

APIISG – APAO 1 Infections and the Eye 1

10 June 2006, Saturday, 0830-1035 Hrs
Room 303, Level 3

U401

INTRAOCULAR INFLAMMATION IN THE ASIA-PACIFIC REGION

Shigeaki Ohno, Japan

Frequency of intraocular inflammation or uveitis is quite different from one region to another. There are 2 types of intraocular inflammation. One is infectious, and the other is non-infectious.

Infectious intraocular inflammation includes tuberculosis, toxoplasmosis, histoplasmosis, AIDS, etc. Tuberculosis, for example, is frequently seen in the developing countries. Therefore, tuberculous retinochoroiditis is more frequently seen in these areas. However, it is sometimes seen in AIDS patients or in immunocompromised hosts as an opportunistic infection even in Western countries.

Among the non-infectious intraocular inflammatory diseases, Behcet disease and Vogt-Koyanagi-Harada disease are sometimes seen in Asian or Eurasian countries, which are rarely encountered in Caucasian populations. Therefore, we have to know the clinical features and treatment of these diseases in Asia-Pacific region. On the other hand, juvenile chronic iridocyclitis associated with juvenile idiopathic arthritis, HLA-B27 associated iridocyclitis, or intermediate uveitis, for example, are rather common in Caucasians but less frequent in mongoloid populations.

It is important for the ophthalmologists in Asia-Pacific region to know what kind of intraocular inflammation is frequently seen and what is the state-of-the-art treatment for these diseases.

In this lecture, the importance of correct diagnosis and appropriate management of various intraocular inflammatory diseases seen in this region will be described.

U402

INFECTIOUS UVEITIS

Khalid Tabbara, Saudi Arabia

Uveitis may be caused by infectious or non-infectious disorders. Although most cases of uveitis are considered to be immune-mediated disorders, certain forms of uveitis are caused by infectious agents. The disease may become latent, smoldering and chronic and may mimic other causes of autoimmune uveitis. While autoimmune or immune-mediated disorders causing uveitis respond to steroids or immunosuppressive therapy, such treatment may prove to be devastating in certain infectious diseases causing uveitis. It is, therefore, highly desirable to identify cases of chronic uveitis caused by infectious diseases in order to initiate specific

and appropriate antimicrobial therapy. The diagnosis of infectious uveitis can be established in most cases based on age and sex of the individual, mode of onset, the morphology of the lesion, the laterality, and the association with other systemic infectious diseases. Laboratory tests in these disorders and imaging techniques are used to refine the diagnoses.

Despite the recent advances in the field of medicine, infectious diseases continue to pose a major threat to mankind. Infections are major causes of morbidity and mortality. Many types of infectious disorders affect the ocular structures including the uvea. Infectious diseases remain the major causes of acute and chronic forms of uveitis. Despite the dramatic decrease in the incidence of classic infectious diseases in the last century, the resilience of viruses and the tenacity of bacteria have led to the emergence of new infections and the evolution of old ones. Emerging infections are becoming serious threat to humans. It is highly desirable to identify cases of chronic infectious uveitis and to provide appropriate antimicrobial therapy to prevent visual loss.

U403

CLINICAL HIGHLIGHTS ON OCULAR TOXOPLASMOSIS

Muhaya Mohamad, Malaysia

Toxoplasmosis caused by the protozoan parasite *Toxoplasma gondii*. It is one of the most common parasitic infections of man and other warm-blooded animals and is a common parasitic zoonosis and an important cause of abortions, mental retardation, encephalitis, blindness, and death worldwide. Nearly one-third of humanity has been exposed to this parasite. In most adults it does not cause serious illness, but it can cause blindness and mental retardation in congenitally infected children and devastating disease in immunocompromised individuals.

