Original article

Fusen herbal tea influenced of spleen deficiency rats model

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Abstract

Influence of spleen deficiency rat model to observe the Fusen herbal tea.

Methods: Rats were gavaged 15% rhubarb powder suspension (5 mL) of 17 days, twice a day. It caused by the spleen deficiency rats model, rats model are respectively at the same time drinking large doses of Fusen herbal tea, a small dose of Fusen herbal tea, a high dose of Wang Laoji herbal tea, a small dose of Wang Laoji herbal tea. When modeling will replace the corresponding tea rat normal blank group were given normal drinking water instead of daily water, and Baohewan group given a pill solution. In the 17 days, Rats were killed and observe the changes of rats.

Results: Rat model were successed in spleen deficiency. The pathological changes of the organs in the model group, but every dose of Fusen herbal tea has no obvious effect on rats.

Conclusion: Fusen herbal tea has no obvious effect on rats.

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1. Introduction

Fusen herbal tea made from honeysuckle, chrysanthemum, grass jelly, licorice, dried ginger, radix puerariae, yam. Fusen herbal tea contains cold drugs. The people were weakness of the spleen and stomach could to drink Fusen herbal tea, so that we are observed long-term drinking a lot of Fusen herbal tea on the rat model of impact.

2. Experimental materials

2.1. Experimental drugs

Herbal tea: Fusen herbal tea made from honeysuckle, chrysanthemum, grass jelly, licorice, dried ginger, radix puerariae, yam. Chinese herbal medicine of rhubarb: Zhang Zhongjing drugstore purchased it; Wang Laoji herbal tea, Production batch number: 20140901 (310 ml/bottle); Bao Hewan: Henan Wanxi Pharmaceutical, Production batch number: 141002.

2.2. Animals

Rat, SPF, male and female, weighing 160–180 g, the experimental animal center of Shandong province quality certificate: No 3700540000032.

2.3. Test solution preparation

10% formalin fixed solution: 40% Formaldehyde Solution 10 ml add distilled water 100 ml.

2.4. Statistical processing

Data analysis using SPSS 17 windows for statistical software, the measurement data were analyzed by single factor analysis of variance.

3. Experimental method

3.1. Grouping and administration

Take the weight of 160–180 g rats that half male and half female. Rats were randomly divided into 7 groups, which 5 groups of these rats model of spleen deficiency of rhubarb, one group was the control group, a group of Baohewan group. The other five groups as control group spleen deficiency group rats (Chen and Chuijie, 2013; Shengguo et al., 2011). Rats were gavaged 15% Rhu-
barb powder suspension (5 mL) of 17 days, twice a day. Rats were drinking a large doses of Fusen herbal tea, a small doses of Fusen herbal tea (small dose of high dose diluted concentration), high dose of Wang Laoji, small dose of Wang Laoji (Wang Laoji Wang Laoji, a large dose of diluted concentration). It will replace the corresponding herbal tea rat normal drinking water; the control group was given ordinary drinking water, drinking water of Baohehuan and Baohehuan group solution. When modeling will replace the corresponding tea rat normal blank group were given normal drinking water instead of daily water, and Baohehuan group given a pill solution (Yuanxiang et al., 2017; Qiuyun and Jun, 2013). In the 17 days, Rats were killed and observe the changes of rats. The water quantity and the amount of feed were observed every day. The weight of each 5 days was observed. Rats was killed and placed duodenum, thymus and spleen in 10% neutral buffered formalin, paraffin embedded and sliced and lens in 17th.

4. Experimental results

4.1. Effect of herbal tea on organ index Fusen source model in rats

As can be seen from the Table 1: To compared with the blank group, the model group significantly decreased (P < 0.01). And the model group than that of Baohe Pill group, small dose Fusen herbal tea group spleen of rat thymus index decreased significantly (P < 0.01), but to Wong Lo Kat rat thymus index (Cong et al., 2016; Fen et al., 2015; Xiulan et al., 2016; Hershey et al., 2012; Han, 2015). With the blank control group, model group and the spleen index was significantly increased (P < 0.01), Baohe Pill group can make the normal rat spleen index was significantly increased (P < 0.01), rhubarb, small dose Fusen herbal tea can make the normal rat spleen index was significantly decreased (P < 0.05), rhubarb, small dose group of rat spleen index had no significant effect.

4.2. Observated on rat thymus spleen deficiency rat model with Fusen herbal tea

The pathological findings of rat thymus tissue as follows: blank group thymic medulla cortex clear edge, clear demarcation, lymphocyte intensive normal, see Photo 1; model group thymic lobule boundary was not clear, cortical thinning, sparse lymphocytes, see Photo 2; rhubarb tea large dose group of thymic medullary cortical clear edge, clear demarcation no obvious change of lymphocyte, intensive pathology, see Photo 3; rhubarb herbal tea in small dose group thymic medulla cortex border clear, clear boundary, and there is no obvious pathological changes of lymphocytes dense, see Photo 4; rhubarb Wong Lo Kat large dose group the thymic cortex medulla with clear boundary, clear boundary, and there is no obvious pathological change of lymphocyte density. Photo 5 rhubarb group of small dose thymic lobule Wanglaoji clear boundary, cortex medulla clear demarcation, pathological changes of lymphocytes was significantly denser, See Photo 6. Baohehuan group, see Photo 7.

