

3. Clustering results discussion C1 Atractylodes, Astragalus, Malt, Hawthorn, Divine Comedy: Atractylodes and astragalus, atractylodes is the first important medicine for invigorating spleen qi, astragalus is the most important to supplement the qi, the two belong to tonify deficiency, often share big repair viscera vigour of weakness. Song think long illness of people more than the day after tomorrow is deficient, combined with modern irregular diet and rest life could hurt taste and poor transport function, and focal three fairy song division is the most commonly used xiaoshi drugs, more than ninety percent of the cases can be found in its use. C2 Dodder, savanna, mulberry cuttlebone, raspberry, Gorgon, Rosa laevigata, Ligustrum lucidum: This kind of medicinal is tonifying combined with astringent, good at entering the liver and kidney. For the CGN of liver and kidney deficiency type, with liver and kidney complement, Gushen astringent fine effect. C3 Thistle, thistle, raw yellow, Rehmannia glutinosa, oriental arborvitae, elm, Oujie, palm charcoal, baicalin, ebony: Song in the prescription in the application of such drugs more choice fried charcoal processing. On the one hand, charcoal its nature, to ease the drug and the toxicity of the same time to retain its inherent odor, on the other hand carbon black multi-color, so the charcoal drugs can enhance the effect of cooling blood to stop bleeding. C4 Apocynum, Centella asiatica, Papilion, Qinpi, rhubarb, soil Fuling, Rhizoma Imperatae, Scutellaria barbata, Hedyotis diffusa, Puhuang, Nepeta: This kind of fang is given priority to the heat of liver and spleen. Statistics, behavior more than 50% in patients with CGN has damp and hot, song CGN attaches great importance to the damp heat evil treatment, such party is mainly used in the spleen kidney both deficiency and see evil inside one of the hot and humid.

Reference:

[1] He Xiaoxue, Ye Xuefeng, Zhang Yan, Tan Ruijing. Chronic glomerulonephritis hematuria in the treatment of traditional Chinese medicine research progress [J]. Global Medicine, 2012,5 (09): 713-716.

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EVALUATION OF ACTIVITY OF THE LIPID PEROXIDATION PROCESS AT ATHLETE COMPETITORS OF AMUR STATE MEDICAL ACADEMY

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Abstract The development of sports of higher achievements and mass sports movement is rightfully considered one of the most important priorities of state policy in the Russian Federation (August 12, 2017, Official Network Resources of the President of Russia). However, it should be noted that intense physical stresses, which are a stressor for the body and cause activation of lipid peroxidation (LPO) processes, can lead to disruption of the normal functioning of the athlete's body.

Key words: athlete, lipid peroxidation

The purpose of the study was to evaluate the activity of LPO in athletes athletes engaged in the Amur State Medical Academy as an indicator of effective / ineffective work of the body's antioxidant defense system (hereinafter AOC - antioxidant system).

Materials and methods To achieve this goal, we sampled venous blood and evaluated the laboratory parameters of LPO (malonic dialdehyde, lipid hydroperoxide, diene conjugates) in 7 athletes using the elements of descriptive statistics (mean, median, standard deviation).

Results The analysis of blood plasma for lipid peroxidation products showed the following values (Table 1 - The content of lipid peroxidation products in blood plasma).

Table 1 - The content of lipid peroxidation in the blood plasma

No	Malonoidaldehyde nmol / ml	Lipid Hydroperoxide nmol / ml	Diene conjugates nmol / ml
1	4,9	32,2	39
2	3,8	30,6	41
3	5,4	38,2	42,5
4	4,6	31,8	38,7
5	4,7	37	36,4
6	5,6	30,8	35,6
7	6,5	28,9	42,5

1) The average value of the malonic dialdehyde content of blood plasma was 5.07 nmol / ml, the median was 4.9 nmol / ml, the standard deviation was 0.79 nmol / ml. Confidence interval: (3.97, 6.18) nmol / ml. With a proba-

bility of 0.999, it can be argued that the average value for a larger sample will not exceed the range found.

2) The mean value of the content of lipid hydroperoxides of blood plasma was 32.78 nmol / ml, the median was 31.8 nmol / ml, the standard deviation was 3.2 nmol / ml. Confidence interval: (28.33; 37.24) nmol / ml. With a probability of 0.999, it can be argued that the average value for a larger sample will not exceed the range found.

3) The mean value of the content of diene conjugates of blood plasma was 39.38 nmol / ml, the median was 39 nmol / ml, the standard deviation was 2.5 nmol / ml. Confidence interval: (35.83; 42.94) nsol / ml. With a probability of 0.999, it can be argued that the average value for a larger sample will not exceed the range found.

