PROGRAM CO-CHAIRS:
ALBERT T. VITALE, MD and ALAN G. PALESTINE, MD
AUS 22nd Annual Winter Symposium

Guest Speakers

Ian Crozier, MD
National Institutes of Health
Integrated Research Facility
National Institute of Allergy
& Infectious Diseases
Chandler, AZ

Michael A. Postow, MD
Medical Oncologist
Memorial Sloan Kettering
New York, NY

Emmett T. Cunningham, Jr., MD, PhD, MPH
Director of the Uveitis Service
California Pacific Medical Center
San Francisco, CA

Steven Yeh, MD
Director of the Uveitis Service
M. Louise Simpson
Associate Professor of Ophthalmology
Emory Eye Center
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Program Co-Chairs

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Professor, Ophthalmology
and Visual Sciences
John A. Moran Eye Center
University of Utah
Salt Lake City, UT

Alan G. Palestine, MD
Professor of Ophthalmology
and Rheumatology
University of Colorado
Anschutz Medical Campus
Aurora, CO
Saturday
JANUARY 13

7:00-8:00 am
Registration/Breakfast

7:00-9:35 am
Exhibits

8:00-8:05 am
Opening Remarks
ALBERT T. VITALE, MD

8:05-9:35 am
CASE PRESENTATIONS,
FREE PAPERS AND
DISCUSSIONS

8:05-8:12 am
Recurrent Bilateral CMV Retinitis in Susac Syndrome: Management Challenges and Imaging Findings
DILRAJ GREWAL, MD

8:12-8:17 am
Discussion

8:17-8:29 am
Cytomegalovirus Retinitis: Does Immune Recovery Retinitis Exist?
DOUGLAS A. JABS, MD, MBA

8:29-8:34 am
Discussion

8:34-8:46 am
Immunosenescence and Cytomegalovirus Anterior Uveitis
JAY SIAK, MBBS, FRCOphth, FRCSEd (Ophth), MCI

8:46-8:51 am
Discussion

8:51-8:58 am
Chronic Granulomatous Disease
JULIA SHULMAN, MD

8:58-9:03 am
Discussion

9:03-9:10 am
A Good Lesson from a Surprise Diagnosis
ASHLEIGH LEVISON, MD

9:10-9:15 am
Discussion

9:15-9:27 am
Reclassifying Idiopathic Uveitis: Lessons from a Tertiary Uveitis Center
RENE CHOI, MD, PhD
Travel Grant Awardee

Purpose: Idiopathic uveitis is the most common diagnosis in most series from uveitis clinics. We sought to determine the percentage of patients initially diagnosed as idiopathic, non-infectious uveitis referred to a tertiary uveitis center who were subsequently found to have an identifiable cause of uveitis.

Methods: We performed a computerized database analysis of 249 consecutive patients who were referred to our practice. One hundred and seventy-three of these patients (173/249 or 69%) were referred with the diagnosis of idiopathic, non-infectious uveitis between 2008 and 2016. Patients were evaluated by a thorough history and ophthalmic examination with selected laboratory testing targeted by clues from the history and exam.

Results: Fifty out of 173 (28.9%) patients were subsequently diagnosed with an underlying condition. Sarcoidosis was the most common (18/50 or 36%) among those with an identifiable cause, including 4 of 18 (22.2%) patients who were found to have cardiac involvement. The next most common were HLA-B27 associated uveitis (11/50, 22%), infectious (6/50, 12%), tubulo-interstitial nephritis with uveitis (5/50, 10%), and juvenile idiopathic arthritis (4/50, 8%). Other conditions included Behcet’s disease, multifocal choroiditis, Crohn’s disease, multiple sclerosis, and relapsing polychondritis. An underlying condition was not found in 123 (123/173 or 71.1%) patients.

Conclusions: We report that 29% of patients referred to our tertiary uveitis center diagnosed as “idiopathic” had an associated identifiable cause. Identifying an underlying condition associated with uveitis could be potentially lifesaving for some illnesses (e.g., sarcoidosis with cardiac involvement) and is critical to management. Although we were able to use limited testing to classify many patients who had been previously incorrectly labeled with idiopathic uveitis, idiopathic uveitis remains the most common diagnosis in our uveitis clinic.

9:32-9:35 am
Wrap Up

9:35 am
End of Morning Session

3:30-4:00 pm
Break

3:30-7:30 pm
Exhibits

4:00-4:05 pm
Introduction
ALAN G. PALESTINE, MD

4:05-6:05 pm
SCIENTIFIC SESSION 1:
Drug Induced Uveitis:
Familiar Agents to Novel Medications with Unexpected Inflammatory Manifestations
4:05-4:50 pm
Drug-Induced Uveitis – Agents Old and New
EMMETT T. CUNNINGHAM, JR., MD, PhD, MPH
Although uncommon, drug-induced uveitis is well-recognized and associated with an increasing number of pharmacotherapeutics. This presentation will summarize the prevalence and presentation of intraocular inflammation reported in association with the more commonly used agents.

