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Fig.1. Identification of NETs by fluorescent staining⁴

PicoGreen fluorescent staining showed extracellular fibrous network structure

Fig.2. NETs promote the proliferation of RA-FLS

(A) Different doses of NETs stimulated RA-FLSs, and the OD value at 490nm was detected after 60h culture. (B) The OD values of NETs group (10ul NETs) and DNaseI pretreated NETs group (DNaseI+10ul NETs) were higher than the control group (0ul NETs). (* $P < 0.05$, ** $P < 0.01$)⁴

Fig.3. CTGF mRNA levels in RA-FLSs⁴

The relative expression of CTGF mRNA in RA-FLSs between experimental group (20ul NETs) and control group (0ul NETs).⁴

Disclosure of Interests: None declared

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AB0120

THE MECHANISM OF TRADITIONAL CHINESE MEDICINE PRESCRIPTION ER-MIAO-SAN IN THE TREATMENT OF RHEUMATOID ARTHRITIS BASED ON CHOLINERGIC ANTI-INFLAMMATORY PATHWAY

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Background: Rheumatoid arthritis (RA) is a chronic progressive autoimmune disease. The traditional Chinese herbal formula Er-miao-san (EMS) has been used to treat RA demonstrating significant clinical efficacy; however, the mechanism of action remains unclear. In view of the important role of $\alpha 7$ nicotinic

acetylcholine receptor ($\alpha 7$ nAChR) in the cholinergic anti-inflammatory pathway (CAP) for the regulation of inflammation and cytokines. Indeed, we previously found a correlation between *CHRNA7* (encoding $\alpha 7$ nAChR) expression and EMS. We hypothesized that it may play a role in the anti-inflammatory effects of EMS.

Objectives: The mechanism of EMS in the treatment of RA based on *CHRNA7* involved in the regulation of CAP.

Methods: We established a CIA model with female Wistar, and the effects of intragastric administration of EMS on the expression of *CHRNA7*, arthritis score, inflammatory, and articular cartilage changes, was examined in the joints. The serum levels of TNF- α , IL-6, and IL-1 β were determined using commercial ELISA kit.

Results: The CIA model was successfully established. Macroscopic changes of arthritis, such as redness and swelling, were clearly observed in the CIA rats, but were attenuated by the treatment of EMS. The mean arthritis score was markedly lower in the EMS-treated group (EG, $P < 0.05$). The serum level of TNF- α was significantly lower in EG compared with CIA group ($P < 0.05$). The same results were found in the serum levels of IL-6 and IL-1 β . Synovial edema and extensive infiltration of inflammatory cells occurred in the CIA rats, but were repaired by the treatment of EMS. Cartilage tissue was thinning, dissolution and disappearance, as well as extensive inflammatory cell infiltration with plasma cells and lymphocytes, was observed in the articular cartilage of the ankles in CIA group. In contrast, EMS treatment prevented cartilage degeneration and markedly reduced inflammation. Immunohistochemistry (IHC) analysis showed positive signals of *CHRNA7* was expressed on fibroblast-like synoviocytes, macrophages, and endothelial cells in the joints. Effect of EMS on the expression of *CHRNA7* protein in the joint by Western blot (WB) analysis. IHC and WB relative optical density values of *CHRNA7* was significantly higher in EG compared with CIA group ($P < 0.05$).

Conclusion: EMS can significantly alleviate the symptoms of arthritis in CIA rats by regulating the expression of *CHRNA7* in CAP. It provides a scientific research foundation for the further development of EMS and explores more ways to treat RA.

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AB0121

EXPRESSION OF CHEMOKINES AND CHEMOKINE RECEPTORS IN DIFFERENT TISSUES AND THEIR LOCALIZATION IN THE JOINTS OF RATS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a complex, chronic, multisystem autoimmune disease characterized by a sustained immune response that leads to inflammation in the body and destruction of joints. While not completely understood, immune cells, as well as soluble factors such as cytokines and chemokines, are believed to be involved in the pathogenesis of RA. Chemokines play an important role in the development of inflammation and the regulation of cytokines. However, studies of chemokines have focused mainly on their role in cancer, and