The multiplicity of clinical manifestations of ocular toxoplasmosis, the most common cause of infectious retinochoroiditis is characteristic of the disease. Since it is an intracellular parasite, the retina sustains the primary insult and the major damage. It may also produce other functional changes, including a dense vitritis, perivasculitis, retinal detachment, neovascularisation, cataracts, and glaucoma. The appearance of ocular toxoplasmosis lesion varies, depending on whether the infection is in active or inactive state and on the immune status of the patients. In immunocompromised individuals the active condition is bilateral in 20% of cases; the retinal lesion are extensive and may be associated with cerebral involvement, myocarditis, and pneumonitis. The multiple clinical presentations and complications in various types of patients will be illustrated and discussed.

U404**OCULAR TUBERCULOSIS**

Jessica Abano, The Philippines

Tuberculosis is not uncommon in a number of countries in the Asia-pacific region. It can affect any part of the eye either as an infection or a hypersensitivity reaction. Ocular involvement is estimated to be between 2%-20% depending on several variables including patient population and geography. The clinical presentation of this disease is wide-ranged which includes interstitial keratitis, scleritis, uveitis, retinitis, choroiditis, and choroidal/optic disc nodules. Generally, definitive diagnosis is challenging as it is often difficult to obtain a microbiologic evidence of the disease from intraocular tissues. If left untreated, ocular tuberculosis can lead to severe ocular morbidity and even blindness. This case-based talk focuses on the diverse presentations of ocular tuberculosis, its diagnosis and management.

U405**OCULAR MANIFESTATIONS OF SYPHILIS**

Bobby Cheng, Singapore

APIISG – APAO 2**Infections and the Eye 2**

10 June 2006, Saturday, 1100-1200 Hrs

Room 303, Level 3

U406**OCULAR INFLAMMATION AND HIV IN THAILAND**

Nattaporn Tesavibul, Thailand

Human Immunodeficiency Virus (HIV) infection is one of the most concerned public health problems in Thailand. Opportunistic infection involving the eyes in such patients can potentially be a disabling disease particularly in severe cases. Since the introduction of Highly Active Anti-Retroviral Therapy (HAART), the incidence of some opportunistic infections such as CMV retinitis has dramatically decreased. However, atypical manifestations of ocular opportunistic infections are not uncommonly found both in adults and children, some of which result from a delayed diagnosis and eventual poor visual outcome. Anterior segment manifestations of ocular inflammation in HIV infected patients are in great array. Conditions such as severe dry eyes with persistent epithelial defect, chronic conjunctivitis, Kaposi sarcoma, conjunctival papilloma, chronic keratitis and keratouveitis can be found. Combined central retinal vein and artery occlusion in CMV retinitis, choroidal tuberculoma, and combined CMV and herpetic retinitis are also detected. However, posterior segment involvement in some cases still poses a diagnostic dilemma. Definite diagnosis is sometime obtained after a necropsy.

Atypical presentations of ocular inflammation in HIV patients become more and more common. Ophthalmologists should be aware that opportunistic infections can present with various forms of ocular inflammation without overt systemic signs of immunodeficiency. Herein, we present our experience in ocular inflammation of HIV patients (adult and children) seen in the department of ophthalmology, Siriraj hospital, Mahidol university, Bangkok, Thailand.

U407**CYTOMEGALOVIRUS ASSOCIATED UVEITIS**

Chee Soon Phaik, Singapore

Purpose: To describe the clinical features of anterior segment intraocular inflammation associated with Cytomegalovirus (CMV) infection in the immunocompetent.

Design: Retrospective case series.

Methods: Clinical records of immunocompetent patients who had been treated for anterior uveitis and later diagnosed to have CMV infection via analysis of the aqueous by polymerase chain reaction were reviewed. The clinical presentation, ocular complications and response to treatment were evaluated.

Results: Thirteen eyes of 13 patients were included in this series. All eyes presented with mild anterior chamber inflammation. Keratic precipitates of various sizes took a ring or linear configuration. Two had prior filtration surgery at presentation and 8 developed intermittent raised intraocular pressure. Visual field defects were seen in 6 eyes. The posterior segment was uninvolved in all eyes. Endothelial cell counts in the involved eyes were lower than the contralateral eyes. All tested positive for aqueous CMV DNA by polymerase chain reaction in the absence of CMV antigenemia. The uveitis in 2 patients spontaneously resolved. Nine patients received systemic antiviral therapy for 3 months, and 2 patients applied Oc Ganciclovir 0.15% qid. Clinical response was seen in all patients with a reduction of intraocular inflammation and lowering of intraocular pressure, except for those who were treated only with Oc Ganciclovir. They subsequently received weekly intravitreal injections of ganciclovir with good response to therapy. 73% of treated patients had recurrences necessitating additional treatment.

