between the role of antipyretic..Baihu decoction, the gastrointestinal tract by the absorption of the efficacy of components released to the target site, so that the release unit in the target site play an antipyretic effect.

References

[1] Yang Ming, Feng Yi, Xu Desheng, Zhu Weifeng, Tang Bin, Liao Zhenggen, Xie Xingliang, Fu Chaomei. Modern Chinese medicine compound release system construction [J]. World Science and Technology, 2006, (05): 10-15.

[2] PENG Cheng. Pharmacology of traditional Chinese medicine [M] .3 version. Beijing: China Traditional Chinese Medicine Publishing House, 2012: 335-336.

[4]Ma Zehong. Chinese medicine cold and heat cool cool four gas. Pharmacy Bulletin .1984, (10): 59.

RESEARCH PROGRESS ON PHARMACOLOGICAL EFFECTS OF TOTAL FLAVONOIDS IN GALIUM VRRUM L.

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Abstract: The main chemical ingredients of Galium vrrum L. are flavonoids. It includes diosmin, DXG, luteoloside, etc. Flavonoids are highly effective, natural, less toxic side effects of anti-cancer drugs. It has many biological functions, such as anti-inflammatory, bacteriostasis, reducing blood lipid and anti aging. In recent years, the pharmacological effects of these flavonoids are constantly being discovered. In this paper, the pharmacological effects of flavonoids in Galium vrrum L. were reviewed.

Key words: Total flavonoids in Galium vrrum L.(FGVL);pharmacological

1. Anticancer effect Zhao Rui[1] equals the mouse model of aged cervical cancer in the left forelegs under the armpit subcutaneous injection of 0.2mL U1 tumor cells after intraperitoneal injections of D-galactose 60d. After FGVL treatment of 13d, the symptom of weight loss in tumor-bearing mice improved markedly, the serum level of T-AOC and sod activity in the mice with elevated tumor can decrease the serum MDA and LDH level, so that FGVL can inhibit the growth of tumor cells in aged-bearing mice by lowering lipid peroxide level, decreasing LDH content and improving serum antioxidant enzyme activity. Zhao Rui[2] found that FGVL significantly inhibited the proliferation of NB4 cells in acute promyelocytic leukemia cell lines, and its mechanism was related to the expression of Bcl-2/Bax.

2. Antioxidant effect Shi Lingen[4] found that FGVL could enhance the activity of the popular vein endothelial cells (HUVECs), promote the growth of cells, protect and repair the oxidative damage induced by H2O2, and reduce the apoptosis of cells. Its function mechanism is related to the secretion of antioxidant and regulating ET-1/CGRP. Zhang Ziyang[5] and other studies also found that FGVL on the damage of hydrogen peroxide HUVECs has a protective effect, antioxidant damage, its mechanism can be through the NF-κ B/I κ B signal channel adjustment.

3. Anti-inflammatory effect LPs (Lipopolysaccharide, also known as endotoxin) is the cell wall component of Gram negative bacteria and is one of the important factors inducing the inflammatory reaction and dysfunction of endothelial cells. Studies such as Ningxin[6] found that the low middle and high doses of FGVL and luteolin could make HUVECs proliferate, effective inhibition of LPS on the proliferation of HUVECs cells, can significantly reduce the intracellular inflammatory factor IL-6, IL-8, TNF-α, VCAM-1 and other content, reduce the expression of the pathway proteins, LPS-induced inflammatory response has a good protective effect.

4. Anticoagulant, antithrombotic effect Kou Hanxu[7] The rat model of acute blood stasis was prepared by subcutaneous injection of adrenaline and ice water bath stimulation, the blood samples of inferior vena cava were measured, blood rheology indexes, four indices of coagulation, oxidative damage Index, vascular regulation substances and inflammatory factors were used. The results showed that FGVL could significantly improve the blood rheology indexes, significantly lower plasma FIB, MDA, CRP, TNF-α, IL-1 β, sICAM-1 content, and significantly prolong PT, APTT, TT, obviously increase serum no and plasma sod content, so found FGVL anticoagulant blood, antioxidant injury, anti-inflammatory, regulating vascular function of the role of the obvious, blood stasis caused by oxidative damage and inflammation, there is good protection and treatment.

Reference literature:

[1] Zhao Rui, Chen Zhibao, Jia Guiyan, etc. Effect of flavonoids on antioxidant defense system in aged mice with tumors [J]. Chinese Journal of Gerontology, 2011, 31 (14): 2684-2686.

[2] Zhao Rui, Chen Zhibao, Cai Yaping, etc. Study on the effect of flavonoids in vitro and in vivo against cervical cancer [J]. Heilongjiang Livestock Veterinarian, 2013, (03): 132-134+167.

[3] Dong Jing, Ma Yingli, Li Haixia, etc. Effect of total flavonoids in the canopy on apoptosis of NB4 cell lines [J]. China Public Health, 2014, 30 (07): 906-909.

[4] Shi Lingen, Ling Qiu, Yang Xiaolei, etc. The protective effect of total flavonoids on human umbilical vein endothelial cells injured by hydrogen peroxide [J]. Chinese New Drug magazine, 2012, 21 (13): 1523-1527.

[5] Zhang Ziyang, Ma Yingli, Dong Jing, etc. Effects of total flavonoids on oxidative damage of human umbilical vein endothelial cells NF-κ B/I B signaling pathway [J]. Chinese Journal of experimental Prescription Science, 2015, 21 (01): 107-111.

[6] Ningxin, Dong Kun, Sun Chao, etc. The protective effect of the effective constituents of Galium vrrum L. on the inflammatory injury induced by lipopolysaccharide in human umbilical vein endothelial cells [J]. TCM information, 2017, 34 (01): 17-21.

[7] Kou Hanxu, Dong Kun, ningxin, etc. Study on the effect and mechanism of total flavonoids of Galium vrrum L. on hemorheology in rats with acute blood stasis [J]. Journal of TCM, 2015, 43 (01): 11-15.