Table 1

| Group                      | n  | Thymus index         | Spleen index         |
|----------------------------|----|----------------------|----------------------|
| Blank group                | 10 | 2.38 ± 0.28          | 3.74 ± 0.38          |
| Model group                | 10 | 1.59 ± 0.22          | 2.38 ± 0.46          |
| Bao Hewan group            | 10 | 2.01 ± 0.27**        | 3.08 ± 0.33          |
| A large dose of Fusen herbal tea | 10 | 1.87 ± 0.31*         | 2.84 ± 0.48          |
| A large dose of Fusen herbal tea | 10 | 1.85 ± 0.29*         | 2.81 ± 0.39          |
| A large dose of Wang Laoji  | 10 | 1.78 ± 0.28          | 2.67 ± 0.42          |
| A small dose of Wang Laoji  | 10 | 1.75 ± 0.30          | 2.64 ± 0.41          |

Note: compared with model group.

* P < 0.05.
** P < 0.01.
4.3. The observation of Fusen herbal tea rat model of spleen tissue

The blank group of red pulp and white pulp of spleen nodules with clear boundary, normal splenic nodules, normal lymphocytes, Photo 8; model group of spleen nodule cortical thinning, sparse lymphocytes, see Photo 9; rhubarb herbal tea in high dose group of red pulp and white pulp boundaries clear, splenic nodules, no obvious pathological changes of lymphocytes, see Photo 10; rhubarb herbal tea in small dose group of red pulp and white pulp boundaries clear, splenic nodules, no obvious pathological changes of lymphocytes, see Photo 11; rhubarb group of large dose of red
pulp and Wanglaoji white pulp boundaries clear, splenic nodules, no obvious pathological changes of lymphocytes, see Photo 12; rhubarb group of small dose of red pulp and. The white pulp boundaries clear, splenic nodules, no obvious pathological changes of lymphocytes, see Photo 13; Baohewan group of red pulp and white pulp boundaries clear, splenic nodules, no obvious pathological changes of lymphocytes, see Photo 14.

Observation of spleen tissue morphology under light microscope:

4.4. Observation on duodenal tissue of rats Fusen tea model

In normal group rats duodenal tissue were normal, see Photo 15; rats in the model group of duodenal without significant changes, see Photo 16; large, Fusen herbal tea rats in the low dose group of duodenal no obvious change, see Photos 17, 18; large, small dose of Wong Lo Kat group of duodenal no obvious change, see Photos 19, 20; Baohewan group rats on duodenum without significant changes, see Photo 21. Photos illustrate Fusen herbal tea function in the normal rat duodenum without obvious adverse effects.

Observation of the duodenal tissue in rats with light microscope:

5. Summary

Fusen herbal tea is from honeysuckle, chrysanthemum, grass jelly, licorice, dried ginger, radix puerariae, hawthorn, Chinese yam and other components. Fusen herbal tea contained more than cool Chinese medicine. But work pressure due to the modern urban
nervous. Life is not the law is the norm, especially irregular diet eat lead to stomach disease proportion is rising year by year, the weakness of the spleen and stomach population is becoming more and more popular, the weakness of the spleen and stomach whether can drink fusen herbal tea. Therefore, to observe the long-term effects of a large number of drinking fusen herbal tea induced by rhubarb of spleen deficiency rat model of organ and tissue morphological changes.

The main symptom is shortness of breath qi deficiency, fatigue, dizziness, diarrhea, loose stools, easy bleeding, bloody light, and even looking dirty white, spleen yang deficiency mainly in the
stomach abdominal Leng Tong, greasy food cold will be abdominal pain, diarrhea, loose stool. Qi deficiency syndrome often due to eating disorders, frail, chronic illness caused by clinical manifestations of the organs function decline syndrome, trauma or disease for a long weary virtual lean, and see shortness of breath lazy words, pale, weary weakness, muscle wasting etc. Chinese medicine believes that “the spleen is the day after tomorrow”, spleen, stomach as the source of qi and blood, organs and meridians of the root, lifting of the air-hub for the body, but the body of important defense mechanism to resist evil. Main receiving the stomach, spleen transport, the main muscles. Diet stomach, spleen its subtle lines, the attribution of lung, lung toward the Lotus, to nourish the whole body bones, muscles, and therefore “internal injury of spleen and stomach, riddled by” said. If spleen qi deficiency, spleen, a series of dysfunction, resulting in loss of appetite, anorexia, weight loss. The rhubarb orally made animal model of spleen deficiency. The rhubarb orally after rat can appear thin, back arched, loss of appetite, less, limb weakness, hair dry performance, and spleen deficiency syndrome with clinical manifestations basically.

The experimental results show that: the change of organ morphology of spleen deficiency rats model induced by rhubarb to observe the long-term drinking a lot of tea no aggravation of source fusen. Histological observation of thymus tissue in blank group, thymic medulla cortex clear edge, clear demarcation, lymphocyte extensive normal model group; thymic lobule boundary is not clear, cortical thinning, sparse lymphocytes; rhubarb herbal tea, the pathological changes of thymus in small dose group had no obvious histological observation. The splenic tissue: blank group of red pulp and white pulp of spleen and splenic nodules with clear boundary, normal, normal lymphocytes; model group of spleen nodule cortical thinning, sparse lymphocytes; Rhubarb herbal tea, red pulp and white pulp group clear demarcation, spleen summary, the pathological changes of lymphocytes was found in the normal group; rat duodenal tissues were normal, large, small dose of fusen herbal tea rats, big, small dose group. No significant change in the duodenum was found. The experimental results showed that the long-term consumption of herbal tea could have no obvious effect on the morphology of the rats.

Ran due to fusen herbal tea in cold medicine, but according to animal tissue morphology observation did not appear and increase the spleen deficiency model. It is proved that the Fukumori Genryocha for spleen deficiency rats produced no obvious adverse effects. The fusen herbal tea in the market application provides experimental basis.

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