Conclusion: CMV can cause of hypertensive anterior uveitis, and should be suspected in the presence of a reduced endothelial cell count, especially if refractory to steroid and antiglaucoma treatment.

U408**DENGUE AND THE EYE**

Kristine Bacsal, The Philippines

Dengue has been found to have ocular sequelae primarily involving the small retinal vessels, retinal pigment epithelium and choroid

in the macula. We present a large, comprehensive series that describes fluorescein and indocyanine green angiography, optical coherence tomography, and visual field findings of dengue maculopathy.

APIISG – APAO 3 Non-infective Uveitis and Therapeutics 1

10 June 2006, Saturday, 1300-1515 Hrs

Room 303, Level 3

U409

OCULAR LESIONS IN SARCOIDOSIS

Sudha Ganesh, India

Sarcoidosis is a multisystem granulomatous disease that was first described by Jonathan Hutchinson in 1878. Its clinical manifestations and course can be variable in different ethnic groups. The organs affected more often are the lungs, skin and eyes. The lung is the most frequently affected organ in patients with sarcoidosis. The relative frequency of granulomas in the bronchial submucosa accounts for the high diagnostic yield of bronchoscopic biopsies. Lymph nodes especially the hilar and mediastinal are involved in almost all cases. The spleen is enlarged in only 18% of cases the liver is rarely affected. X-ray abnormalities of the bones can be identified in about one-fifth of patients. The radiologically visible lesions are usually seen in the phalangeal bones of the hands and feet, creating small-circumscribed areas of bone resorption within the marrow cavity. Skin lesions are found in 9%-37% of the patients. They may be specific, showing histologically non-caseating granulomas, or non-specific, e.g. erythema nodosum. The specific skin lesions include lupus pernio, infiltrated plaques, maculopapular eruptions, subcutaneous nodules and infiltration of old scars.

The frequency of ocular involvement ranges from 26% to 50%. The characteristics of ocular involvement are (1) when present, is seen generally early in the course of the disease (2) may co-exist with asymptomatic systemic disease and (3) can precede systemic involvement by several years. Most patients present between the ages of 20 to 40 years; however, children and the elderly can be affected.

Ocular manifestations of the anterior segment include, conjunctival involvement reported in 6.9%-70% of patients with ocular sarcoidosis, granulomatous and chronic anterior uveitis in 22%-70%, iris nodules reported in up to 12.5% of patients. Exacerbations of granulomatous uveitis are often associated with an appearance of fresh iris nodules. Posterior synechiae, cataract and glaucoma are common complications. Corneal band keratopathy develops in a few patients and is usually associated with hypercalcemia. The most common manifestations at the posterior segment are vitritis, intermediate uveitis, panuveitis,

posterior uveitis, retinal vasculitis and optic nerve involvement. Other manifestations include choroidal nodules and exudative retinal detachment. Clinical and/or angiographic cystoid macular edema (CME) has been reported in 19%-72% of patients. The frequency of lacrimal gland involvement varies from 7% to 69%. Extraocular muscle involvement presents with diplopia or painful external ophthalmoplegia.

U410

UVEITIS IN INDONESIA

Fatma Asyari, Indonesia

Purpose: to see the pictures of Uveitis in Indonesia. The precise prevalence and incidence is not available and may not be giving the whole picture of uveitis in Indonesia, and it is not possible to collect data from all parts of Indonesia. This presentation will at least show the pictures of uveitis at their presentation and the problems that we encountered in treating those cases in our general hospital.

Methods: It is a retrospective study from data collected from The Infection & Immunology Division Department of Ophthalmology, University of Indonesia, Dr. Cipto Mangunkusumo General Hospital in the year 2005.

