Uveitis literature review 2017

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Disclosures

- RVG serves as
  - Associate Editor of *IOVS*
  - Editorial Board Member of *Ophthalmology*
  - Editorial Board Member of *Ophthalmology:Retina*
  - Editorial Board Member of *Ocular Inflammation and Immunology*
- RVG laboratory received research funding in 2017 from:
  - National Eye Institute
  - Research to Prevent Blindness
  - NovaBay Pharma
  - Omeros Pharma
- Received no direct compensation

Purpose

To bring papers of potential significance and interest to the attention of the AUS membership and guests

Methods

- Literature search for ‘uveitis’ or ‘ocular inflammation’ on PubMed
- Limited to English language and added to database in the last year (10/1/16 to 9/30/17)
- Selected ~ 20 papers to discuss briefly based on impact in understanding or managing ocular inflammatory disease

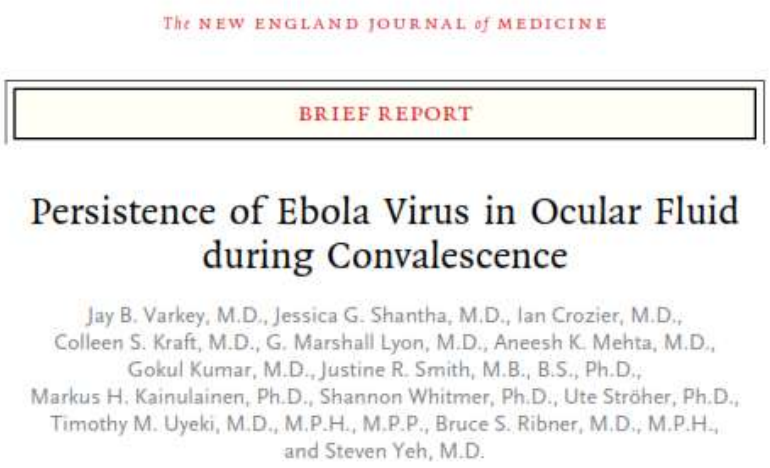
Caveats

- This is a necessarily subjective process
- Less than 2% of the literature can be featured
- All omissions are exclusively my fault and should not be taken personally

Uveitis literature 2016-17

- 1664 papers in English
- 648 human
- 214 reviews
- 35 clinical trials

Most cited uveitis papers from 2015



The NEW ENGLAND JOURNAL of MEDICINE

BRIEF REPORT

Persistence of Ebola Virus in Ocular Fluid during Convalescence

Jay B. Varkey, M.D., Jessica G. Shantha, M.D., Ian Crozier, M.D., Colleen S. Kraft, M.D., G. Marshall Lyon, M.D., Aneesh K. Mehta, M.D., Gokul Kumar, M.D., Justine R. Smith, M.B., B.S., Ph.D., Markus H. Kainulainen, Ph.D., Shannon Whitmer, Ph.D., Ute Ströher, Ph.D., Timothy M. Uyeki, M.D., M.P.H., M.P.P., Bruce S. Ribner, M.D., M.P.H., and Steven Yeh, M.D.

139 citations

Immunity

Article

Cell

Microbiota-Dependent Activation of an Autoreactive T Cell Receptor Provokes Autoimmunity in an Immunologically Privileged Site

Reiko Horai,[1,7] Carlos R. Zárate-Bladés,[1,7,8] Patricia Dillenburg-Pilla,[2] Jun Chen,[1,2] Jennifer L. Kielczewski,[1] Phyllis B. Silver,[1] Yingyos Jittayasothorn,[1] Chi-Chao Chan,[1] Hidehiro Yamane,[4] Kenya Honda,[5,6] and Rachel R. Caspi[1,*]

[1]Laboratory of Immunology, National Eye Institute, NIH, Bethesda, MD 20892, USA
[2]Oral and Pharyngeal Cancer Branch, National Institutes of Dental and Craniofacial Research, NIH, Bethesda, MD 20892, USA
[3]State Key of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzhou 510060, China
[4]Laboratory of Immunology, National Institute of Allergy and Infectious Diseases, NIH, Bethesda, MD 20892, USA
[5]Keio University School of Medicine, Tokyo 160-8582, Japan
[6]RIKEN Center for Integrative Medical Sciences, Yokohama 230-0045, Japan
[7]Co-first author
[8]Present address: Laboratory of Immunoregulation, Department of Microbiology, Immunology and Parasitology, Federal University of Santa Catarina, Florianópolis, SC 88040-900, Brazil
*Correspondence: caspir@mail.nih.gov
http://dx.doi.org/10.1016/j.immuni.2015.07.014

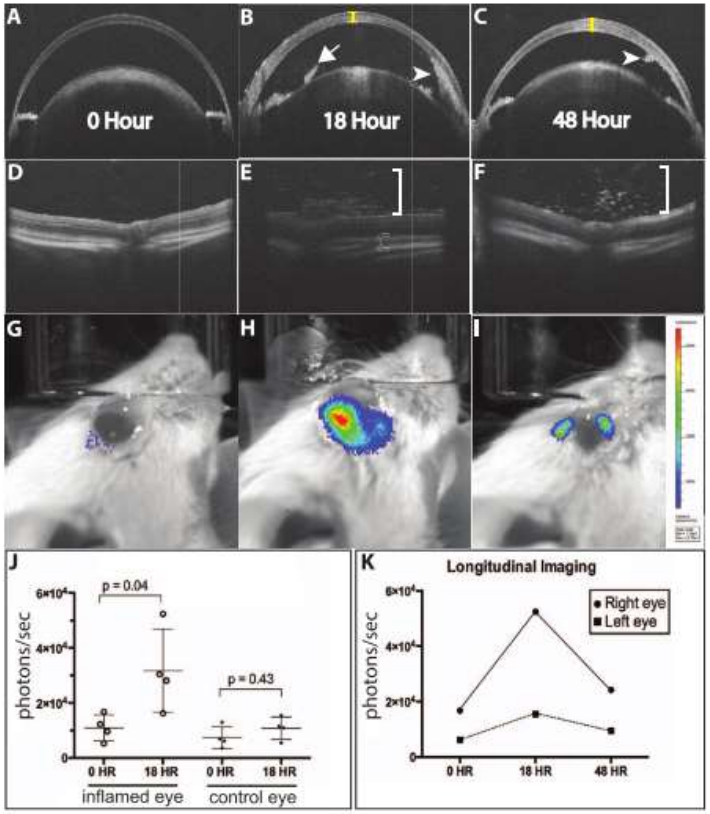
54 citations

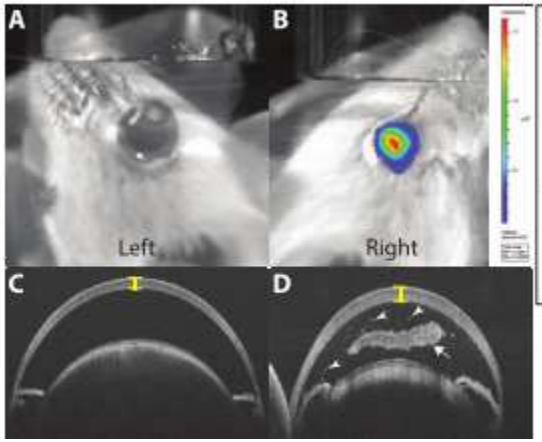
…but first, a shameless self-plug for my lab members

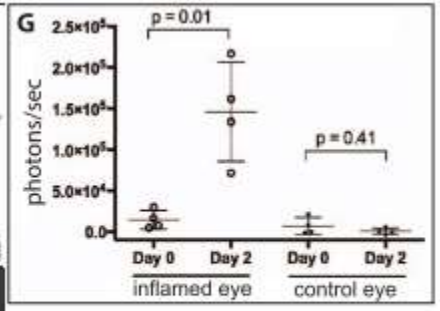
In Vivo Bioluminescence Imaging for Longitudinal Monitoring of Inflammation in Animal Models of Uveitis

Michal B. Gutowski,[1] Leslie Wilson,[1] Russell N. Van Gelder,[1-3] and Kathryn L. Pepple[1]

[1]Department of Ophthalmology, University of Washington, Seattle, Washington, United States
[2]Department of Biological Structure, University of Washington, Seattle, Washington, United States
[3]Department of Pathology, University of Washington, Seattle, Washington, United States







Intraperitoneal injection of the compound Luminol allows bioluminescent, longitudinal monitoring of primed mycobacterial uveitis

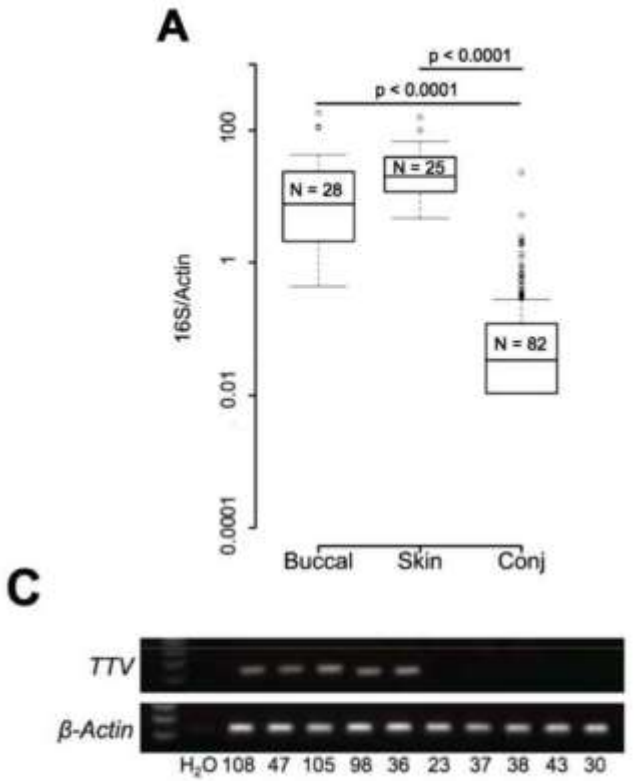
Immunology and Microbiology

Paucibacterial Microbiome and Resident DNA Virome of the Healthy Conjunctiva

Thuy Doan,[*,1] Lakshmi Akileswaran,[1] Dallin Andersen,[1] Benjamin Johnson,[1] Narae Ko,[1] Angira Shrestha,[1] Valery Shestopalov,[2] Cecilia S. Lee,[1] Aaron Y. Lee,[1] and Russell N. Van Gelder[1,3]

[1]Department of Ophthalmology, University of Washington, Seattle, Washington, United States
[2]Evelyn F. and William L. McKnight Vision Research Center, Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami, Miami, Florida, United States
[3]Departments of Biological Structure and Pathology, University of Washington, Seattle, Washington, United States

- Using a combination of qPCR and BRiSK, the authors find relative few bacteria on healthy conjunctiva (1/50 cells)
- Unexpectedly find the virus torque teno virus in nearly 50% of healthy conjunctiva

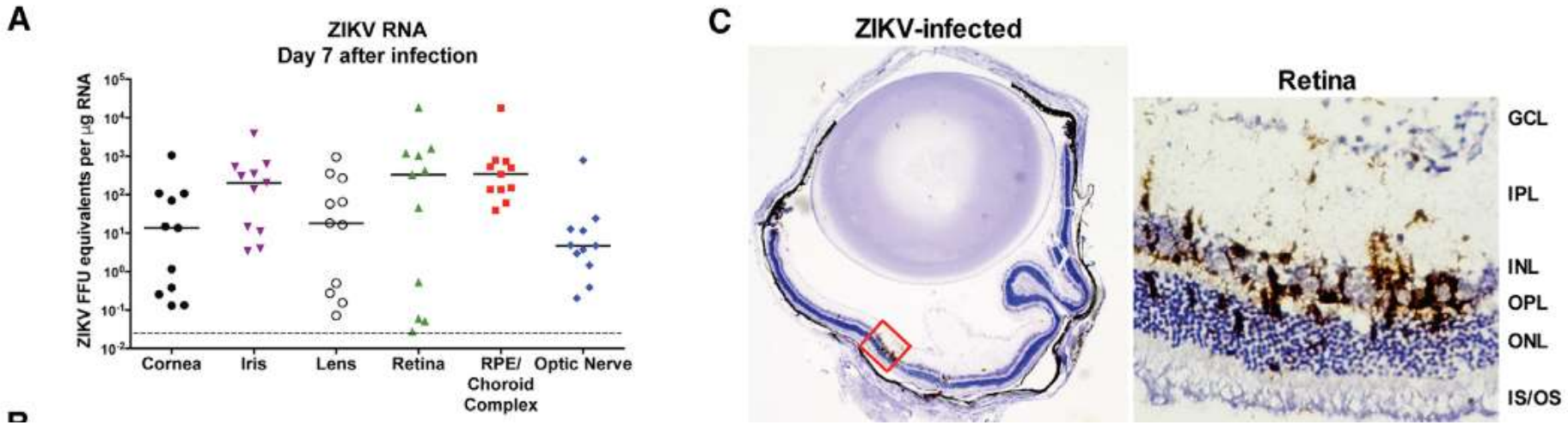


Basic training

Zika Virus Infection in Mice Causes Panuveitis with Shedding of Virus in Tears

Miner et al., 2016, Cell Reports *16*, 3208–3218
September 20, 2016 © 2016 The Author(s).
http://dx.doi.org/10.1016/j.celrep.2016.08.079

