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ORIGINAL ARTICLE

Clinical manifestations in uveitis patients with and without rheumatic disease in a Chinese population in Taiwan

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Abstract *Background/Purpose:* Uveitis can be a local eye disease or a manifestation of systemic rheumatologic disorders. However, the differences of clinical manifestations between uveitis patients with or without systemic rheumatologic disease have been seldom described in literature. We investigated the clinical features and complications of rheumatic disease-related uveitis, and compared the characteristics in patients with and without rheumatic disease in a Chinese population in Taiwan.
Methods: A retrospective review was performed for all patients who had been diagnosed with uveitis between January 2009 and June 2014 at the Department of Ophthalmology, Chang Gung Memorial Hospital, Taoyuan, Taiwan.
Results: A total of 823 uveitis patients were enrolled in the study, including 123 patients with rheumatic diseases. The most frequent rheumatic diseases included ankylosing spondylitis (5.8%), followed by Behçet's disease (2.8%), sarcoidosis (1.4%), psoriasis (1.1%), and juvenile idiopathic arthritis (1.1%). Compared with patients without rheumatic disease, those with rheumatic disease-related uveitis had a lower mean age at onset (35.1 ± 15.8 years vs. 44.0 ± 17.5 years), a longer follow-up period (27.1 ± 25.3 months vs. 22.2 ± 23.0 months), a higher incidence of anterior uveitis (69.0% vs. 46.3%), less frequent posterior uveitis (4.9% vs. 21.4%), a higher incidence of recurrence (26.8% vs. 14.1%), more frequent bilateral involvement (53.7% vs. 38.8%), and more frequent posterior synechiae (17.2% vs. 9.4%).

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Conclusion: The disease course and clinical manifestations of rheumatic disease-related uveitis were different from those unrelated. Patients with rheumatic disease-related uveitis had a higher recurrent rate and more frequent posterior synechiae than patients without rheumatic diseases.

Introduction

Uveitis, which is defined as intraocular inflammation, includes several disease entities. Uveitis can be categorized according to the primary site of inflammation as anterior (e.g., iritis), intermediate (e.g., vitritis, pars planitis), posterior (e.g., retinitis, choroiditis), or panuveitis.[1] Uveitis is a relatively uncommon but devastating disease, accounting for 10—15% of legal blindness among working-age adults in developed countries.[2] The uncontrolled inflammation and frequently relapsing course of uveitis can lead to several vision-threatening complications, including cataract, glaucoma, posterior synechiae, macular edema, neovascularization, retinal detachment, and optic neuropathy.[3] The discomfort and visual impairment of uveitis can seriously worsen a patient's quality of life. Besides, uveitis also results in a significant socioeconomic burden.[4] In Taiwan, the incidence of uveitis is relatively higher compared with other countries. A previous population-based study reported that the incidence rate of uveitis was 102.2—122.0 persons per 100,000 persons/y, and the prevalence was 319—623 cases per 100,000 persons.[5] Therefore, it is important to increase clinicians' awareness of this disease. Early diagnosis and adequate treatment can lead to less visual morbidity and better long-term visual outcomes.[6]

Uveitis can have a variety of etiologies. Uveitis can be a local eye disease or a manifestation of systemic immunological disorders. In addition to infection, trauma, medications, or surgery, rheumatic diseases are also an important cause of uveitis. Although the relationship between uveitis and rheumatic disease is still not clear, it is important to diagnose associated rheumatic diseases early to ensure that ophthalmologists can prescribe systemic corticosteroid and immunosuppressive agents in time to prevent the aggravation of uveitis.[7] According to previous studies at tertiary centers, the frequency of rheumatic disease-related uveitis is ~10—40% of all uveitis cases.[8,9] Various adult-onset rheumatic diseases, including human leukocyte antigen (HLA)-B27-associated-spondyloarthropathies, sarcoidosis, Behçet's disease (BD), rheumatoid arthritis (RA), and systemic lupus erythematosus, can present with uveitis. Pediatric rheumatic diseases, most commonly juvenile idiopathic arthritis (JIA), can also lead to uveitis.[9] The clinical presentations of uveitis with or without rheumatic disease can be similar, which makes the diagnosis and treatment a challenge. Nevertheless, current information about the differences between rheumatic disease-related uveitis and rheumatic disease-unrelated uveitis is scarce.

The types and etiologies of uveitis can be influenced by genetic, geographic, and environmental factors; therefore, the distribution of rheumatic disease-related uveitis can vary from country to country.[10—14] However, little information is available about the epidemiology of rheumatic disease-associated uveitis in the Chinese population in Taiwan.

The aim of this study is to compare the characteristics of uveitis in patients with and without rheumatic diseases. In addition, this article is aimed to describe the demographics, clinical features, and complications of rheumatic disease-associated uveitis among pediatric and adult Chinese patients at a tertiary referral center in Taiwan.

Methods

A total of 832 patients who presented with uveitis to the Ophthalmology and Rheumatology Clinic at Linkou Chang Gung Memorial Hospital, Taoyuan, Taiwan between January 2009 and June 2014 were enrolled in this study. Their medical records were systematically and retrospectively reviewed. General information, including sex, date of birth, onset age of uveitis, and follow-up time was collected. Detailed examinations, including visual acuity evaluations, intraocular pressure measurements, slit-lamp microscopy, and ophthalmoscopy, were performed in each patient. Serologic and radiologic investigations, including measurements of HLA-B27 antigen, antinuclear antibody, rheumatoid factor, and angiotensin-converting enzyme levels, as well as X-rays and computed tomography scans, were performed when clinically relevant rheumatic disease was suspected. An ophthalmologist diagnosed uveitis based on published guidelines.[15] The anatomical location, onset, course, and duration of uveitis were classified according to the Standardization of Uveitis Nomenclature classification of the International Uveitis Study Group.[1] Rheumatic diseases were diagnosed by rheumatologists using the American College of Rheumatology criteria. The age of diagnosis in rheumatic diseases was defined as the time when a patient was confirmed by a rheumatologist to have fulfilled the diagnostic criteria. All participants were separated into two groups for further comparison: patients with rheumatic disease-related uveitis and patients with uveitis unaccompanied by rheumatic disease. Ethics approval was obtained from the Medial Ethics Committee, Linkou Chang Gung Memorial Hospital. Written informed consent was not obtained by participants for their clinical records to be used in this study, but patient information was anonymized and deidentified prior to analysis.

All data are presented as descriptive statistics (the mean ± standard deviation and percentages). The Pearson

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