Effect of Jiuwei Jiangzhi tablet on intestinal peristalsis in mice

X L Geng, J H Sun, L Li, Y L Huang, S J Hao* and Z C Zhang
Henan Xinxiang, 83rd Group Army Hospital of the Chinese people's Liberation Army 453000

Corresponding Author: haosj371@sohu.com

Abstract. This study is to observe the effect of nine-flavor lipid-lowering tablet on the peristalsis of small intestine in mice. The effect of the nine-flavor lipid-lowering tablet on the small intestinal peristalsis of mice was studied by measuring the distance of the carbon powder in the small intestine of the mouse. 60 mice, 18-22 g of body weight, and half male and female, were randomly divided into 5 groups, nine-flavor lipid-lowering tablets, medium and low-dose groups, Sanjiu Weitai suspension and the same volume of physiological saline, and each day was administered once for 7 days, with a volume of 0.2 mL/10 g of body weight. The mice were fasted prior to dosing on Day 7 (water), and after the last dose of 30 min, the mice were given the carbon-end suspension 0.2 mL/10 g of body weight for 30 min after the last dose. After 20 min, the mice were sacrificed after the cervical dislocation of the cervical spine. The abdominal cavity was cut, and the small intestine of the small intestine was isolated and the total length of the small intestine was measured (cm). And the propulsion. Compared with the blank group, Jiuwei Jiangzhi tablet low dose group could significantly promote intestinal peristalsis in mice, positive group and Jiuwei Jiangzhi tablet high dose, middle dose group also significantly increased peristalsis in mice. Jiuwei Jiangzhi tablet can promote peristalsis in small intestine of mice.

1. Introduction
Hyperlipidemia is mainly a disease with abnormal increase of blood lipid level in vivo, and it is one of the important risk factors of arteriosclerosis and cardiovascular and cerebrovascular diseases [1]. Hyperlipidemia and fatty liver are also common diseases in modern times. The incidence of hyperlipidemia can reach about 50%, and most of them are concentrated in men aged 30 years old [2]. The Chinese medicinal composition has effects in treating hyperlipidemia, and has less adverse reaction and high safety[3]. The abnormality of digestive function is an important factor in the increase of blood fat, and it is the first to further understand the ability of the nine-flavor lipid-lowering tablet to promote digestion. Effect of Jiangzhi tablet on intestinal peristalsis in mice.

2. Material
2.1. Experimental drugs
Jiuwei Jiangzhi tablet, Xinxiang 371 Hospital preparation Department, batch number 20150806; Sanjiu Weitai Granules Manufacturer: CR Sanjiu Pharmaceutical Co., Ltd.; Approval No.: CFDA Approval No.:44020705; Arabic Gum: Manufacturer: Tianjin Zhiyuan Chemical Reagent Co., Ltd.; Batch No.:20150501
2.2. Animals
18-22 g female mouse, 18-22g male mouse, germline: KM, grade: SPF, Shandong Experimental Animal Center Quality Certificate: No.37005400002048.

3. Methods
Sixty mice, weighing 18-22 g, half male and half female, were randomly and evenly divided into 5 groups, with high, medium and low doses (7.5 g/kg, 3.75 g/kg, 1.875 g/kg, 15 times the clinical dose, respectively). Sanjiuweitai suspension (1g/ml, 0.2ml/10g equivalent to 15 times of clinical dosage) and saline of the same volume, given once a day for 7 days, the volume was 0.2mL/10g body weight. The mice fasted before administration on the 7th day, and 30 minutes after the last administration. The mice in each group were given 0.2mL/10g body weight with carbon suspension (5g activated carbon mixed with 10% Arabic gum of 100mL). After 20min, the mice were killed by dislocated cervical vertebrae, the abdominal cavity was cut open, and the pylorus was cut to the small ileocecal part. The full-length (cm) of small intestine and the propulsion distance of carbon end in small intestine were measured by (cm), to calculate the propulsion rate of carbon terminal. Carbon propulsive rate (%) = (carbon propulsive distance / full length of small intestine).