Jonathan J. Miner,[1,9,*] Abdoulaye Sene,[2,9] Justin M. Richner,[1] Amber M. Smith,[1] Andrea Santeford,[2] Norimitsu Ban,[2] James Weger-Lucarelli,[3] Francesca Manzella,[4] Claudia Rückert,[3] Jennifer Govero,[1] Kevin K. Noguchi,[4] Gregory D. Ebel,[3] Michael S. Diamond,[1,5,6,7,10,*] and Rajendra S. Apte[1,2,8,*]



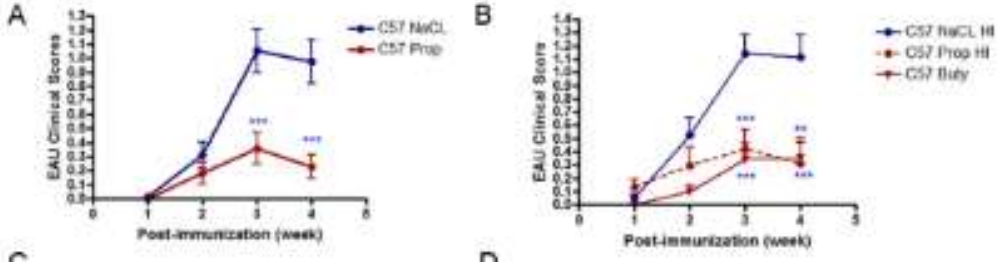
- Zika infection known for past 2 years to cause variety of uveitis presentations
- Injected mice systemically with Zika virus
- High expression in cornea, tears, lacrimal glands, retina, and optic nerve
- Clear uveitis phenotype

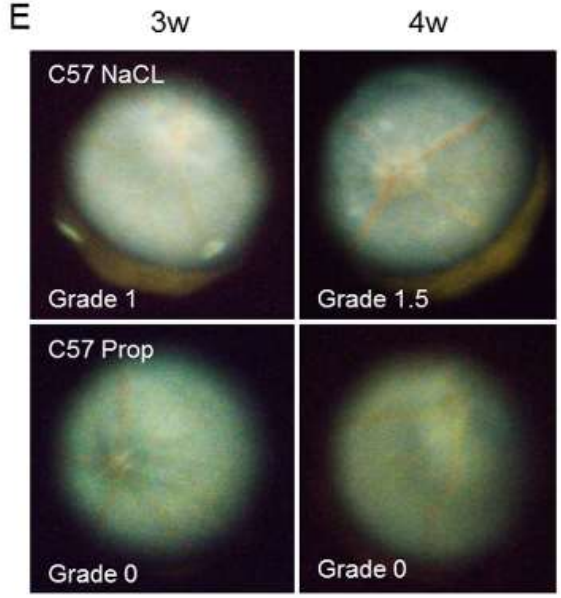
SCIENTIFIC REPORTS | 7: 11745 | DOI:10.1038/s41598-017-12163-3

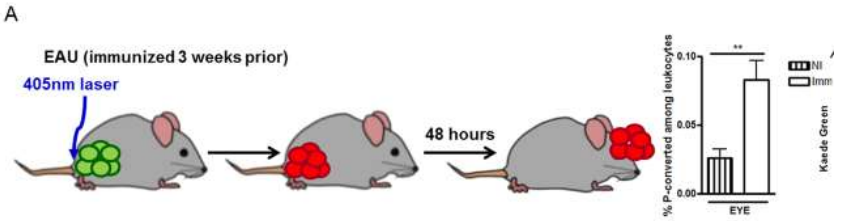
Short chain fatty acids ameliorate immune-mediated uveitis partially by altering migration of lymphocytes from the intestine

Yukiko K. Nakamura[1], Cathleen Janowitz[1], Christina Metea[1], Mark Asquith[2], Lisa Karstens[4], James T. Rosenbaum[1,2,3] & Phoebe Lin[1]

- Metabolites of bacterial fermentation of dietary fiber
- When fed orally to C57Bl/6 mice, propionate and butyrate attenuated EAU
- Appeared to accentuate Treg activation
- Reduced trafficking of immune effector cells from gut to spleen





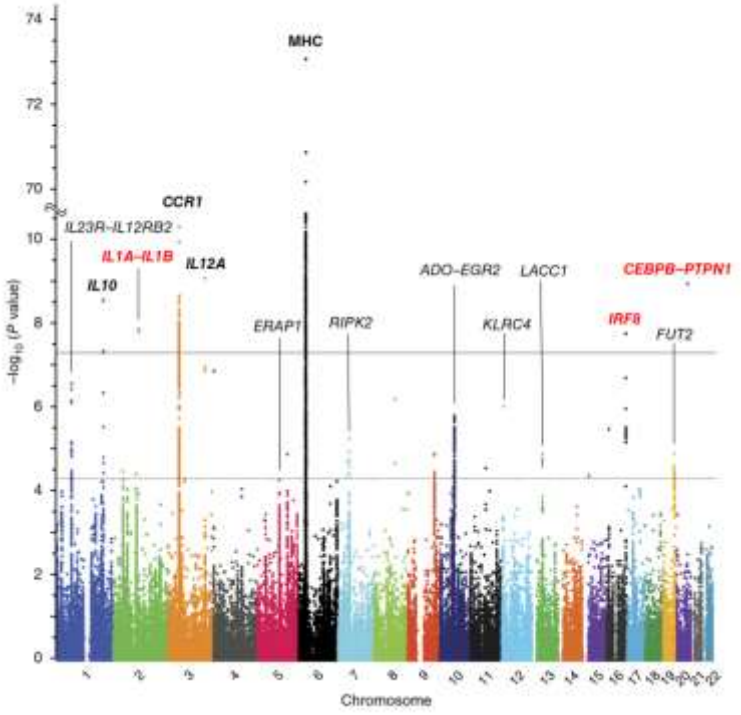


Dense genotyping of immune-related loci implicates host responses to microbial exposure in Behçet's disease susceptibility

Masaki Takeuchi[1,2], Nobuhisa Mizuki[2], Akira Meguro[2], Michael J Ombrello[3], Yohei Kirino[4], Colleen Satorius[1], Julie Le[1], Mary Blake[5], Burak Erer[1], Tatsukata Kawagoe[2], Duran Ustek[6], Ilknur Tugal-Tutkun[7], Emire Seyahi[8], Yilmaz Ozyazgan[9], Inês Sousa[10,11], Fereydoun Davatchi[12], Vânia Francisco[10,11], Farhad Shahram[12], Bahar Sadeghi Abdollahi[12], Abdolhadi Nadji[12], Niloofar Mojarad Shafiee[12], Fahmida Ghaderibarmi[12], Shigeaki Ohno[13], Atsuhisa Ueda[4], Yoshiaki Ishigatsubo[4], Massimo Gadina[5], Sofia A Oliveira[10,11], Ahmet Gül[14], Daniel L Kastner[1,15] & Elaine F Remmers[1,15]

VOLUME 49 | NUMBER 3 | MARCH 2017 NATURE GENETICS

- 1900 Turkish Behcet cases and 1779 controls genotyped with Immunochip
- HLA-B51 major risk
- IL1-A/B, IRF8, CEBPB-PTPN1 all significantly associated
- Replicated in Iranian and Japanese populations
- Shared with Crohn's disease and leprosy
- Implicates innate immune response to microbes



In Translation

https://doi.org/10.3346/jkms.2017.32.4.599 • J Korean Med Sci 2017; 32: 599-604

Increased Serum Antibody Titer against HPV-16 Antigen in Patients with Behçet's Disease

Kyu Yeun Kim,[1]* Do Young Kim,[2]* Jimyung Seo,[2] Yuri Ahn,[2] and Dong Soo Kim[1]

[1]Department of Pediatrics, Yonsei University College of Medicine, Seoul, Korea; [2]Department of Dermatology, Yonsei University College of Medicine, Seoul, Korea

Quadrivalent human papillomavirus (HPV) vaccine has been reported to be significantly associated with Behçet's disease (BD). However, no reports have described HPV infection as a possible cause for the development of BD. The objective of this study was to evaluate whether anti-HPV immunoglobulin G (IgG) antibody titer is increased in BD. Serum samples from 93 Korean BD patients, who fulfilled the diagnostic criteria of the International Study Group for BD, were used in an enzyme-linked immunosorbent assay (ELISA). The clinical activity of BD was evaluated at the time of blood sampling. HPV-16 L1

- Quadrivalent HPV vaccine has been associated with Behcet
- 93 BD patients and 40 controls tested for antibody to HPV16
- Significantly higher titers in BD patients; for those with OD > 2 on ELISA 100% specificity and sensitivity

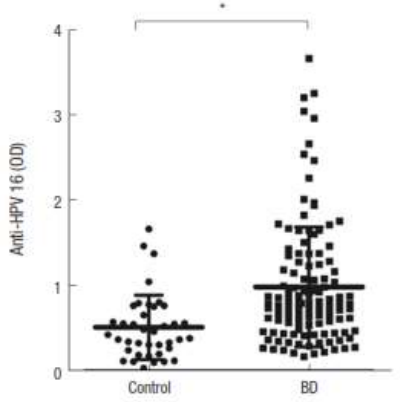
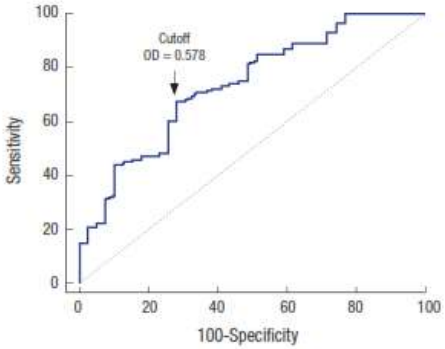


Fig. 1. Serum anti-HPV 16 antibody levels in the patients with BD. (mean OD in BD patients: 0.992; mean OD in normal control: 0.517).
HPV = human papillomavirus, BD = Behçet's disease, OD = optical density.
*$P < 0.001$.



Molecular Therapy
Original Article

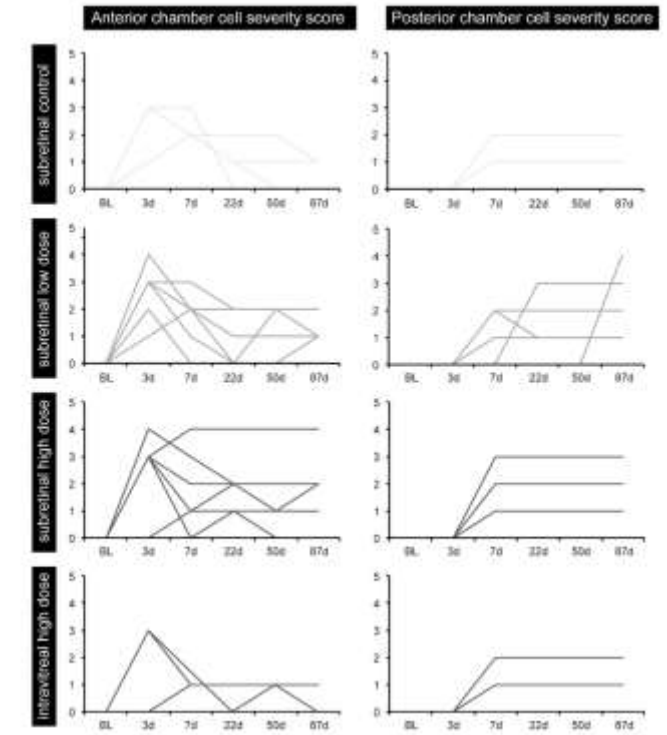
AMERICAN SOCIETY of GENE & CELL THERAPY

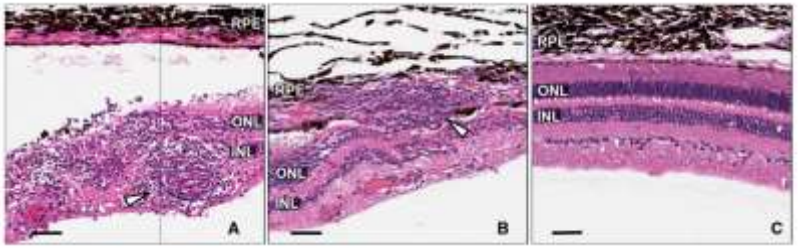
Molecular Therapy Vol. 25 No 12 December 2017 © 2017