4:50-5:05 pm
Discussion

5:05-5:50 pm
Non-Ocular Immunotherapy Side Effects: What Can We Learn to Approach Our Patients with Ocular Toxicity?
MICHAEL A. POSTOW, MD
Immunotherapy has shown recent significant success in treating patients with cancer. In this talk, we will first discuss the mechanism of action of new immunotherapy drugs, predominantly immune checkpoint blocking antibodies. Immune checkpoint blockade refers to the strategy of enhancing a patient's immune response by blocking normally negative regulators of immunity such as cytotoxic T lymphocyte antigen-4 (CTLA-4) and programmed cell death-1 (PD-1) or its ligand, PD-L1. When these targets are blocked, a spectrum of toxicities may result that can affect any organ system.

The timing of these various toxicities, best management strategies, and unique considerations for this patient population will be reviewed with a focus on non-ocular toxicities. Additionally, although little remains known about underlying mechanisms, we will discuss preliminary data from translational studies in patients that suggest T cells, antibodies, and cytokines may be involved in the mechanism of specific immune checkpoint induced inflammatory events. These studies may provide some insights into approaching ocular toxicity from these drugs.

5:50-6:05 pm
Discussion

6:05-6:25 pm
Break

6:25-7:18 pm
CASE PRESENTATIONS, FREE PAPERS AND DISCUSSIONS
6:25-6:32 pm
Fosamax Associated Chorioretinitis
YING QIAN, MD

6:32-6:37 pm
Discussion

6:37-6:44 pm
VKH-like Uveitis Followed by Autoimmune Retinopathy in a Patient with Metastatic Cutaneous Melanoma
JOSEPH ALSBERGE, MD

6:44-6:49 pm
Discussion

6:49-7:01 pm
Phase 3 Study of Injectable Fluocinolone Implant to Treat Intermediate, Posterior, and Panuveitis
GLENN J. JAFFE, MD

7:01-7:06 pm
Discussion

7:06-7:13 pm
Abandon the Goal of a Unifying Therapeutic?
LAURA KOPLIN, MD, PhD

7:13-7:18 pm
Discussion
Analysis of the Retinal Vasculature Using Optical Coherence Tomography Angiography in Birdshot Chorioretinopathy

SHILPA KODATI, MD  
Travel Grant Awardee

**Purpose:** To evaluate changes in the retinal vasculature and choriocapillaris in birdshot chorioretinopathy (BCR) including quantitative analysis of the superficial and deep capillary plexus using optical coherence tomography angiography (OCT-A).

**Methods:** A retrospective review of BCR and normal patients with OCT-A images was conducted. All images were acquired on the AngioPlex Cirrus HD-OCT platform. Images were assessed for the presence of flow voids at the level of the choriocapillaris. Vessel density (VD) and foveal avascular zone (FAZ) at the level of the superficial capillary plexus (SCP) and deep capillary plexus (DCP) were calculated using image J software and fractal dimension using Fractalyse software.

**Results:** 32 eyes from 19 patients with BCR (mean age 59.5 years, 12 female, 17 male) and 21 normal eyes (39 years, 11 female, 8 male) were identified. All BCR patients were HLA-A29 positive. Qualitative analysis of OCT-A images from BCR patients revealed flow voids at the level of the choriocapillaris consistent with atrophy in 4 eyes (12.5%) and an absent DCP in 5 eyes (15.6%). Mean VD and FD of the SCP were significantly (p<0.001) lower in BCR eyes (VD of SCP: 0.31; VD of DCP: 0.38; FD of SCP: 1.73; VD of DCP: 1.77) compared to normal eyes (VD of SCP: 0.43; VD of DCP: 0.45; FD of SCP: 1.80; FD of DCP: 1.81). In contrast, no significant difference in FAZ was observed between BCR (SCP: 0.36; DCP: 0.64) and normal eyes (SCP: 0.29; DCP: 0.53).

**Conclusions:** Our results demonstrate decreased vessel density and fractal dimension in patients with BCR and suggest that analysis of the retinal vasculature using OCT-A provides additional information to fluorescein angiography and may be a useful marker to assess disease severity in BCR.
The Eye’s Window to Emerging Viral Threats: New Questions of (un)usual Uveitis Suspects
IAN CROZIER, MD

In the context of recent global outbreaks, uveitis has been increasingly described in acutely ill or convalescing patients with Ebola virus and Zika virus infections, and is of potential concern with other emerging viruses. In addition to the usual suspects, eye care providers should consider these pathogens in the right clinical or epidemiologic setting. As part of a steep ophthalmic learning curve in outbreak settings, new questions are being asked of the host-pathogen interaction, especially of the breach and persistence of emerging viruses in ocular (and other) immune-privileged tissues.

