

# Rheumatology in China—brief introduction of the development of Chinese rheumatology

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## Recognition of rheumatism in Chinese traditional medicine (CTM)

There were accounts of rheumatism in Chinese ancient medical books more than two thousand years ago, though knowledge at that time limited rheumatism only to pain in the joints and soft tissues. According to CTM, rheumatism is caused by external influences related to wind, cold, wet and dry conditions. Therefore, the treatment should focus on these influences and re-establishing the balance of the internal environment. Of course, modern rheumatology covers more diseases than CTM.

## Development of modern rheumatology in China

### *Establishment of academic organizations*

Compared with most other specialties, Chinese modern rheumatology started relatively late. The 1960s saw the appearance of professional rheumatologists and outpatient clinics for rheumatic diseases, and at the end of the 1970s, hospitals in Beijing and Shanghai were the first to set up clinical rheumatology units. It was not until 1985 that the Chinese Rheumatology Association (CRA) was founded, which was relatively late compared with the Chinese Medical Association; the latter was founded in 1936. Within the last 20 yrs, Chinese rheumatology has developed rapidly. Hospitals that have a rheumatology unit have expanded from a few, nationwide, to cover every province and state of China. In 1988, the CRA joined the Asian Pacific League Against Rheumatism (APLAR) and International League Against Rheumatism (ILAR). So far, rheumatology subdivisions have been founded in 27 of 31 provinces in China (not including Hong Kong, Macao and Taiwan).

### *Academic progress*

During the last 20 yrs, China has initiated a couple of epidemiology surveys on several major rheumatic diseases. An investigation conducted in regions including Beijing, Shantou City in Guangdong Province, Heilongjiang Province and Ningxia Autonomous State revealed that the prevalence of rheumatoid arthritis ranged from 0.26 to 0.5%, with an average of 0.36%. A study conducted in both the Northern and Southern parts of China estimated that the prevalence of ankylosing spondylitis was 0.26%. The positive rate of HLA-B27 in patients of ankylosing spondylitis was >90%, while the rate in the general population was only 6–7%. Another survey conducted in 30 000 textile workers in Shanghai showed that the prevalence of systemic lupus erythematosus in males was 70 per 100 000 persons; and in females, the rate was 113 per 100 000 persons. Data from hospitals in Beijing showed that among patients with systemic lupus erythematosus who visited a doctor, those aged 14–39 yrs

comprised 70% of the population, and the male to female ratio was 1:13 while the ratio was 1:4 in patients aged between 40 and 59 yrs. An epidemiology investigation of osteoarthritis conducted in 13 451 steel workers in Shanghai showed that the prevalence of symptomatic osteoarthritis was 2.2% and asymptomatic osteoarthritis was 53%. The prevalence of osteoarthritis was 11, 27 and 62% in the age groups 30–39, 40–49 and 50–59 yrs, respectively. Looking at primary Sjögren's syndrome, an investigation was conducted in 1992 in all adults (total 2060) living in a suburban region of Beijing, including screening with anti-nuclear antibodies (ANA), rheumatoid factor and anti-SSA(Ro)/anti-SSB(La) as well as a questionnaire. For those who were positive in any of the screen tests, additional tests for keratoconjunctivitis sicca and salivary gland involvement were performed. The results showed that the prevalence of primary Sjögren's syndrome in the Beijing area was 0.77% based on the Copenhagen criteria and 0.29% based on the San Diego criteria. Therefore, we concluded that primary Sjögren's syndrome is not a rare disease in China. Recently, another investigation was conducted to explore the current therapeutic strategy for rheumatoid arthritis in China. Eleven regions and 56 hospitals took part in this study. So far, 2202 patients with rheumatoid arthritis have been registered, 436 males and 1766 females, with the average age of  $48.66 \pm 16.05$  (8–90) yrs and mean disease duration of  $86.49 \pm 98.47$  (1–664) months. The involved joints at the onset of disease were hand (61.76%), knee (35.6%), wrist (34.29%), shoulder (18.89%), foot (17.71%), ankle (17.57%), elbow (15.03%), hip (5.00%) and spine (3.95%). The first drug taken by patients was non-steroidal anti-inflammatory drugs (NSAIDs) (53.04%), disease-modifying anti-rheumatic drugs (DMARDs) (21.21%), glucocorticosteroids (16.89%), Chinese traditional medicine (9.49%) and drugs with unknown component (11.99%). The first DMARD prescribed was methotrexate (60.81%), sulphasalazine (22.55%), leflunomide (16.01%), hydroxychloroquine (7.88%) D-penicillamine (7.29%), etc. The average time from joint pain to joint function impairment was  $36.38 \pm 66.63$  months, and the time to joint deformity was  $55.61 \pm 73.87$  months. Investigation also revealed that the average time from joint pain to DMARDs prescription in patients without joint deformity was  $36.33 \pm 68.48$  months, while the time was  $75.69 \pm 98.43$  months in patients with joint deformity, suggesting that early prescription of DMARDs could effectively prevent joint destruction. With the development of the Chinese economy and improvement of the living standards of the Chinese people, gout, a formerly rare disease, has become more and more common and been increasingly recognized since the 1990s. An epidemiology survey on gout is underway.

It is also noteworthy that with the development of the Chinese economy, government investment on medical research has increased. Chinese medical society becomes more open

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to international communication. Many hospitals and medical institutes have initiated and implemented basic researches related to rheumatic diseases. With the rapid development of Chinese rheumatology, the CRA has held a national meeting annually since the year 2000 instead of every 4 yrs as before. The number of participants has grown from 200 to 300 to over 1000. In the most recent annual meeting held in Nanjing, the number exceeded 1300. Rheumatologists from other

countries including the US, UK and Australia were also invited to attend and lecture at the meeting, which we believe will facilitate mutual understanding and collaboration between CRA and international societies. We are fully confident that in the near future, the Chinese Rheumatology Association will get more actively involved in international academic activities and will have more and more high-quality scientific papers published on international academic journals.