AAV8 Can Induce Innate and Adaptive Immune Response in the Primate Eye

Felix F. Reichel,[1,2,7] Daniyar L. Dauletbekov,[1,2,7] Reinhild Klein,[3] Tobias Peters,[2,4] G. Alex Ochakovski,[1,2] Immanuel P. Seitz,[1,2] Barbara Wilhelm,[2,4] Marius Ueffing,[2] Martin Biel,[5] Bernd Wissinger,[2] Stylianos Michalakis,[5] Karl Ulrich Bartz-Schmidt,[1] M. Dominik Fischer,[1,2,4,6] and the RD-CURE Consortium

- 34 macaque monkeys injected either subretinal or intravitreal with AAV-8 vector, low or high dose
- 28 or 90 day protocol
- Both innate and adaptive systems significantly activated
- Persistent AC and vitreous cell in some animals



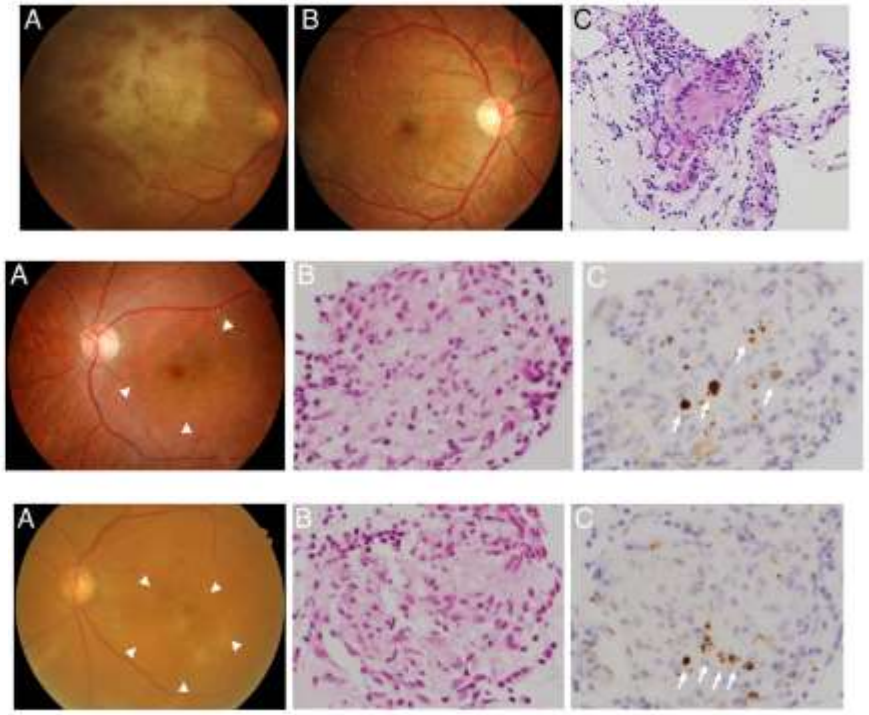


Goto H, *et al*. *Br J Ophthalmol* 2017;**0**:1–4. doi:10.1136/bjophthalmol-2016-309248

Propionibacterium acnes as a possible pathogen of granuloma in patients with ocular sarcoidosis

Hiroshi Goto,[1] Yoshihiko Usui,[1] Akihiko Umazume,[1] Keisuke Uchida,[2] Yoshinobu Eishi[2]

- Studied 10 epiretinal membranes in patients with sarcoidosis by immunohistochemistry
- 4/10 showed granulomas
- 5/10 stained positive for *P acnes*
- 0/10 stained positive among control ERM



Ocular Immunology & Inflammation, 2017; 25(5): 692–696
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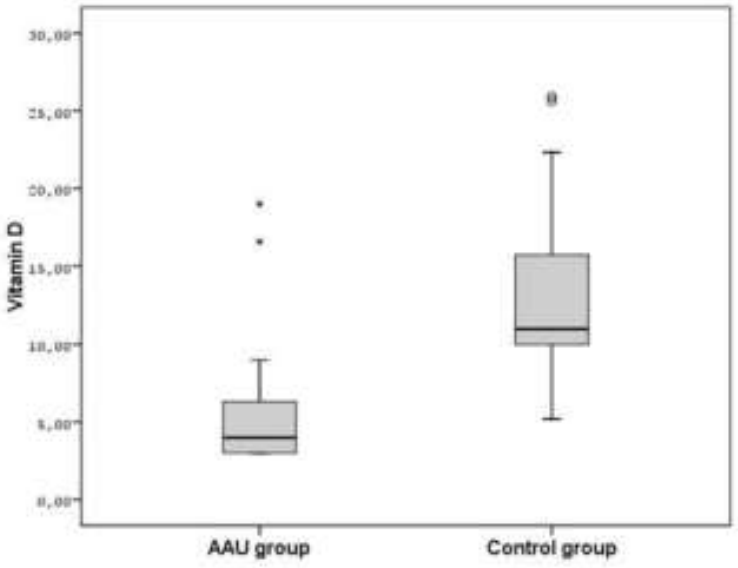
ISSN: 0927-3948 print / 1744-5078 online
DOI: 10.3109/09273948.2016.1139735

Taylor & Francis

ORIGINAL ARTICLE

Serum Vitamin D Levels in Patients with Acute Anterior Uveitis

Zeynep Dadaci, MD[1], Servet Cetinkaya, MD[2], Nursen Oncel Acir, MD[1], Mufide Oncel, MD[3], and Mehmet Borazan, MD[1]



JAMA Ophthalmol. 2017;135(2):150-153.

Research

JAMA Ophthalmology | Brief Report

Association of Low Vitamin D Levels With Noninfectious Anterior Uveitis

Lindsay A. Grotting, MD; Samaneh Davoudi, MD; Deanna Palenzuela; George N. Papaliodis, MD; Lucia Sobrin, MD, MPH

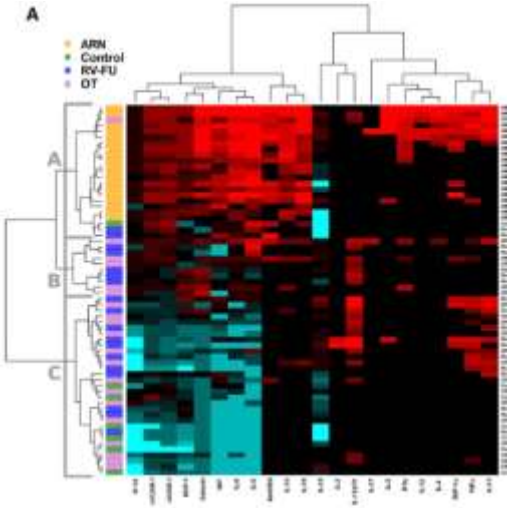
- Grotting et al.: 100 patients/100 controls
  - Vit D levels 31.2 ng/mL in controls, 26.3 ng/mL in uveitis patients
  - Suggests 4% lower odds of developing uveitis per 1 ng/mL increase in vit D
- Dadaci et al.: 20 AAU patients and 20 controls
  - All with 3+ to 4+ AC cell and off systemic medications at time of sampling
  - 2 fold higher vitamin D in control group

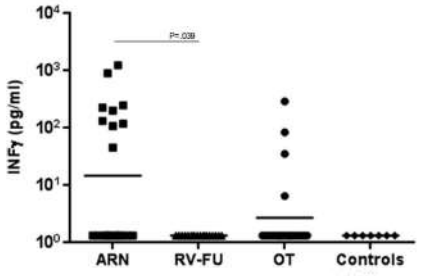
Invest Ophthalmol Vis Sci.
2017;58:2139–2151. DOI:10.1167/iovs.16-20799

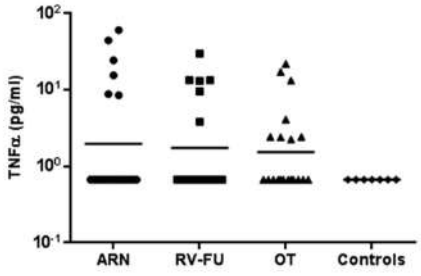
Cytokines and Chemokines Involved in Acute Retinal Necrosis

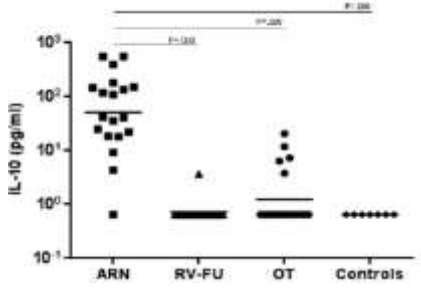
Lenneke de Visser,[*,1,2] Joke H. de Boer,[1] Ger T. Rijkers,[3,4] Karin Wiertz,[†,1] Henk-Jan van den Ham,[5] Rob de Boer,[6] Anton M. van Loon,[2] Aniki Rothova,[5] and Jolanda D. F. de Groot-Mijnes[1,2]

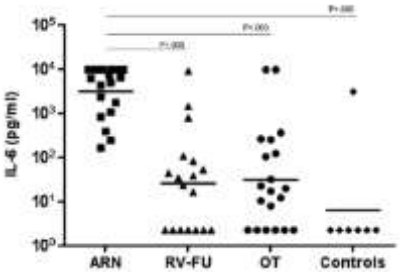
- Measured cytokine levels in 10 patients AC tap and serum with ARN, 18 with Fuchs/Rubella, 20 with ocular toxoplasmosis; 7 controls
- Unique profile associated with each infectious agent

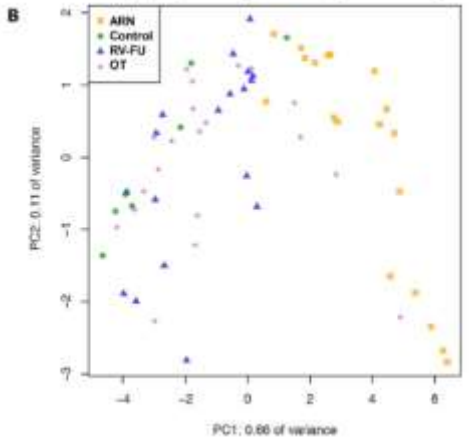












Safety of anterior chamber paracentesis using a 30-gauge needle integrated with a specially designed disposable pipette

Kitazawa K, *et al*. *Br J Ophthalmol* 2017;**101**:548–550.

Koji Kitazawa,[1,2,3] Chie Sotozono,[2] Noriko Koizumi,[4] Kenji Nagata,[2] Tsutomu Inatomi,[2] Hiroshi Sasaki,[5] Shigeru Kinoshita[1,3]

- New integrated 30 g short needle and pipette bulb
- Tested on 301 aqueous samples over 6 years
- No complications reported
- Joins ranks of O'Rouke and 'minim' devices; confirms safety of AC paracentesis

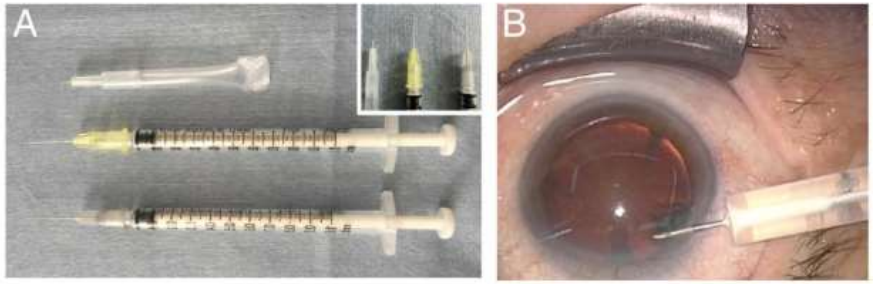


Table 1 Demographic characteristics of the patients

Gender, n (%)	
Male	169 (56.1)
Female	132 (43.9)
Mean age (SD)	61.4±16.7
Pupil status, n (%)	
Dilated pupil	173 (57.5)
Constricted pupil	128 (42.5)
Lens status, n (%)	
Phakia	188 (62.7)
Pseudophakia	113 (37.3)
Indication for paracentesis, n (%)	
Virus detection	264 (87.7)
Bacteria detection	8 (2.7)
Malignancy	29 (9.6)
Complication, n (%)	
Endophthalmitis	0 (0)
Corneal abscess	0 (0)
Lens trauma	0 (0)
Hyphema	0 (0)
AC fibrin formation	0 (0)
Hypopyon	0 (0)

AC, anterior chamber.

