1.1.1Experimental animals: SD rats , License number: SCXK (Beijing) 2006-0009.Purchased from Beijing Weitong Lihua Experimental Animal Technology Co. Ltd.

1.1.2Experimental reagents: Sodium chloride injection,batch number: 170109D1,Harbin Sanlian pharmaceutical Limited by Share Ltd; High active dry yeast powder, batch number: 20110104W, Angel yeast Limited by Share Ltd; DNP, batch number: 981, China Pharmaceutical and Biological Products Institute; Lipopolysaccharide (LPS), batch number: L2880, Sigma.

1.1.3Laboratory apparatus: PB602-N electronic balance (METTLER TOLEDO Instruments (Shanghai) Co., Ltd.); MC-106B OMRON electronic thermometer (Dalian OMRON Co., Ltd.).

1.2 Experimental method

1.2.1Administration and grouping: The blank group was subcutaneously injected with 0.9% Sodium Chloride Injection 10ml /kg . Dry yeast group: 10% yeast suspension was injected subcutaneously (10ml /kg). 2, 4- dinitrophenol group: subcutaneous injection of 2, 4- dinitrophenol 20 mg /kg. Intraperitoneal injection of LPS 20 μg / kg.

2.Results

2.1In the febrile SD rats induced by subcutaneous injection of dry yeast suspension, their body temperature to decrease in the first hour. After 2 hour, the body temperature rose rapidly,reached to the peak value after 5 hour to 7 hour.After that, the heating curve is at the peak plateau stage and can maintain 7 hour. After 12 hour, the rats temperature began to decrease.Up to 24 hour, the heating value falls below 1 degrees Celsius.

2.2 In the fibrilerats induced by subcutaneous injection of 2,4 -dinitrophenol solution, the temperature immediately increased rapidly,reached to the peak value after 1 hour to 1.5 hour. The peak value is 3.5 degree Celsius. After that, the body temperature began to recover gradually,and lasted for 4-5 hour.

2.3 After intraperitoneal injection of LPS 30 min, the body temperature increased significantly in rats. There were two peaks at about 2 hour and 4 hour. The maximum peak is 2.3 degrees Celsius. At 6 hour after injection, the body temperature was reduced to below 0.6 degrees Celsius. 3.Discussione

3.1 Fever caused by dry yeast is a severe inflammatory reaction caused by local ulceration at the injection site. It is the most common febrile model in rats. [1] The experimental results showed that the dry yeast fever model rats after a short time after cooling temperature increases rapidly, and can maintain a peak plateau in the peak, after injection of 24 hour is observed in local injection has obvious symptoms of inflammation. The heating effect of dry yeast caused fever in rats was stable and lasting.

3.2 2,4-dinitrophenol is a strong metabolic stimulator, which can stimulate the animals to produce aseptic inflammation after subcutaneous injection, is a non infectious fever model. The role of rapid transient heating, high amplitude, not suitable for study on the role of slow, lasting antipyretic antipyretic effect, and is suitable for quick effect, obvious curative effect, used to study the antipyretic drugs in the treatment of non infective fever.

3.3Lipopolysaccharide (LPS) is an active component of endotoxin (ET) in gram negative bacteria. The heating peak produced by 20μg /kg dose in rats 0.5 hour may be stress induced fever, so it is not considered as the first phase heat, that is, 20μg /kg can cause biphasic fever in rats.

The results showed that the heating time, peak time and maintenance time were different in fever models caused by different exogenous pyrogen.

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THE INFLUENCE OF IL-17、MMP-7 of GA RATS TREATED BY TKED METHOD

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Abstract According to the study of the effect of tonifying kidney and excreting dampness method on gouty arthritis(GA) rats, 84 SD rats were randomly divided into 7 groups, 12 rats in each group, using the model of uric acid sodium combined with oxonic acid potassium, induced acute GA. Using ELISA method to detect the level of IL-17 and MMP-7 of the serum. As a result of this study, the prescription of tonifying kidney and excreting dampness method(TKED method) can reduce the level of IL-17 and MMP-7 significantly, which has a certain effect on the prevention and treatment of GA.

