Abstract

Lyme disease is a multi-systemic disease caused by the spirochete *Borrelia burgdorferi* and transmitted by ticks. The patients with Lyme disease in Taiwan present erythema chronicum migrans. The epidmiology of Lyme disease in Taiwan is not clear. Some of the patients with Lyme disease present arthritis. Therefore, we want to study the relationship of Lyme disease and other autoimmune diseases. At present the diagnosis of Lyme disease is based on a positive immunoserologic test. We used different methods to prepare antigen from *B. burgdorferi* sensu stricto strain B31 for serological test including sample buffer lysis, Buffer A lysis, sonication and Tight-fitting glass. Based on our study, the partially purified antigen form sonicated spirochetes is better than other methods. We examined sera from 4 patients with Lyme disease, and 24 patients with erythema migrans；91 patients with Rheumatoid arthritis；48 patients ankylosign spondylitis；36 patients from SLE and 45 patients from Sjören's syndrome by western blot. As in our study, the 84kDa, 66kDa, 39kDa, 45kDa, 34kDa and 31kDa protein is more specific in patients with Lyme disease. The most prominent IgM response in patients with Lyme disease in Taiwan was to 84kDa, 39kDa, 66kDa, 34kDa and 31kDa proteins and they are more specific than other diseases. The most prominent IgG response in patients with Lyme disease in Taiwan was to 84kDa, 45kDa, 34kDa, 31kDa and 30kDa proteins and they are more specific than other diseases.

Keyword: Lyme disease；arthritis；autoimmune；serologic test