Figure 1 A 25-gauge needle securely attached to a saline minim.

Figure 2 Anterior chamber paracentesis with aqueous pipette (pig's eye used for demonstration).

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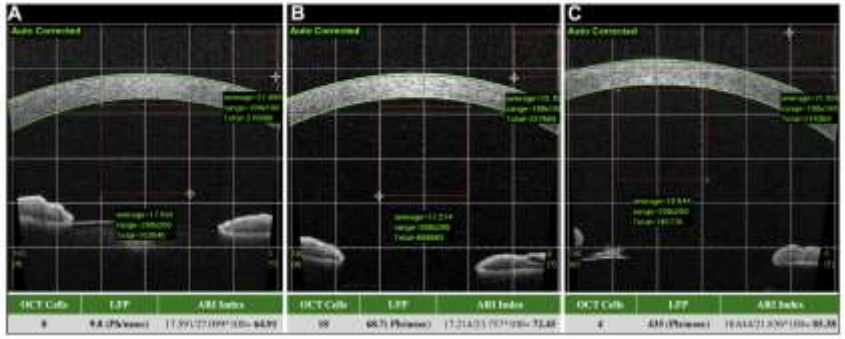
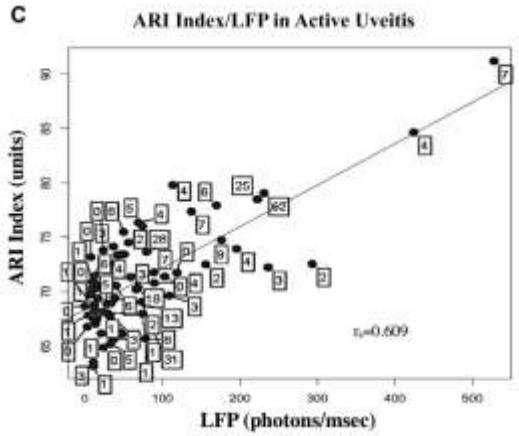
http://dx.doi.org/10.1016/j.ophtha.2017.05.013

Objective Quantification of Anterior Chamber Inflammation

Measuring Cells and Flare by Anterior Segment Optical Coherence Tomography

Alessandro Invernizzi, MD,[1,2] Sylvia Marchi, MD,[3,4] Raffaella Aldigeri, MSc,[5] Valentina Mastrofilippo, BSc,[3,4] Fabiana Viscogliosi, MD,[3] Annamaria Soldani, BSc,[3,4] Chantal Adani, BSc,[3,4] Elena Garoli, MD,[6] Francesco Viola, MD,[6] Luigi Fontana, MD, PhD,[4] Peter McCluskey, MD,[2] Luca Cimino, MD[5]





- Performed SS-OCT of anterior segment in 70 eyes with active uveitis, 97 with inactive uveitis, 70 controls
- Counted cells manually in tomographic sections
- Calculated aqueous-air-relative intensity (ARI)
- Strong correlation of OCT indices to traditional cell and flare

Nordal et al. Pediatric Rheumatology (2017) 15:66
DOI 10.1186/s12969-017-0195-8

RESEARCH ARTICLE Open Access

Incidence and predictors of Uveitis in juvenile idiopathic arthritis in a Nordic long-term cohort study

Ellen Nordal[1*], Veronika Rypdal[1], Terje Christoffersen[2], Kristiina Aalto[3], Lillemor Berntson[4], Anders Fasth[5], Troels Herlin[6], Susan Nielsen[7], Suvi Peltonieni[3], Bjørn Straume[8], Marek Zak[7], Marite Rygg[9] and for the Nordic Study Group of Pediatric Rheumatology (NoSPeR)

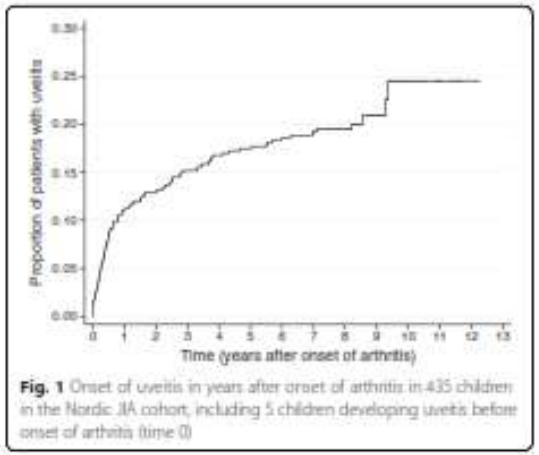


Fig. 1 Onset of uveitis in years after onset of arthritis in 435 children in the Nordic JIA cohort, including 5 children developing uveitis before onset of arthritis (time 0)

	No uveitis		Uveitis		OR (95% CI)
	N	n (%)	N	n (%)	
Female gender	346	227 (65.6)	89	59 (66.3)	1.0 (0.6, 1.6)
Oligoarticular onset	346	168 (48.6)	89	41 (46.1)	0.9 (0.6, 1.4)
Age at onset (< 7 years)	346	189 (54.6)	89	64 (71.9)	2.1 (1.3, 3.5)
ANA positive	340	79 (23.2)	87	37 (42.5)	2.4 (1.5, 4.0)
AHA > 15 U	112	14 (12.5)	22	9 (40.9)	4.8 (1.8, 13.4)
HLA-B27 positive	325	62 (19.1)	87	25 (28.7)	1.7 (1.0, 2.9)
ESR > 20 mm/H	276	95 (34.4)	78	34 (43.6)	1.5 (0.9, 2.5)
CRP > 10 mg/L	276	77 (27.9)	74	27 (36.5)	1.5 (0.9, 2.6)
DMARD use ≤ 2nd visit[a]	316	111 (35.1)	34	14 (41.2)	1.3 (0.6, 2.7)

- Cohort study of 435 children diagnosed with JIA between 1997 and 2000
- 89 (21%) developed uveitis over course of study
- Confirmed age < 7 and ANA as predictor
- Showed antihistone antibodies (AHA) stronger predictor than either for development of uveitis

This year’s new model

Clinical Case Reports

Clinical Case Reports 2017; 5(5): 694–700

Open Access

CASE REPORT

Vogt-Koyanagi-Harada disease-like posterior uveitis in the course of nivolumab (anti-PD-1 antibody), interposed by vemurafenib (BRAF inhibitor), for metastatic cutaneous malignant melanoma

Toshihiko Matsuo[1] & Osamu Yamasaki[2]

http://dx.doi.org/10.1016/j.jiac.2017.04.007

Contents lists available at ScienceDirect

Journal of Infection and Chemotherapy

journal homepage: http://www.elsevier.com/locate/jic

Case Report

Uveitis induced by programmed cell death protein 1 inhibitor therapy with nivolumab in metastatic melanoma patient

Hiroaki Kanno [a], Kyoko Ishida [a, b, *], Wataru Yamada [a], Takashi Nishida [a], Nobumichi Takahashi [a], Kiyofumi Mochizuki [a], Yuki Mizuno [c], Kanako Matsuyama [c], Tomoko Takahashi [c], Mariko Seishima [c]

LETTER TO THE EDITOR

Uveitis and Papillitis in the Setting of Dabrafenib and Trametinib Therapy for Metastatic Melanoma: A Case Report

Jennifer Lim, MBBS[1], Anna J. Lomax, MBBS, FRACP[1], Catriona McNeil, MBBS, FRACP, PhD[1,2], and Brian Harrisberg, MBBCh, FRACS FRANZCO[2]

CASE REPORT Open Access

Ocular toxicity due to Trametinib and Dabrafenib

Stephanie Samy[1*], Michael Neumayer[1], Julian Kofler[2] and Yosuf El-Shabrawi[1]

Biologic-al

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Adalimumab plus Methotrexate for Uveitis in Juvenile Idiopathic Arthritis

Athimalaipet V. Ramanan, F.R.C.P.C.H., F.R.C.P., Andrew D. Dick, M.B., B.S., M.D., Ashley P. Jones, Ph.D., Andrew McKay, M.Sc., Paula R. Williamson, Ph.D., Sandrine Compeyrot-Lacassagne, M.D., Ben Hardwick, M.Res., Helen Hickey, B.Sc., Dyfrig Hughes, Ph.D., Patricia Woo, F.Med.Sci., Diana Benton, M.A., Clive Edelsten, M.R.C.P., F.R.C.Ophth., and Michael W. Beresford, M.B., Ch.B., Ph.D., for the SYCAMORE Study Group*

- Multicenter double-masked RCT of 90 subjects for adalimumab + MTX vs. MTX alone for JIA-associated uveitis
- 27% fail rate treated at 2 years vs. 60% MTX only
- AE 10 events/year vs. 6.5/year with MTX only; 0.29 SAE/yr vs 0.19 SAE/yr

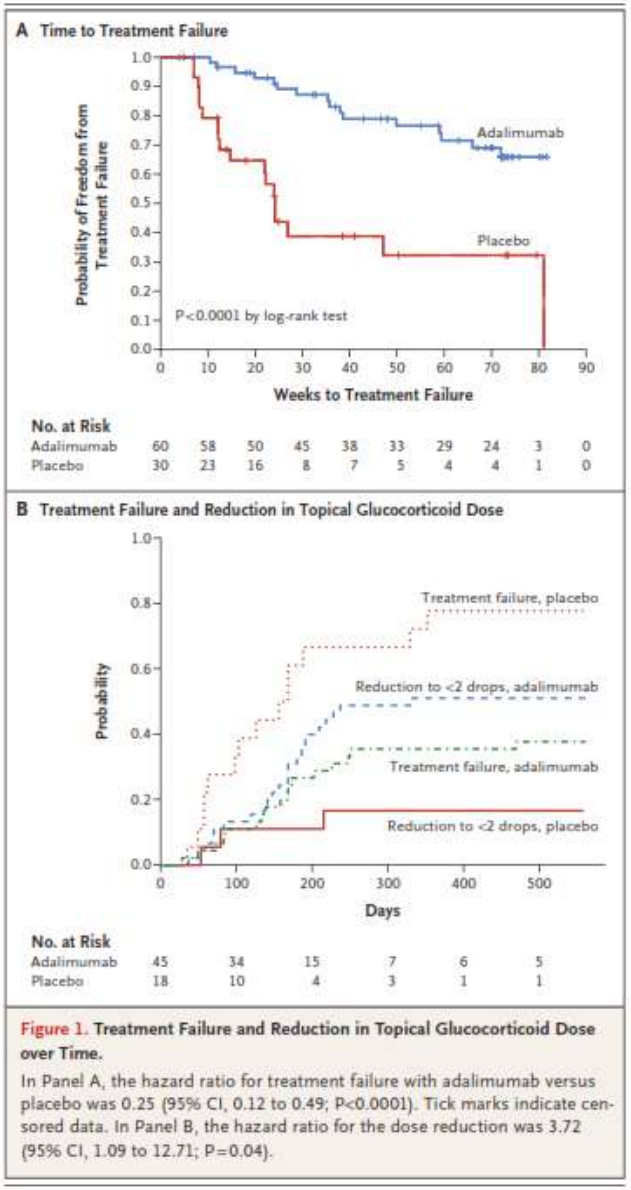


Figure 1. Treatment Failure and Reduction in Topical Glucocorticoid Dose over Time.

In Panel A, the hazard ratio for treatment failure with adalimumab versus placebo was 0.25 (95% CI, 0.12 to 0.49; P<0.0001). Tick marks indicate censored data. In Panel B, the hazard ratio for the dose reduction was 3.72 (95% CI, 1.09 to 12.71; P=0.04).