Key words: IL-17, MMP-7, Tonifying kidney and excreting dampness method(TKED method)

GA is part of the bone metabolic disease, which has increased incidence all over the world in recent years, especially in China. Some scholars believe that IL-17 plays a role in three aspects, which included inflammation, cartilage destruction and bone erosion[1]. Il-17 stimulates the production of matrix metalloproteinases (MMPs) resulting in bone destruction [2]. MMP-7 can mediate the inflammatory cells in the onset of GA [3]. So the relationship of these factors in GA is close, and studying that will have great contribution to the GA.

Objective To observe the influence of IL-17、MMP-7 of GA rats treated by TKED method, to study the mechanism of this method in prevention and treatment of GA.

Materials and methods 84 SD rats, male, body quality (180~220) g, were randomly divided into seven groups: BG, MG, GRG, CG, CMLG, CMMG and CMHG (N=12), then they were drenched respectively physiological saline and the corresponding liquid medicine, concluding gout relief pills solution、 colchicine solution, and the prescription of TKED methods, the dose is shown in Table 1. Various groups were gavaged by 1 mL with 100g body weight of rats as a standard, 7 days once daily.Then BG was injected 0.2mL physiological saline into the right ankle joint of rats. The other groups were using the following methods: intraperitoneal injection with 3% oxonic acid potassium solution, 3mL·100g-1.After 15 minutes, used No. 6 injection needle inserted into the knee joint of rats. Then injected the 0.2mL MSU sodium solution into the joint cavity. After 4 hours, the rats were killed, got the eye blood, standing for 1h, then centrifugated(4000r·min-1) for 10 minutes. Using Elisa method detected the level of IL-17 、MMP-7 of the serum.

Results and discussion We used SPSS 17.0, according to K-S/S-W description statistics, P>0.05, satisfing normal distribution and the variance of each group was homogeneous, then used one-way analysis of variance. The results are shown in Table 1.

Table 1 Comparation of the level of SP 、COL-I of different groups ($\bar{x}$±s，n=11)

Goup	Concentration	N	IL-17(pg/mL)	MMP7/(μg/L)
BG	-	12	7.19±0.86!△○	1. 19 ±0. 72
MG	-	12	15.12±1.10*△○	2. 84 ±0.14*
GRG	0.029gmL^{-1}	12	11.20±1.25*!△	2.42±0.28*!△
CG	0.028mgmL^{-1}	12	8.42±1.09*!○	1.62±0. 14*!○
CMLG	5 mlkg^{-1}	12	10.07±1.07*!△○	2.35±0. 24*!△
CMMG	10mlkg^{-1}	12	8.44±1.12*!○	1.53±0. 28*!○
CMHG	20mlkg^{-1}	12	10.02±1.09*!△○	2.31±0. 14*!△

Compared with BG,*P<0.05; Compared with MG,!P<0.05;Compared with CG, △P<0.05; Compared with GRG, ○P<0.05.

Can be seen from table 1, colchicine and the prescription of TKED method could significantly reduce the level of IL-17 and MMP-7, compared with MG,they had obvious difference (P < 0.05).In recent years, some researcheres have found that IL-17 can induce the expression of MMP-2, MMP-3, MMP-7 and other MMPs[4、5],which can enhance collagen enzyme activity and promote Ⅰ and Ⅲ collagen degradation. TKED method is proposed by the tutor who based on years of clinical diagnosis and treatment of GA. The results of this experiment that is shown in this paper is the prescription of TKED method can significantly inhibit the level of IL-17 and MMP-7 and it plays considerable role as colchicine .It is suggested that the prescription of TKED method has good effects on anti-inflammatory and analgesic and provide experimental basis for its clinical application in the treatment of gouty arthritis.

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