reagent grade. Healthy male SD rats, weighing 240–260g, were provided by Experimental Animal Center of Heilongjiang University of Chinese Medicine.

UPLC analysis of SFG The UPLC method was used for the determination of SFG in the solubility test, dissolution test, and pharmacokinetic study in vivo/vitro. The mobile phase was methanol /water at the ratio of 4:1. The wavelength of the UV detector, flow rate, and injection volume were set at 294 nm, 0.2 mL/min and 3  $\mu$ L, respectively.

Formulation and preparation of Sophoraflavanone G S-SMEDDS

Several formulations of SMEDDS were prepared containing a fixed proportion of SFG (20.0 mg/g) dissolved in a mixture of vehicles composed of cremophor RH40 (emulsifier), PEG400 (co-emulsifier) and Ethyl Oleate as oil phase. These components were accurately weighed and mixed using a magnetic stirrer until a clear solution was obtained. All of the liquid formulations were stored in air-tight glass containers at  $-4^{\circ}\text{C}$  until required for use as below.

In vitro release study and In vivo pharmacokinetic study

The optimum formulation SFG and SFG-S-SMEDDS were weighed, and 900 mL of distilled water was used as the dissolution medium at a temperature of  $(37 \pm 0.5)^{\circ}\text{C}$ , and the speed was 50 rpm/min, respectively, at 5, 10, 20, 30, 45, 60, 120 min when the sample solution, determination of SFG content, calculate the cumulative dissolution.

Twelve SD rats were divided into two groups, which were orally administered optimized SFG S-SMEDDS