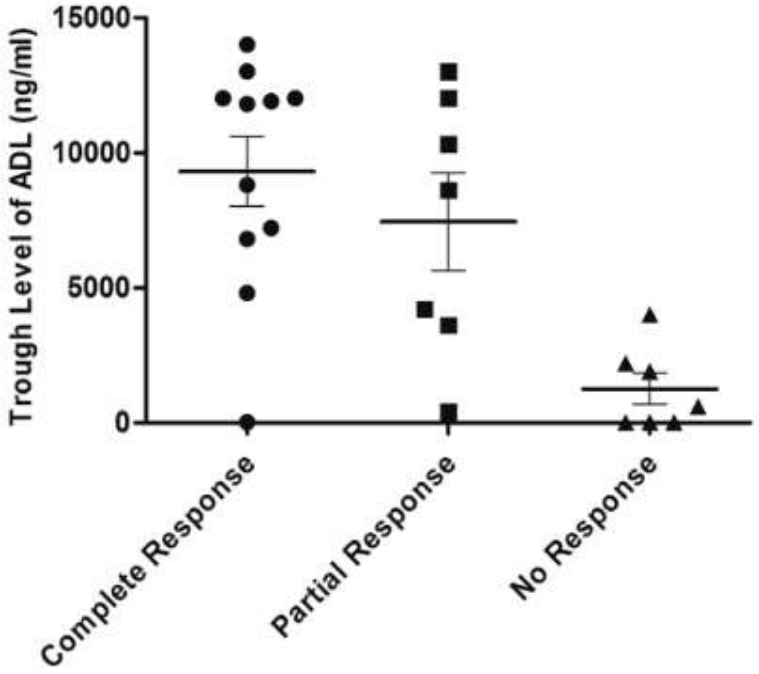
Adalimumab for Treatment of Noninfectious Uveitis

Ophthalmology 2016;123:2618-2625

Immunogenicity and Clinical Relevance of Measuring Serum Drug Levels and Antidrug Antibodies

Miguel Cordero-Coma, MD, PhD,[1,2] Sara Calleja-Antolín, MD,[3] Irene Garzo-García, MD,[1] Ana M. Nuñez-Garnés, MD,[3] Carolina Álvarez-Castro, MD,[4] Manuel Franco-Benito, MD,[1] Jose G. Ruiz de Morales, MD, PhD[2,3]

- 25 patients treated with adalimumab for uveitis
- 72% with favorable response
- Trough levels of adalimumab correlate with response
- 4 patients with persistent anti-adalimumab antibodies had undetectable drug levels
- No protective effect of concomitant IMT (1 each CsA, MMF, MTX)
- Suggests a subset of adalimumab treatment failures due to AAA

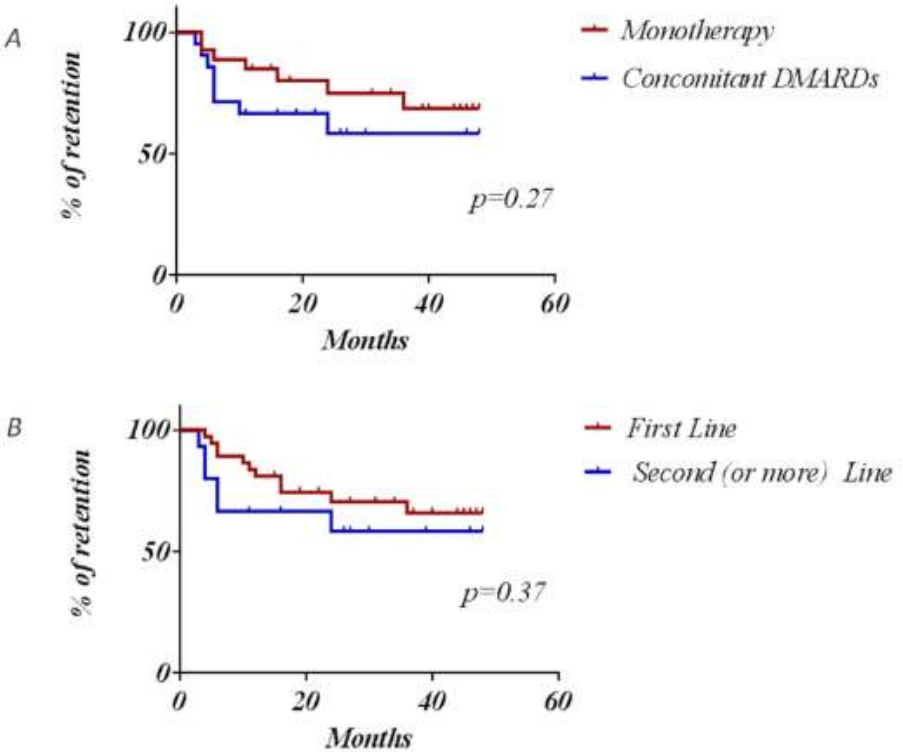


Cumulative retention rate of adalimumab in patients with Behçet's disease-related uveitis: a four-year follow-up study

Fabiani C, *et al*. *Br J Ophthalmol* 2017;**0**:1–5. doi:10.1136/bjophthalmol-2017-310733

Claudia Fabiani,[1] Jurgen Sota,[2] Antonio Vitale,[2] Donato Rigante,[3] Giacomo Emmi,[4] Lorenzo Vannozzi,[5] Daniela Bacherini,[5] Giuseppe Lopalco,[6] Silvana Guerriero,[7] Stefano Gentileschi,[2] Marco Capozzoli,[8] Rossella Franceschini,[8] Bruno Frediani,[2] Mauro Galeazzi,[2] Florenzo Iannone,[6] Gian Marco Tosi,[8] Luca Cantarini[2]

- 54 consecutive patients treated with adalimumab for Behcet disease followed over 48 months
- 90% response to therapy
- At 48 months, 17 discontinued (4 due to adverse effects, 5 for primary inefficiency, 7 for late insufficiency, 1 for pregnancy)
- Presence or absence of DMARD treatment did not affect retention

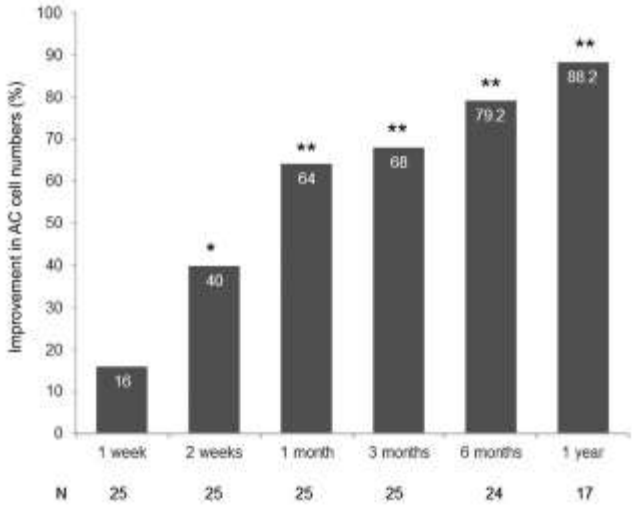


ARTHRITIS & RHEUMATOLOGY
Vol. 69, No. 3, March 2017, pp 668–675
DOI 10.1002/art.39940

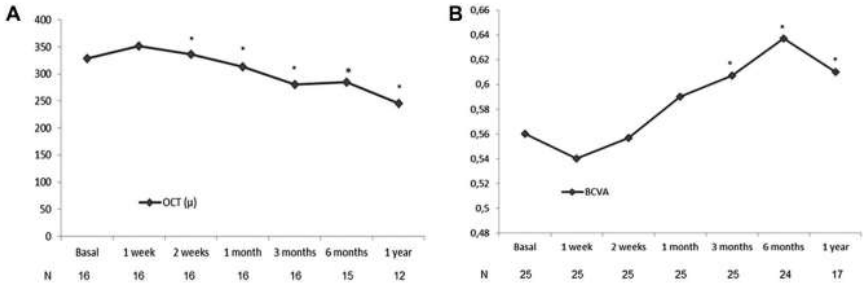
Anti–Interleukin-6 Receptor Tocilizumab for Severe Juvenile Idiopathic Arthritis–Associated Uveitis Refractory to Anti–Tumor Necrosis Factor Therapy

A Multicenter Study of Twenty-Five Patients

Vanesa Calvo-Río,[1] Montserrat Santos-Gómez,[1] Inmaculada Calvo,[2] M. Isabel González-Fernández,[2] Berta López-Montesinos,[2] Marina Mesquida,[3] Alfredo Adán,[3] María Victoria Hernández,[3] Olga Maíz,[4] Antonio Atanes,[5] Beatriz Bravo,[6] Consuelo Modesto,[7] Gisela Díaz-Cordovés,[8] Natalia Palmou-Fontana,[1] Javier Loricera,[1] M. C. González-Vela,[1] Rosalía Demetrio-Pablo,[1] J. L. Hernández,[1] Miguel A. González-Gay,[1] and Ricardo Blanco[1]



- 25 patients with JIA-associated uveitis who had failed MTX and biologics (mostly anti-TNF)
- 8 mg/kg tocilizumab monthly
- ~80% with improvement in AC cell
- Significant improvements in central macular thickness and visual acuity
- Two patients discontinued due to autoimmune thrombocytopenia

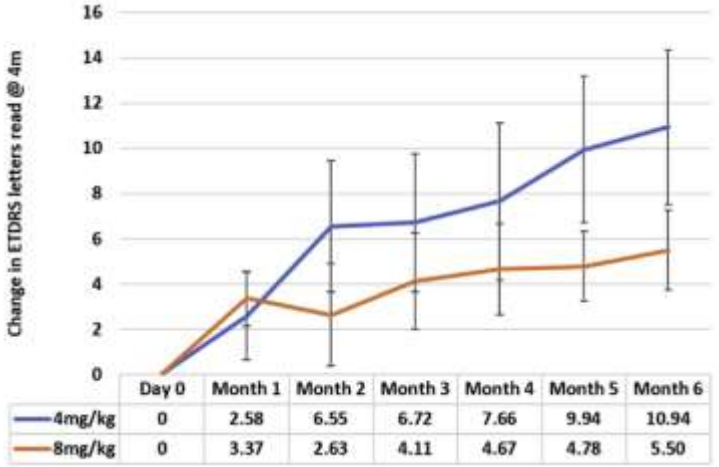


Primary (Month-6) Outcomes of the STOP-Uveitis Study: Evaluating the Safety, Tolerability, and Efficacy of Tocilizumab in Patients With Noninfectious Uveitis

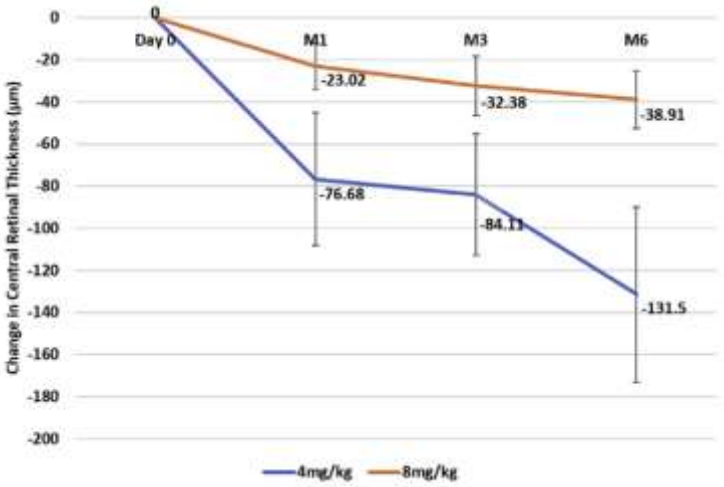
Am J Ophthalmol 2017;183:71–80.

YASIR JAMAL SEPAH, MOHAMMAD ALI SADIQ, DAVID S. CHU, MARK DACEY, RON GALLEMORE, POUYA DAYANI, MOSTAFA HANOUT, MUHAMMAD HASSAN, RUBBIA AFRIDI, ANIRUDDHA AGARWAL, MUHAMMAD SOHAIL HALIM, DIANA V. DO, AND QUAN DONG NGUYEN

- 37 patients enrolled in two dose RCT for tocilizumab for non-infectious intermediate, posterior, and panuveitis
- At 6 months, substantial improvement in visual acuity and central retinal thickness in both groups
- Lower dose group showed better effect than higher dose group
- Well tolerated with few SAE



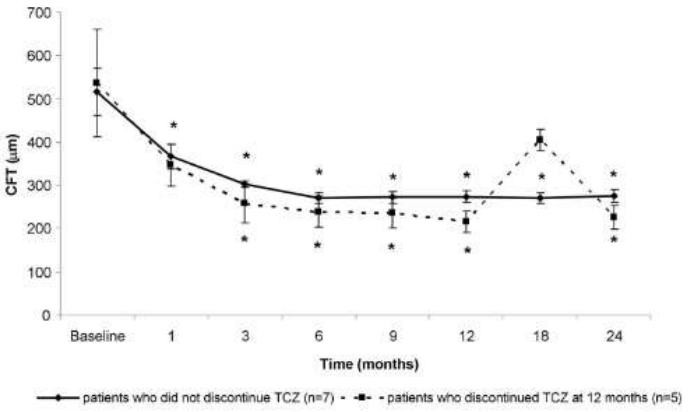
	Day 0	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
4mg/kg	0	2.58	6.55	6.72	7.66	9.94	10.94
8mg/kg	0	3.37	2.63	4.11	4.67	4.78	5.50