Recent insight from human ophthalmic bedside and from animal model and basic science benches will be discussed, highlighting unanswered questions about disease pathogenesis and viral persistence that have implications for patients, for eye care providers, and for the public health that have implications for patients, for eye care providers, and for the public health and scientific communities. Finally, other pathogens currently on the emerging threat radar-screen will briefly be reviewed.

Incidence and Associations of Endophthalmitis in Anti-VEGF Intravitreal Injections and Steroid Implants
MAHDI ROSTAMIZADEH, MD

Travel Grant Awardee

Purpose: Anti-VEGF and steroid intravitreal therapy has become the mainstay treatment of many retinal diseases. Though the risk of complications is relatively low, endophthalmitis remains the most devastating complication. The purpose of our study is to determine which intravitreal injection from both anti-VEGF and steroid therapies had the most post injection endophthalmitis outcomes. We hypothesize that out of both groups the steroid intravitreal injections would have a higher rate of endophthalmitis due to their effects on damping the immune system and the larger size of the wound created by the implant injections. Within the anti-VEGF group we hypothesize that bevacizumab would have the highest rate due to possible contamination during the compounding process.

Methods: After approval was obtained from the Valley Retina Institute institutional review board, electronic medical charts were searched based on international classification of disease codes 9 and 10 for intravitreal injections and endophthalmitis.

A total of 38,691 injections were given over a 5 year period: 17,631 Bevacizumab, 9,257 Ranibizumab, 8,415 Aflibercept, 1,033 Dexamethasone implant, and 16 fluocinolone acetonide implant. After accounting for duplicates, excluding cataract and bleb related endophthalmitis we identified 11 patients that had endophthalmitis after an injection. Data collected at diagnosis included, medication name, pre- and post-injection visual acuity and intraocular pressure, days between initial injection and presentation of symptoms, final visual acuity, causative organisms, site of infection, and type of anesthetic and preparation. We divided the number of endophthalmitis cases by the total amount of injections in each group to find the incidence. Chi-square and proportional methods were used to calculate statistical significance and confidence intervals respectively.

Results: Out of all the patients given injections, 20 out of 38,691 (0.036%); 0.03-0.07% 95% confidence interval [CI] developed endophthalmitis. Ranibizumab was found to have the lowest at 0.032% (3 out of 9257). 1 in 16 patients that received fluocinolone acetonide implant presented with endophthalmitis making it the highest rate at 6%. Ozurdex had the second highest rate at 0.38% (4 out of 1033). 12 out of 20 patients had vitreous biopsies performed, 7 with positive results for bacterial and fungal species. Average time of presentation was 6.7 days after initial intravitreal therapy. Between anti-VEGF injections and steroid injections was a statistical significance in the rate of endophthalmitis (0.025% vs 0.28% p=0.000015). Incidence between various anti-VEGF injections bevacizumab, ranibizumab and aflibercept were not found to be statistically significant (0.028% vs 0.032% vs 0.048% p=0.731).

Conclusions: Our results show that patients that received steroidal intravitreal injections had a higher rate of endophthalmitis. There was no statistical difference between the various anti-VEGF agents. Our limitation for this study is the low number of steroidal injections relative to anti-VEGF therapy, further investigation with a higher sample size would add more power to a future study.
Monday
JANUARY 15

7:00-8:00 am
Breakfast

7:00-9:35 am
Exhibits

8:00-8:05 am
Introduction
ALAN G. PALESTINE, MD

8:05-9:35 am
CASE PRESENTATIONS,
FREE PAPERS AND
DISCUSSIONS

8:05-8:12 am
Panuveitis in Patient
with Active Scleroderma
and Secondary Raynaud
EDUARDO UCHIYAMA, MD

8:12-8:17 am
Discussion

8:17-8:24 am
Bilateral Serous
Detachments in a
10 y/o Female
LEANNE LABRIOLA, DO

8:24-8:29 am
Discussion

8:29-8:36 am
Post Cataract Surgery Uveitis,
Endophthalmitis, Uveitis?
KARL BECKER, MD

8:36-8:41 am
Discussion

8:41-8:48 am
CMV Retinitis Associated
with Panretinal Vasculopathy
and Rubeotic Glaucoma
HELEN K. LI, MD

8:48-8:53 am
Discussion

8:53-9:00 am
Scleral Masses
ANJUM KOREISHI, MD

9:00-9:05 am
Discussion

9:05-9:12 am
Unknown
ANDREW W. ELLER, MD

9:12-9:17 am
Discussion

9:17-9:29 am
OCT-angiography in
White Dot Syndrome
MARIE-HELENE ERRERA,
PharmD, MD, PhD

9:29-9:34 am
Discussion

9:34-9:35 am
Wrap Up

9:35 am
Meeting Adjourned
The AUS gratefully acknowledges the following companies for their contributions:

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