Results and Conclusion: Ignorance, delayed in detection, mainly affecting people with poor economic status, expensive investigations, treatment with immunosuppressive drugs that are not cheap, while only very few has insurance coverage, makes it difficult for Ophthalmologists to do work ups in order to find the clue to the etiological diagnosis. But those cases with typical clinical presentations such as Toxoplasmosis, CMV retinitis, Behcets and VKH diseases are not difficult to diagnose, but treatments are sometimes not affordable the patients.

U411

FUCHS SYNDROME IN CHINA

Yang Peizeng, China

Purpose: To characterize the clinical features of Chinese patients with Fuchs' syndrome.

Methods: The history and clinical findings of 118 eyes in 104 consecutive patients with Fuchs' patients attending the Zhongshan Ophthalmic Center from January 1999 to March 2005 were reviewed. Auxiliary examinations, including laser flare-cell photometry (LFCM), ultrasound biomicroscopy (UBM), fundus fluorescein angiography (FFA), and serologic tests for Toxoplasma gondii, were performed in certain cases.

Results: One hundred four patients (49 male, 55 female) were included in this study. Unilateral involvement was noted in 90 patients (86.5%). The most common symptom was blurred or

decreased vision (86%). Stellate and medium-sized keratic precipitates (KPs) were noted in 108 eyes (91.5%). A mild anterior chamber (AC) reaction was observed in all the affected eyes. Heterochromia was observed in only 15 affected eyes, although there were varying degrees of iris depigmentation in all patients. Iris nodules, mostly Koeppe, were present in 28.0% of the affected eyes. Complicated cataract, vitreous opacity, and secondary glaucoma were observed in 84 of 118 eyes (70.7%), 31 eyes of 42 eyes (73.8%), and 24 of 118 eyes (23.1%), respectively. The mean laser flare photometry value (6.4 ± 2.3 photon counts per millisecond) and the cell number in the AC (1.5 ± 1.2 cells per 0.5 mm^3) in 25 patients were both significantly higher than those in 25 healthy controls (5.3 ± 2.3 photon counts per millisecond and 0.8 ± 0.6 cells per 0.5 mm^3) [$p < 0.05$]. Ultrasound biomicroscopy revealed exudates adjacent to the ciliary body in 18 of 24 patients (75%). Serological tests failed to confirm an association of Fuchs' syndrome with toxoplasmosis. Retinal capillary leakage in the midperipheral fundus and disc staining at the late stage were observed in most of the eyes examined by FFA.

Conclusion: Fuchs' syndrome in Chinese patients is characterized by a mild uveitis with characteristic KPs, varying degrees of iris depigmentation, and, occasionally, heterochromia. Exudates adjacent to the ciliary body and subclinical retinal and optic nerve involvement were common in the patients who were studied by UBM and FFA.

U412

SYMPATHETIC OPHTHALMIA

Annabelle Okada, Japan

Purpose: To review treatment options and data on outcomes for the treatment of sympathetic ophthalmia.

Methods: Analysis of the literature and clinical data from the Kyorin Eye Center.

Results: Historically, sympathetic ophthalmia has been associated with poor visual outcomes, with enucleation of the exciting eye being considered as part of the treatment. However, recent experience has shown improved prognosis without enucleation, based on early diagnosis and aggressive treatment. For disease involving the posterior segment, initial therapy using large doses of systemic corticosteroids is effective. Combination treatment with a steroid-sparing agent such as cyclosporine facilitates the gradual tapering of immunosuppression. Pulse doses of methylprednisolone may be considered in severe or refractory cases. This treatment strategy is similar to that effective for Vogt-Koyanagi-Harada disease, highlighting the similarity between these two disease entities.

Conclusion: Sympathetic ophthalmia may be successfully treated with medical therapy alone. Prompt diagnosis and aggressive treatment lead to good clinical outcomes.