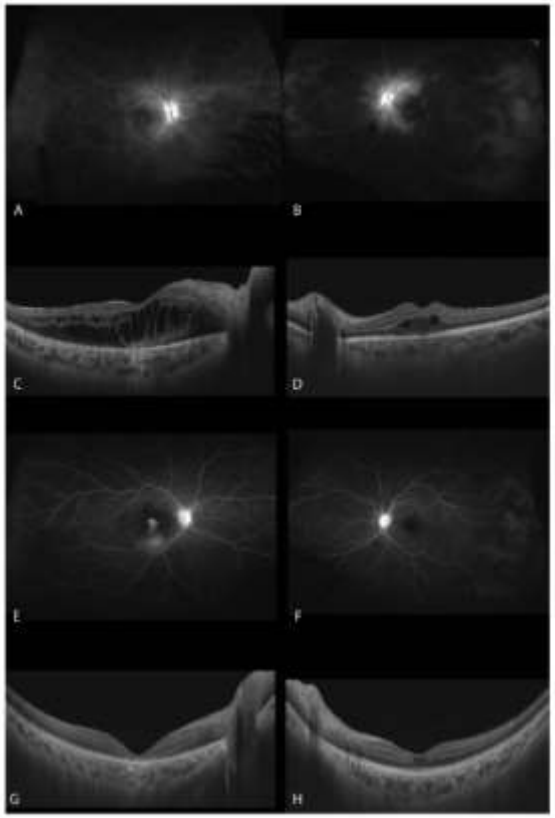
TWENTY-FOUR MONTH FOLLOW-UP OF TOCILIZUMAB THERAPY FOR REFRACTORY UVEITIS-RELATED MACULAR EDEMA

RETINA 0:1–10, 2017

MARINA MESQUIDA, MD, PHD,*†‡ BLANCA MOLINS, PHD,‡ VICTOR LLORENÇ, MD, PHD,*†‡
MARÍA V. HERNÁNDEZ, MD, PHD,§ GERARD ESPINOSA, MD, PHD,¶
MAITE SAINZ DE LA MAZA, MD, PHD,*†‡ ALFREDO ADÁN, MD, PHD*†‡



- 16 eyes of 12 patients with refractory CME
  - 2/3 with JIA or BSCR
  - 10 post-Ozurdex
- Treated with tocilizumab 8 mg/kg q 4 weeks
- 14/16 with significant improvement at month 12
- BCVa improved in 14/16, stable in 2/2
- 5 patients discontinued at month 12 all had recurrent CME

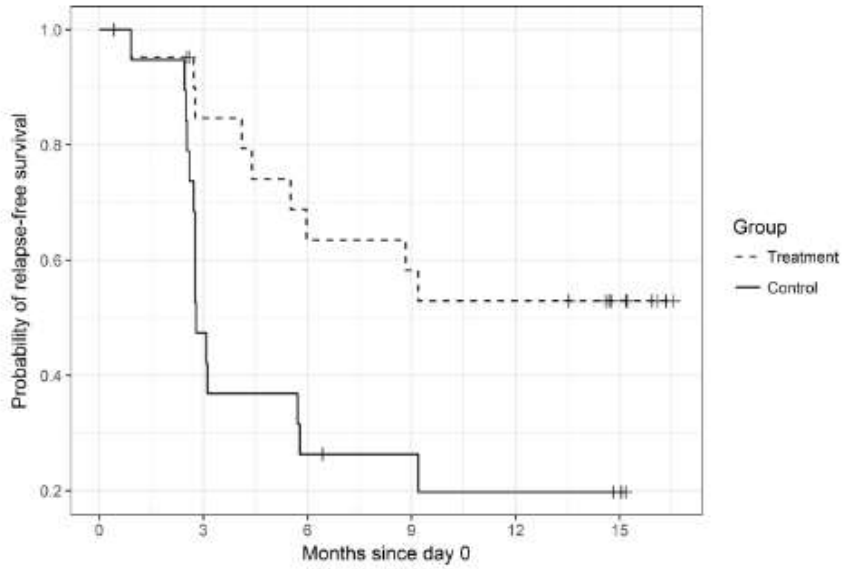


Drugs, drugs, drugs

Enteric-coated mycophenolate sodium in the treatment of non-infectious intermediate uveitis: results of a prospective, controlled, randomised, open-label, early terminated multicentre trial

Deuter CME, *et al*. *Br J Ophthalmol* 2017;**0**:1–7.

Christoph M E Deuter,[1] Katrin Engelmann,[2] Arnd Heiligenhaus,[3] Ines Lanzl,[4] Friederike Mackensen,[5] Thomas Ness,[6] Uwe Pleyer,[7] Nicole Stuebiger,[8] Barbara Wilhelm,[9] Holger Luedtke,[10] Manfred Zierhut,[1] Deshka Doycheva,[1] for the MYCUV-IIT02 Study Group



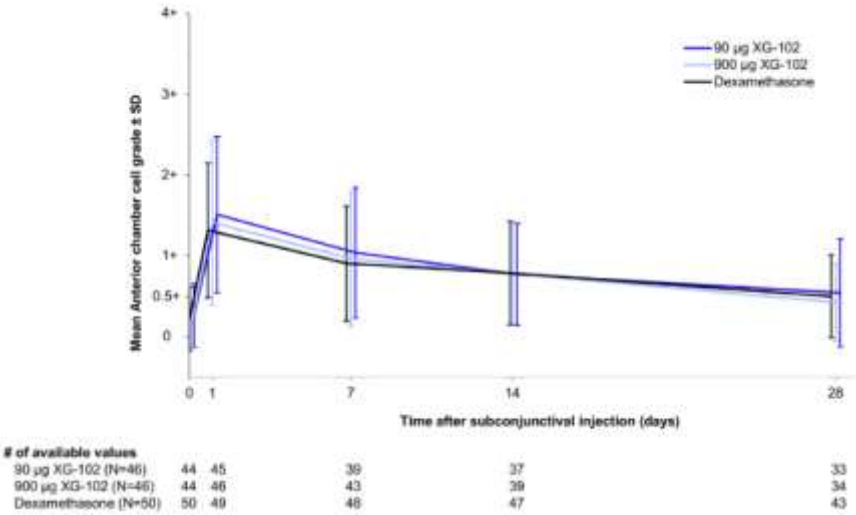
- RCT comparing enteric coated mycophenolate sodium vs. placebo in chronic intermediate uveitis
- 41 patients randomized to prednisolone +/- MPS
- Strict criteria for relapse
- 15 month year survival ~52% in treatment vs. 19% placebo

Postoperative Ocular Inflammation: A Single Subconjunctival Injection of XG-102 Compared to Dexamethasone Drops in a Randomized Trial

[Am J Ophthalmol 2017;174:76–84. © 2016

CHRISTOPHE CHIQUET, FLORENT APTEL, CATHERINE CREUZOT-GARCHER, JEAN-PAUL BERROD, LAURENT KODJIKIAN, PASCALE MASSIN, CATHERINE DELOCHE, JULIEN PERINO, BRIDGET-ANNE KIRWAN, SOPHIE DE BROUWER, JEAN-MARC COMBETTE, AND FRANCINE BEHAR-COHEN

- Brimapitide (XG-102) is a local JNK inhibitor
- Single subconjunctival injection of 90 or 900 ug post-complicated intraocular surgery (retina, glaucoma, combined)
- Equivalent AC grades to dexamethasone drops qid
- 15-20% of patients required some local steroid rescue
- No difference in AE or SAE
- Potential utility for uveitis to be explored



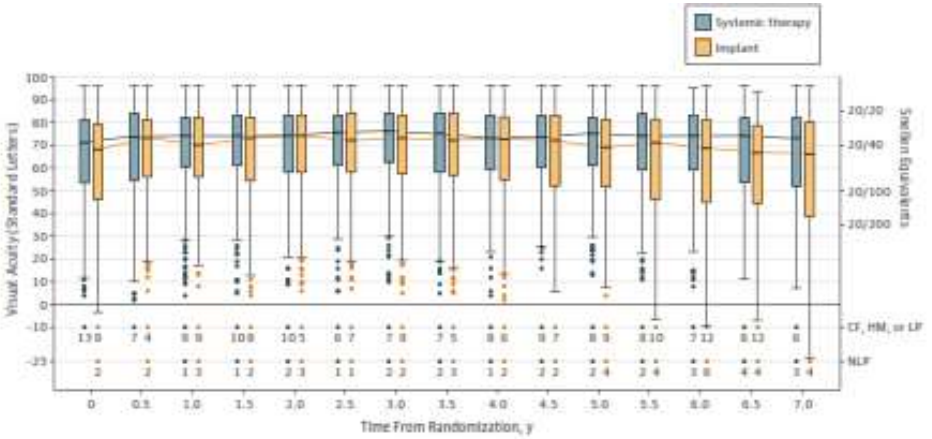
JAMA | Original Investigation

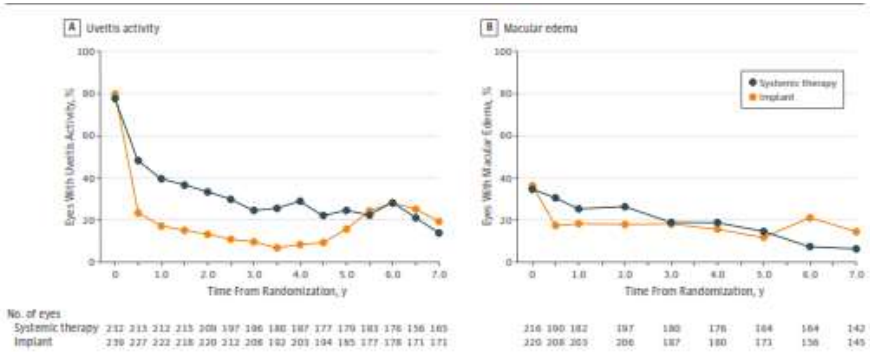
Association Between Long-Lasting Intravitreous Fluocinolone Acetonide Implant vs Systemic Anti-inflammatory Therapy and Visual Acuity at 7 Years Among Patients With Intermediate, Posterior, or Panuveitis

Writing Committee for the Multicenter Uveitis Steroid Treatment (MUST) Trial and Follow-up Study Research Group

JAMA. 2017;317(19):1993-2005. doi:10.1001/jama.2017.5103
Published online May 6, 2017.

- 7 year follow-up from MUST
- ~70% of patients initially randomized, 328 eyes total
- Visual acuity at 7 years favored implant by 7.2 letters
- Complications comparable except hyperlipidemia, hypertension, fractures, and antibiotic-related infections
- Hospitalizations slightly higher in the implant group



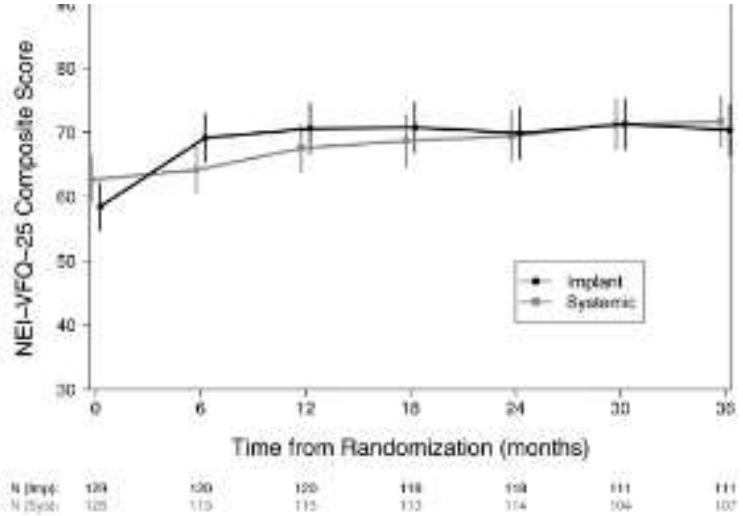


Longitudinal Vision-Related Quality of Life for Patients with Noninfectious Uveitis Treated with Fluocinolone Acetonide Implant or Systemic Corticosteroid Therapy

Ophthalmology 2017;■:1–8 © 2017

Elizabeth A. Sugar, PhD,[1,2,3,4] Vidya Venugopal, PhD,[5] Jennifer E. Thorne, MD, PhD,[2,6] Kevin D. Frick, PhD,[7] Gary N. Holland, MD,[8] Robert C. Wang, MD,[9] Robert Almanzor, COA,[8] Douglas A. Jabs, MD, MBA,[2,10,11] Janet T. Holbrook, PhD, MPH,[2,3] for the Multicenter Uveitis Steroid Treatment (MUST) Trial Research Group*

- NEI VFQ-25 visual function questionnaire given the MUST participants for 3 years
- At 3 year point, both groups improved ~10 points and equivalent
- Improvement more immediate for implant group