| Group                                       | Quantity | Dose (g/kg) | Percent of carbon-to-carbon propulsion (%) |
|---------------------------------------------|----------|-------------|---------------------------------------------|
| Blank group                                 | 12       |             | 58.43±4.19                                  |
| Positive group                              | 12       | 10          | 69.32±6.73*                                 |
| Jiuwei Jiangzhi tablet high dose group      | 12       | 7.5         | 65.31±5.64*                                 |
| Jiuwei Jiangzhi tablets Middle dose group   | 12       | 3.75        | 68.26±6.73*                                 |
| Jiuwei Jiangzhi tablet low dose group       | 12       | 1.875       | 84.15±14.24**                               |

3.1. Determination of propulsive rate of small intestine ink
The intestinal tissue of the above mice was separated, the intestinal tissue was smoothed and maintained in a tension-free state, and the propulsive length of small intestine ink was measured. Intestinal propulsive rate (%) = distance from ink front to pylorus / full length of small intestine.

4. Results
Compared with the blank group, Jiuwei Jiangzhi tablet low dose group could significantly promote intestinal peristalsis in mice, positive group and Jiuwei Jiangzhi tablet high dose, middle dose group also significantly increased peristalsis in mice. Among them, Jiuwei Jiangzhi tablet low dose group was the most obvious. Results: the effect of Jiuwei Jiangzhi tablet on intestinal peristalsis in mice.

5. Discussion
The nine-flavor lipid-lowering tablet is mainly composed of nine Chinese-medicinal materials such as mountain, red-rooted salvia, cassia seed, giant knotweed, turmeric, red peony root, Chinese wolfberry, gynostemma pentaphylla, and yellow chrysanthemum. The monarch drug is a plurality of active ingredients such as a mountain range, a red sage root, a mountain range and a mountain and contains organic acid, triviol compound, flavonoid compound, polysaccharide and the like, and has the pharmacological effects of protecting cardiovascular and cerebrovascular diseases, resisting bacteria, resisting oxidation, lowering blood pressure, reducing blood fat, and resisting tumor. It is shown that the combination of compound I (Semen Cassiae, Saviae Miltiorrhizae Radix, and Herba Gynostemmatis), and compound II (Semen Cassiae, Saviae Miltiorrhizae Radix, and Herba Gynostemmatis) have effects of reducing blood fat, and enhancing immunity. Oxidation ability and hepatoprotective effect. Resveratrol and its methylated derivatives in Polygonum cuspidatum can effectively reduce the risk of atherosclerosis in hyperlipidemic mice, and resveratrol...
Modern clinical studies have shown that Lycium barbarum has pharmacological effects such as reducing blood lipid and blood glucose, protecting liver, anti-tumor, anti-aging and so on. Its main effective component is Lycium barbarum polysaccharide, which can regulate the immune function of the body, effectively inhibit tumor growth and cell mutation, delay aging, anti-fatty liver, regulate blood lipid and blood glucose, promote hematopoietic function and so on. The effects of different doses of gynostemma pentaphyllum saponins on lipid metabolism in experimental hyperlipidemia rats were studied. The results showed that gynostemma pentaphyllum saponins could significantly reduce blood lipid, repair liver injury and improve lipid metabolism disorder caused by experimental hyperlipidemia in rats with experimental hyperlipidemia. There's another one. It has been reported that gynostemma pentaphyllum saponins can reduce cholesterol deposition in arterial wall and the production of lipid peroxide, indicating that gynostemma pentaphyllum saponins can delay the occurrence and development of atherosclerosis. Astragalus membranaceus, sexual temperature can rise yang, invigorate spleen, replenish qi, so it is to make medicine. The combination of these drugs has the advantages of eliminating food and chemical accumulation,

The effect of the nine-flavor lipid-lowering tablet on the small intestinal peristalsis of the mice was observed. The results showed that the low-dose group of the nine-flavor lipid-lowering tablet significantly promoted the small intestinal peristalsis of the mice, the positive group and the nine-flavor lipid-lowering tablet, and the middle-dose group also obviously improved the peristalsis of the mice. In which the effect of the low-dose group of the nine-flavor lipid-lowering tablet is the most obvious. At the same time, this experiment provides the basis for clinical application of safety.

6. Acknowledgement
This work is supported by the Key Science Project of Xinxiang (No. ZG14015)

7. References
[1] Hong R 2014 *J. Tradi. Chin. Med.* 27(12) 1642-1643
[2] Jun L 2013 *J. Tradi. Chin. Med.* 28(2) 250-251
[3] Lijun W, Dong L and Lei S 2013 *J. Pharm. Practice* 31(1) 51-63