U413

UVEITIS IN BEHCET'S DISEASE — RISK FACTORS FOR POOR VISUAL OUTCOME

Daniel Su, Singapore

Purpose: Behcet's Disease is a multi-system inflammatory disease that is common among certain Asian and Mediterranean ethnic groups. It causes inflammation in the eye, skin and joints due to an obliterative vasculitis. This study was conducted to describe the epidemiology of uveitis among Behcet's Disease patients in Singapore, as well as the treatment and visual outcome of these patients.

Methods: This was a retrospective, non-comparative cases series in which the case records of Behcet's Disease patients, diagnosed with uveitis at the Singapore National Eye Centre, were reviewed. In addition, we also performed statistical analysis of risk factors for poor visual outcome.

Results: We found a total of 25 patients with Behcet's Disease who had uveitis. Seventeen of these patients were male and 8 were female, with 23 being Chinese, and 1 each from the Malay and Indian ethnic groups. Twenty-two patients had bilateral disease and the mean visual acuity was 6/24 on presentation. Vitritis and retinal vasculitis were the most common ocular manifestation, while 40% had skin involvement and 24% had joint involvement as well. All patients required Prednisolone and at least 1 other immunosuppressive agent to control inflammation. The mean final visual acuity was 6/18. We will report risk factors for poor visual outcome in our cohort.

Conclusion: Behcet's Disease can cause severe uveitis in addition to other systemic manifestations. These patients need aggressive treatment with multiple immunosuppressive agents to control inflammation, and this will allow a good visual outcome.

U414

NEW MEDICAL THERAPIES FOR UVEITIS

Robert Nussenblatt, USA

The immediate post World War II period initiated a new era in the treatment of Uveitis. The use of steroids revolutionised how we treat patients with ocular inflammatory disease. However, while steroids can be effective, the complications related to this therapeutic approach have necessitated an active search for newer therapies. The study of Uveitis coupled with newer techniques that elucidated immune mechanisms have resulted in a new way in which we think of therapy. The use of the class of anti-inflammatory agents usually labeled as "biologics" has begun to enter into almost all areas of medicine. We have begun to see increasing more focused therapy which is directed against specific aspects of the immune response. To date we have seen therapies that target the tumour necrosis factor, Interleukin 2,

adhesion molecule, as well as B cell systems. All have shown therapeutic effects. This is just the beginning of what will be a plethora of new therapies in this family. Our goal will be to identify which of our patients are the best candidates for these therapies.

APIISG – APAO 4 **Non-infective Uveitis and Therapeutics 2**

10 June 2006, Saturday, 1540-1800 Hrs

Room 303, Level 3

U415

CATARACT SURGERY FOR UVEITIS

Chee Soon Phaik, Singapore

The challenge in the management of the uveitic cataract lies not only in the technical difficulty of the surgery, but also in the ability to control the intraocular inflammation in the peri-operative period. Cataract surgery can be safely undertaken when the uveitis has been quiescent for a minimum of three months. In eyes predisposed to macular edema, steroids are useful in providing retinal protection and should be administered several days preoperatively. Phacoemulsification is the preferred mode of cataract surgery. Problems encountered surgically revolve essentially around a small, bound pupil. This talk will showcase many videos demonstrating the surgical management of uveitic cataracts.

When present, peripheral anterior synechiae, pupillary membranes and posterior synechiae should be dealt with in that order. The small pupil can be managed by synechiolysis and stretching with Kuglen hooks. Multiple sphincterotomies may be used if the pupil does not open evenly or if the iris begins to tear. In eyes with chronic uveitis, zonular weakness may be encountered and can be managed by using a capsular tension ring. Meticulous removal of cortical material is important in reducing the postoperative inflammation. Implantation of an acrylic intraocular lens in most types of uveitis is safe, provided the intraocular inflammation has been well-controlled. Intensive topical steroids must be used to control the postoperative inflammation, especially in eyes which had iris manipulation.

The visual prognosis for the uveitic cataract is dependent upon the state of the patient's retina and optic nerve. Appropriate management of the uveitis in the perioperative period and gentle handling of intraocular tissues are also important contributory factors.

U416

POSTERIOR SEGMENT SURGERY FOR UVEITIS

Glenn Jaffe, USA