AMERICAN ACADEMY™ OF OPHTHALMOLOGY

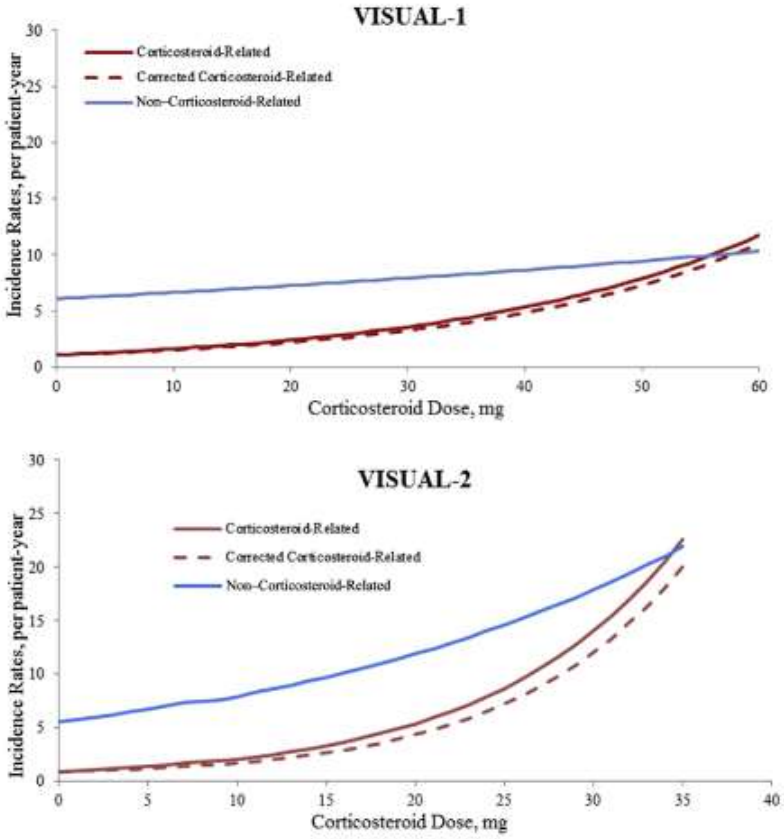
Corticosteroid-Related Adverse Events Systematically Increase with Corticosteroid Dose in Noninfectious Intermediate, Posterior, or Panuveitis

Post Hoc Analyses from the VISUAL-1 and VISUAL-2 Trials

Ophthalmology 2017;■:1–9 © 2017

Eric B. Suhler, MD,[1,2] Jennifer E. Thorne, MD,[3,4] Manish Mittal, PhD,[5] Keith A. Betts, PhD,[6] Samir Tari, MD,[5] Anne Camez, MD,[7] Yanjun Bao, PhD,[5] Avani Joshi, PhD[5]

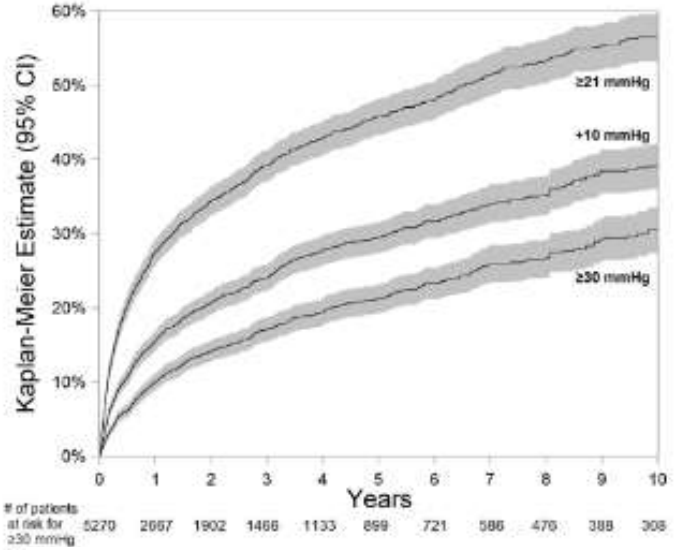
- Measured frequency of steroid-related AE in VISUAL-1 and -2
- Rates high in both studies during steroid use phase (454 and 317/PY vs 36 and 41/PY off steroids)
- Each 10 mg increase in dose was associated with 1.5 to 2.6-fold increase in steroid-related complications



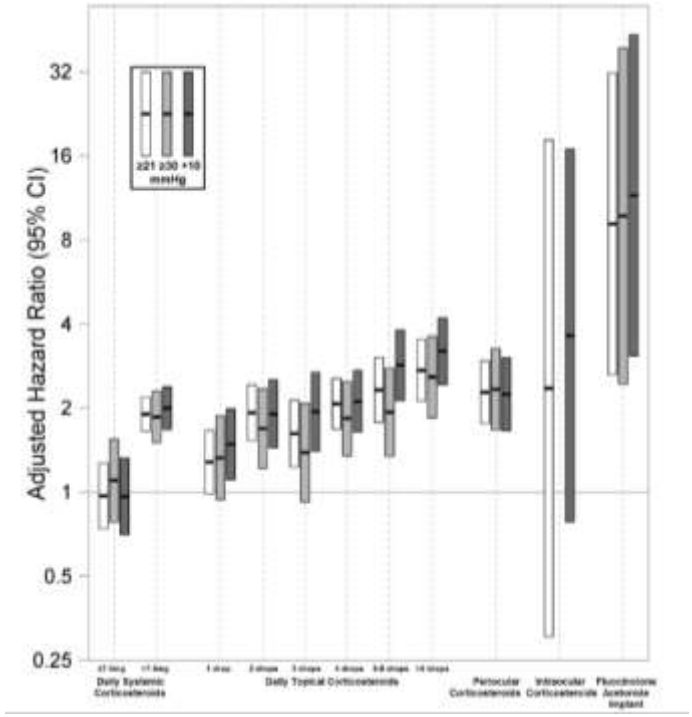
Risk of Ocular Hypertension in Adults with Noninfectious Uveitis

Ophthalmology 2017;124:1196-1208

Ebenezer Daniel, MBBS, PhD,[1,2] Maxwell Pistilli, MS,[2] Srishti Kothari, DOMS, DNB,[3,4,12] Naira Khachatryan, MD, DrPH,[1,3] R. Oktay Kaçmaz, MD, MPH,[3,5] Sapna S. Gangaputra, MD, MPH,[6,7] H. Nida Sen, MD, MHS,[7] Eric B. Suhler, MD, MPH,[8,9] Jennifer E. Thorne, MD, PhD,[10,11] C. Stephen Foster, MD,[3,12] Douglas A. Jabs, MD, MBA,[11,13,14] Robert B. Nussenblatt, MD, MPH,[7,1] James T. Rosenbaum, MD,[8,15,11] Grace A. Levy-Clarke, MD,[16] Nirali P. Bhatt, MD,[1,2] John H. Kempen, MD, PhD,[12,17,18] for the Systemic Immunosuppressive Therapy for Eye Diseases Research Group*



- Retrospective study of 5270 eyes of 3308 patients
- Annual incidence of iop > 21 = 14%, > 30 = 5%
- Among positive predictors: PPV, systemic HTN, contralateral OHT, corticosteroid use



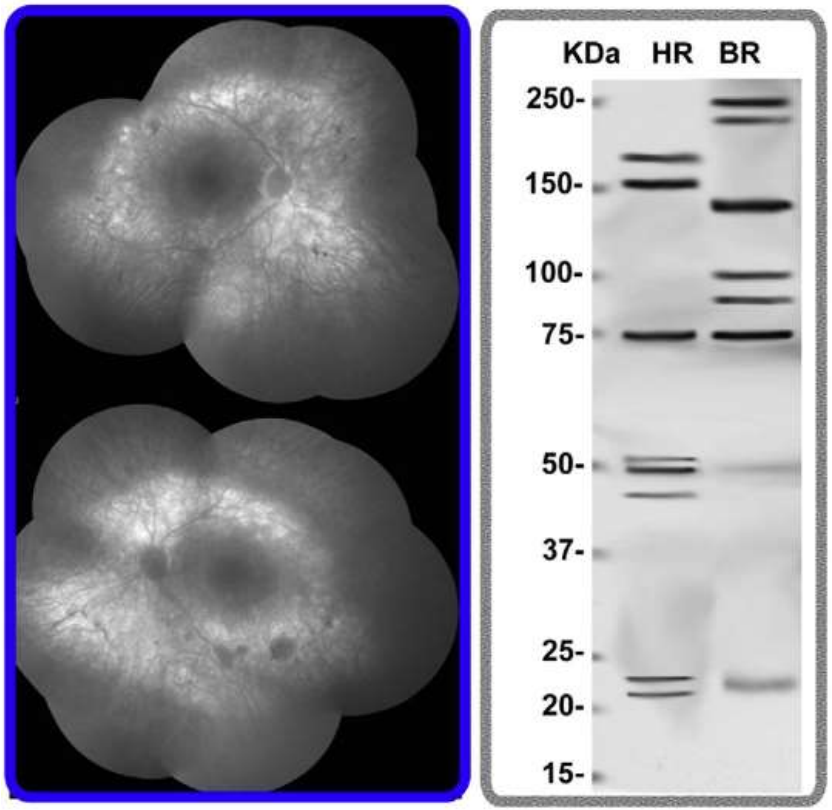
Antibodies anybody?

Prevalence of Antiretinal Antibodies in Acute Zonal Occult Outer Retinopathy: A Comprehensive Review of 25 Cases

(Am J Ophthalmol 2017;176: 210–218.

CYNTHIA X. QIAN, ANGELINE WANG, DAVID L. DEMILL, THIRAN JAYASUNDERA, KARI BRANHAM, MARIA FERNANDA ABALEM, NAHEED KHAN, AND JOHN R. HECKENLIVELY

- Studied 25 patients with AZOOR
- Characterized fundus and autofluorescence findings
- Ran 1D Western antiretinal antibodies – all patients positive, average of 6.6 bands/patient (vs ~1/control)



RESEARCH ARTICLE

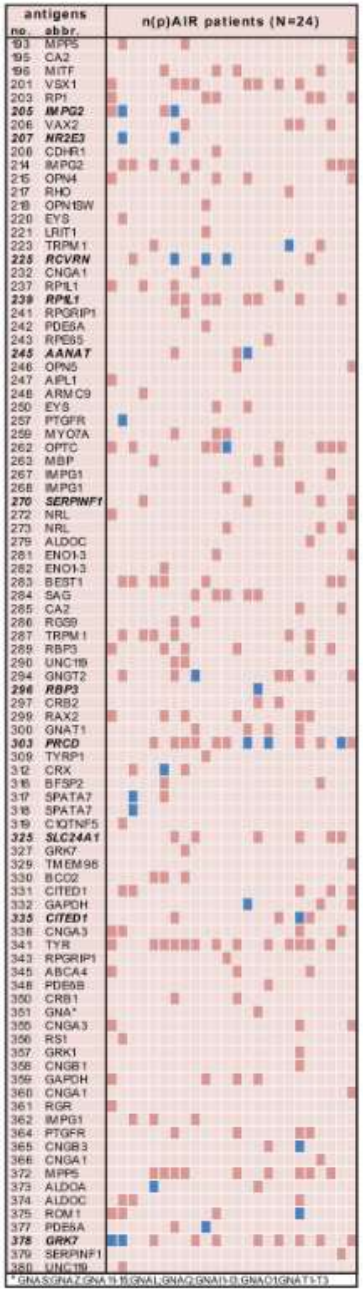
Serum Autoantibody Profiling of Patients with Paraneoplastic and Non-Paraneoplastic Autoimmune Retinopathy

Josianne C. ten Berge[1]*, Joost van Rosmalen[2], Jacolien Vermeer[3], Cecilia Hellström[4], Cecilia Lindskog[5], Peter Nilsson[4], Ulrika Qundos[4], Aniki Rothova[1], Marco W. J. Schreurs[3]

1 Department of Ophthalmology, Erasmus University Medical Center, Rotterdam, The Netherlands, **2** Department of Biostatistics, Erasmus University Medical Center, Rotterdam, The Netherlands, **3** Department of Immunology, Erasmus University Medical Center, Rotterdam, The Netherlands, **4** Affinity Proteomics, SciLifeLab, School of Biotechnology, KTH Royal Institute of Technology, Stockholm, Sweden, **5** SciLifeLab, Department of Immunology, Genetics and Pathology, Uppsala University, Uppsala, Sweden

PLOS ONE | DOI:10.1371/journal.pone.0167909 December 8, 2016

- Antigen bead array with 188 antigens from 97 ocular proteins used on 24 patients with AIR, 151 with uveitis, 21 with cataract
- Anti-recoverin found in 12% of AIR, 5% of cataract, 1.3% of uveitis
- No association of malignancy and anti-recoverin
- 1 or more bands found in 63% of AIR, 55% of uveitis, 48% of cataract
- Antibodies against photoreceptor-specific nuclear receptor and RBP3 were more common in AIR than uveitis