Conclusion

Taking into account that the normal LPO indices are equal to: malondialdehyde - less than 2.5-6.0 nmol / ml, lipid hydroperoxides - 24.17-26.3 mol / l, diene conjugates - 38.45-73.4 nmol / ml, it can be concluded that:

1. the average Malonialdehyde content does not go beyond the standard values.
2. the average index of the content of lipid hydroperoxides exceeds the upper limit of standard values;
3. the average content of diene conjugates does not go beyond the standard values.

It is also necessary to note the finding of confidence intervals for the values of malonic dialdehyde and diene conjugates contained in the blood plasma, within the standard values, therefore, for large samples, the average values of these indicators will also remain within the norm. But taking into account the excess of the norm of the average content of lipid hydroperoxides, we can not give a definitive answer about the effectiveness or ineffectiveness of AOS work. To fully display the ratio of LPO-AOS, it is necessary to analyze the plasma content of ceruloplasmin, vitamin E and conduct an integral assessment of oxidative stress.

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STUDIES ON THE METABOLISM OF THE MAIN ACTIVE COMPONENTS OF HUAQIZEREN IN RAT URINE AND FECES

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Objectives: The contents of three main active ingredients (ginsenoside Rb1, alismate A-24-acetate and 9-HODE) in the urine and fecal samples of Huaqizeren standard mixed rats were determined by HPLC-MS/MS. The metabolic pathways were identified, and the biotransformation of Huaqizeren in vivo was explored.

Materials and methods: Rats were fed with urine and fecal samples after administration of the three standard ingredients (ginsenoside Rb1 0.16%, Alisma alcohol A-24-acetate 0.0045% and 9-HODE 0.013%). Before and after administration for 12 h. The search and confirmation of metabolites were analyzed by UPLC-Q-TOF / MS.

Results: ① The average concentration of ginsenoside Rb1 in urine and feces was 213.1±85.32 ng/ml, 2.578±1.117 mg/g, after administration of 0~12h. The average concentration of A-24-acetate in urine and feces was 12.54±4.428 ng/ml, 0.1263±0.03409 mg/g. The average concentration of 9-HODE in urine and feces was 40.14±12.23 ng/ml, 0.2260±0.04811 mg/g. ② In the urine ginsenoside Rb1 mainly to the prototype drug-based, in addition to ginsenoside Rb1 related metabolites 13 species, the structure identified as Ginsenoside Rd, Ginsenoside Rg3, Ginsenoside Rh2, Ginsenoside F2, Ginsenoside Cpd K, Gypenoside XVII, Gypenoside LXXV, Ginsenoside Ppd, Monoxygenated Rb1, Di-oxygenated Rb1, Dehydrogenated Rb1, Combined Rb1 (1), Combined Rb1 (2). Alcohol A-24-Acetate Metabolites Alisol A, 9-HODE Metabolites 9-oxoODE. In the feces, four kinds of ginsenoside Rb1 related metabolites were found, identified as Ginsenoside Rd, Ginsenoside F2, Ginsenoside Cpd K, Ginsenoside Ppd. Alcohol A-24-acetate metabolite Alisol A, no 9-HODE metabolite.

Conclusion: This study established a sensitive and reliable HPLC-MS/MS method to determine the concentration of ginsenoside Rb1, Alisma A-24-acetate and 9-HODE in rat urine and feces. In the urine, feces found in the three active ingredients related metabolites, suggesting that urine, feces may be the three active ingredients of Citrus grandis important metabolic pathway, in order to determine the basis of Huaqizeren drug substance and improve the pharmacokinetic study. Lay the foundation.

Key words: Huaqizeren; ginsenoside Rb1; Alisma alcohol A-24-acetate; 9-HODE; HPLC-MS/MS

References:

- [1] Li Yikui, Wu Jianyu. Xiaoqinglong Decoction serum on the peritoneal hypertrophy of rats induced by degranulation and histamine release [J]. Chinese Journal of Integrated Traditional and Western Medicine, 2000, 20: 40-3.
- [2] Luo Fen, Chi Yumei, Wu Hao. Overview of metabolic kinetics of traditional Chinese medicine [J]. Chinese Journal of Experimental Prescription, 2011, 17 (14): 284-288.
- [3] Wang Yao, Ji Yubin, Chen Mingcang. Study on the interaction between traditional Chinese medicine and intestinal flora [J]. Chinese Medical Journal, 2012, 9 (2): 12-14.