Experimental study on allergic and skin irritation of Guci Powder in Rabbits

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Abstract. The study is to observe the irritation and anaphylaxis of Guci Powder on the skin of rabbits. Methods: the irritation of rabbit skin was observed by single dose of broken skin, and the irritability was observed by repeated local administration. A single dose of the drug on the back of the rabbit did not produce any irritation to the intact skin of the animal and no irritation to the damaged skin, nor did repeated local administration produce anaphylaxis. There was no irritation and anaphylaxis in rabbit skin.

1. Introduction
Hyperosteogeny is a common degenerative change in human body and a defensive response in order to adapt to the change of human body. If the hyperplastic bone compression nerve, blood vessels and other tissues, there will be corresponding clinical symptoms, that is, hyperosteogeny. TCM believes that the disease to liver and kidney deficiency, deficiency of qi and blood, lost bones and muscles, wind-cold, Dampness, the return of evil spirits, or excessive weight loading in long-term bad posture, resulting in disharmony between qi and blood, stagnation in the veins and bones, obstruction of the movement of qi in the meridians and stagnation of qi and blood yin. According to the clinical experience of many years, the department of orthopedics in the hospital of Fuzhu syndrome .371 cooperated with the Department of Pharmacology to develop the Guci Powder, which was prepared by Ligusticum chuanxiong. Weiling fairy, curcuma, pepper, black grass, safflower composition. It has the function of dispelling wind and dehumidifying, warming meridian and relieving pain, activating blood circulation and clearing collaterals, etc. It is mainly used to treat hypertrophic lumbar spondylitis, lumbar muscle strain [1-2]. In order to explore the principle of its curative effect in the early stage of the study [3-4]. An experimental study on irritation and anaphylactic effect of single dose of Guci Powder on skin was carried out for the safety of drug use [5].

2. Materials
Sample and Reagent Guji Powder (supplied by preparation Center, 371st Hospital of PLA, Batch Number: 0304100).
There were 24 rabbits with big ears and half rabbits, weight 1.5~2.5kg (provided by Experimental Animal Center, Xi'an Jiaotong University, animal quality certificate no. 08-018).
Instrument UV-2401PC (Japan SHIMADZU CORPO RATION).

3. Methods and Results
3.1. Skin irritation Test of Single Dose of Guci Powder

A total of 24 healthy rabbits were taken. The animals were randomly divided into 4 groups according to their sex and body weight, 6 animals in each group. Merlot intact skin, damaged skin high-dose group, Merlot intact skin, damaged skin low-dose group. In the first 24 hours of the experiment, the two sides of the rabbit's back ridge were removed by electroporation, and the depilation range was about 10 cm × 7 cm. Check whether the depilated skin is damaged by depilation before administration. The undamaged skin is used for the complete skin irritation test. For the irritation test of damaged skin, after the animal has removed its hair, the skin on both sides of the skin is disinfected, and the word "#" is cut with the sterilized scalpel. The incision was 3 ~ 5 cm long and the incision interval was 1.0 ~ 1.7 cm. The high dose group (2.52g/kg) and the low dose group (1.26g/kg) were directly coated on the left dermis, then covered with gauze, then fixed with non-irritating glue and bandage, and the right side was coated with the same amount of matrix as control. After being fixed for 6 hours, the mulch was removed and the drug was cleaned with warm water. After the removal of the drug, the erythema and edema were observed and recorded with naked eyes at 30 ~ 60 min, 24 min and 48 872 h, respectively. The average score of skin reaction score and the evaluation of stimulation intensity were calculated at each observation time point between the administration group and the control group. The results are shown in table 1 and table 2.

Table 1. Skin irritation intensity evaluation.

| Point   | Evaluation       |
|---------|------------------|
| 0-0.49  | No Irritation    |
| 0.5-2.99| Mild Irritation  |
| 3.0-5.99| Moderate Irritation |
| 6.0-8.00| Severe Irritation |

Table 2. Skin irritant reaction rating criteria.

| Irritant Reaction | Evaluation         | Point |
|-------------------|--------------------|-------|
| No Erythema       | 0                  |
| Mild Erythema     | 1                  |
| Moderate Erythema | 2                  |
| Severe Erythema   | 3                  |
| Erythema exchange to Eschar | 4     |
| No Edema          | 0                  |
| Mild Edema        | 1                  |
| Moderate Edema    | 2                  |
| Serious Edema     | 3                  |
| Severe Edema      | 4                  |
| Highest Point     | 8                  |

Single back administration of Guci Powder did not produce any irritation to the intact skin of animals and damaged skin, and it was safe to give a single dose of Merlot film agent to the skin. The results are shown in tables 3-6.

Table 3. Broken skin irritation intensity evaluation by single high dose of Guci Powder.

| Group               | Test Medicine       | Time (h) & Score | Evaluation   |
|---------------------|---------------------|------------------|--------------|
| Left: Drug delivery area | High dose of Guci Powder | 0 0 0 0 0 0 | No Irritation |
| Right: Contract area     | Substrate          | 0 0 0 0 0 0      |

Table 4. Broken skin irritation intensity evaluation by single low dose of Guci Powder.
3.2. Hypersensitivity Test of Guci Powder
The local administration of Guci Powder 0.63 g per rabbit did not cause allergic reactions such as erythema and edema in the skin of rabbits, indicating that there was no allergic reaction to the skin of rabbits with local medication of Guci Powder.

4. Discussion
Guci Powder by Chuanxiong, Weiling Xian, Curcuma, pepper, grass, safflower composition. Caowu in the square is a monarch's medicine. Chuanxiong, zedoary, safflower, common for the minister medicine. The Weiling fairy is an adjuvant. Pepper is the medicine. The combination of various drugs has the effect of warming the meridian to relieve pain and activating blood circulation and clearing the collaterals. This product is mixed with wine and vinegar to relieve the pain caused by bone hyperplasia, rheumatism and injury. This method is simple and effective in clinical application. In order to be safe in clinical use, the irritation and anaphylaxis of single dose of Guci Powder to the skin of rabbits were studied. The experimental results show that the single time back administration of Guci Powder is effective on the intact skin of animals. There was no irritation in the damaged skin and no allergic reaction to the skin in rabbits. This experiment provides a safe basis for clinical application.

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