Antigen-specificity of antiretinal antibodies in patients with noninfectious uveitis

CAN J OPHTHALMOL—VOL. 52, NO. 5, OCTOBER 2017 463

Ebrima Gibbs, PhD,* Joanne Matsubara, PhD,† Sijia Cao, MD,† Jing Cui, MD,† Farzin Forooghian, MD, MSc, FRCSC†

- Measured serum binding to specific retinal proteins in 18 uveitis and 6 control patients by surface plasmon resonance
- Anti-recoverin reactivity found in 14/18 uveitis and 0/6 control subjects
- 11/11 BSCR patients with positive reactivity

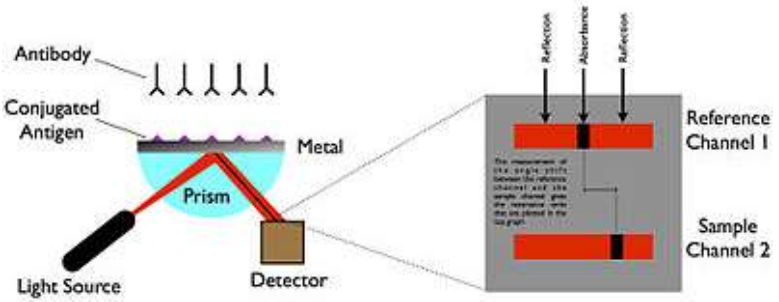


Table 2—Analysis of frequency of antiretinal antibody positivity in noninfectious uveitis

Antigen	Positive response proportion in patients	Positive response proportion in controls	*p* value*
Recoverin	14/18	0/6	0.0016†
S-antigen	2/18	0/6	1.00
IRBP	5/18	0/6	0.28
RPE65	6/18	0/6	0.28
TYRP1	3/18	0/6	0.55
TYRP2	0/18	0/6	1.0

RPE65, retinal pigment epithelium-specific 65 kDa protein; IRBP, interphotoreceptor retinoid binding; TYRP1, tyrosinase-related protein 1; TYRP2, tyrosinase-related protein 2.

*Fisher's exact test.

†Statistically significant result.

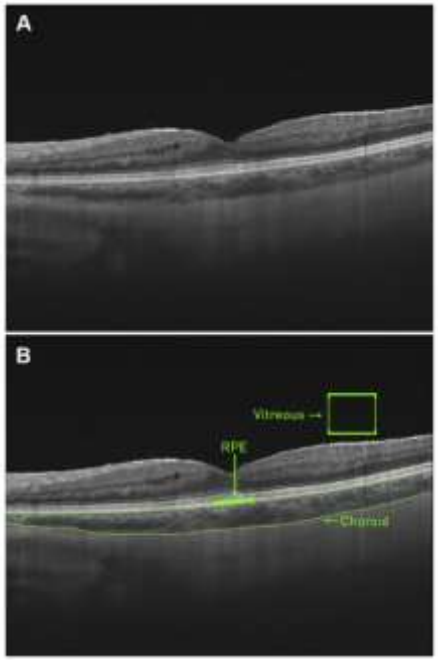
A picture is worth…

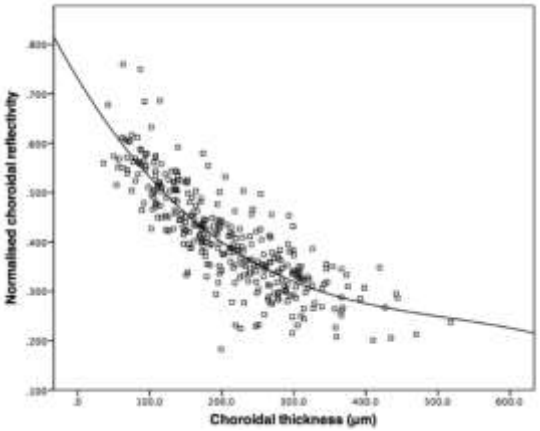
Choroidal Imaging with Swept-Source Optical Coherence Tomography in Patients with Birdshot Chorioretinopathy

Ophthalmology 2017;124:1186-1195

Choroidal Reflectivity and Thickness

Anna I. Dastiridou, MD, PhD,[1,] Elodie Bousquet, MD, PhD,[2,*] Laura Kuehlewein, MD,[1] Tudor Tepelus, PhD,[1] Dominique Monnet, MD, PhD,[2] Sawsen Salah, MD,[2] Antoine Brezin, MD, PhD,[2] Srinivas R. Sadda, MD[1,3]*





- Analyzed choroidal thickness and choroidal reflectivity in 386 eyes with BSCR vs 59 controls
- Higher choroidal reflectivity and lower choroidal thickness seen in inactive BSCR than active disease or controls
- Strong negative correlation between reflectivity and choroidal thickness
- May be useful marker for disease progression

Immunology and Microbiology

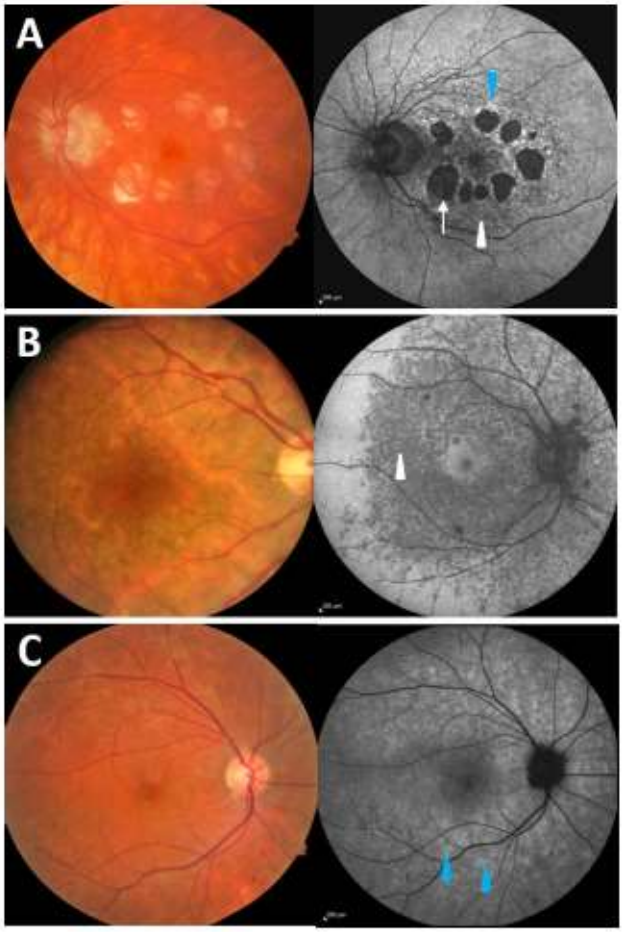
Fundus Autofluorescence Findings in Eyes With Birdshot Chorioretinitis

Invest Opbthalmol Vis Sci. 2017;58:4015–4025. DOI:10.1167/iovs.17-21897

Christian Böni,[1,*] Jennifer E. Thorne,[2] Richard F. Spaide,[3] Trucian A. Ostheimer,[2,†] David Sarraf,[1,4] Ralph D. Levinson,[1] Debra A. Goldstein,[5] Lana M. Rifkin,[5,‡] Albert T. Vitale,[6] Glenn J. Jaffe,[7] and Gary N. Holland[1,4]

- 132/172 (79%) eyes showed abnormalities of FAF
- Most common were peripapular hypofluorescence, granular macular and peripheral hypofluorescence
- Confluent hypofluorescence correlated with worse visual acuity

Birdshot Chorioretinitis and Fundus Autofluorescence



Pot pourri

ORIGINAL RESEARCH Open Access

Personality and uveitis

Ankush Kawali[1,4*], Ringhoo Theresa Jose[4], Aishwarya[2], Mathew Kurian[2], Kushal Kacha[2], Padmamalini Mahendradas[1] and Rohit Shetty[3]

Kawali et al. Journal of Ophthalmic Inflammation and Infection (2016) 6:36
DOI 10.1186/s12348-016-0108-x

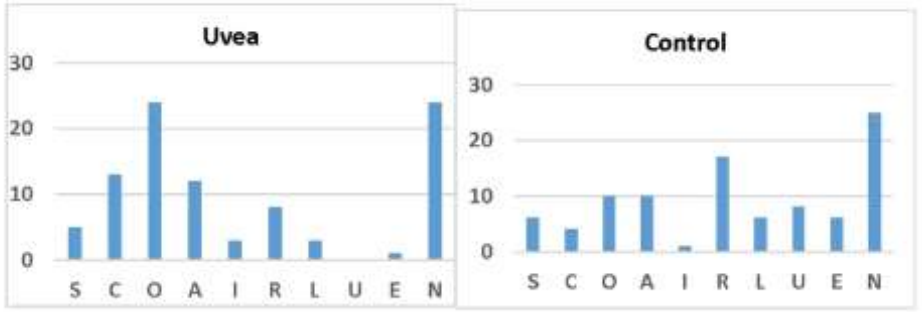
- Gave personality tests to 93 patients with uveitis and 93 gender- and age-matched controls
- 25 question
- Uveitis patients scored higher on social, calm, organized, accommodative, and inquisitive scales
- Control patients scored higher on reserved, limbic, unstructured, and non-curious
- Calm personality associated with HLA-B27 specifically

Global 5 / SLOAN Personality Test v1.32

Select whichever number best reflects where you exist between each pair of words.
The higher the number the more you associate with the right column word/phrase.
The lower the number the more you associate with the left column word/phrase.
Selecting number 4 puts you somewhere in between.

1)	work	1 2 3 4 5 6 7	play
2)	content	1 2 3 4 5 6 7	frustrated
3)	innovate	1 2 3 4 5 6 7	maintain
4)	group oriented	1 2 3 4 5 6 7	loner
5)	conceptual	1 2 3 4 5 6 7	tangible
6)	prepare	1 2 3 4 5 6 7	improvise
7)	relaxed	1 2 3 4 5 6 7	stressed

a



Clinical & Experimental Ophthalmology

RANZCO

Clinical and Experimental Ophthalmology 2017; ••: ••–•• doi: 10.1111/ceo.12996

Letter to the Editor

'Bung' eye: ocular inflammation caused by sandfly bite

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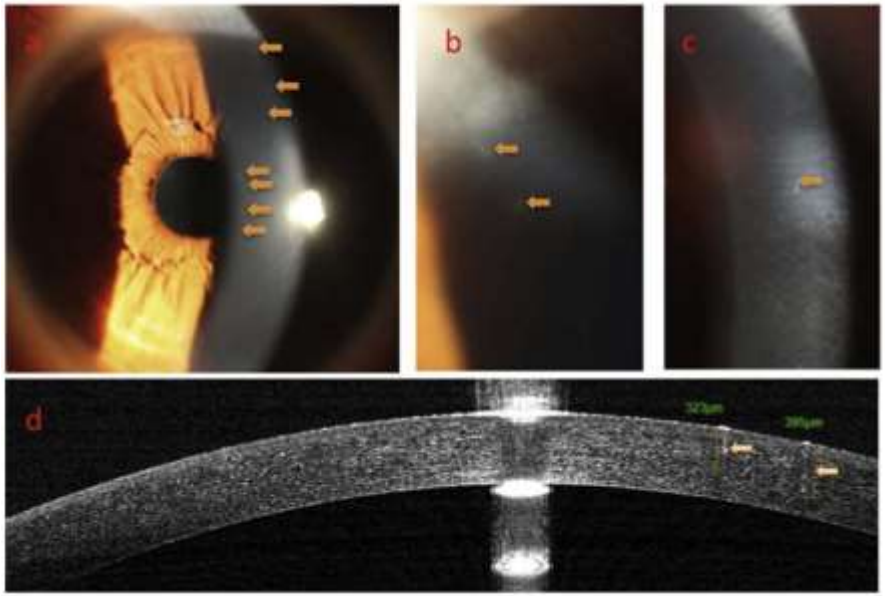
Figure 1. (a) Case 1 – hypopyon in right eye with presumed bite mark at 4 o'clock. (b) Case 2 – haemorrhagic hypopyon in left eye with trickling WBCs at presumed site of bite.

Case report

The optical imaging of tarantula hair corneal injury: One case report and review of the literature

Photodiagnosis and Photodynamic Therapy 19 (2017) 352–354

Yuedong Hu[a,b], Yuanyuan Xu[c,*]



Conclusions: As exotic pets become more and more popular, the importance of wearing ocular protection when handling tarantulas should be emphasized when they are sold. Tarantulas are unsuitable pet for children. When a patient presents with an unusual red eye, pet-keeping history, spiders included, should be asked.

Thank you!