

Organisers



Asia-Pacific Myopia Society



The 4th Congress of Asia-Pacific Myopia Society

held in conjunction with

The 2nd Congress of Hong Kong Vitreo-retina Society



Program Book

July 12 - 13, 2025

Core E, Cyberport 3, Hong Kong

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Welcoming Message

Dear Friends and Colleagues,

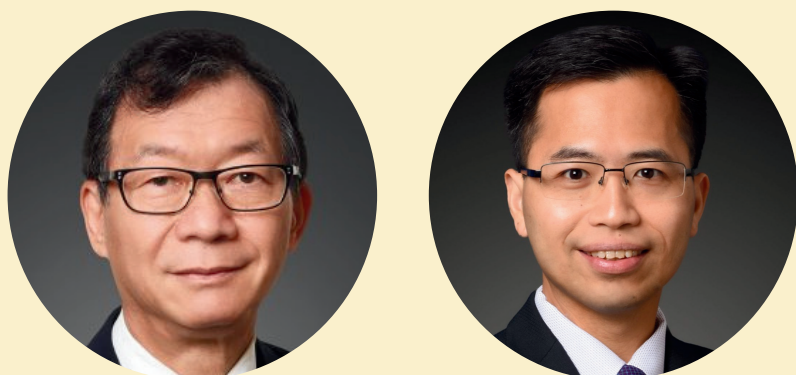
A warm welcome to the 4th Asia-Pacific Myopia Society (APMS) Annual Congress, held in conjunction with the 2nd Hong Kong Vitreo-retina Society (HKVRS) Annual Conference, at Cyberport 3, Hong Kong, July 12th – 13th, 2025.

We are most delighted with your participation at the APMS 2025 Congress to address current trends and innovative strategies in myopia prevention and management. While top-notch international speakers specializing in myopia will share their expertise and provide invaluable insights into the latest advancements in myopia research and clinical practice, we shall have deep discussions in tackling issues and implementations of proven programs. In addition to knowledge sharing, this Congress is also about building a community of professionals committed to tackling the myopia epidemic. We are excited to facilitate discussions that will foster collaboration, inspire innovative approaches, and ultimately enhance patient services, while also raising awareness of myopia across the region.

We sincerely hope that through APMS 2025, we shall continue to strengthen the foundation of the APMS and work together to form a driving force in myopia management. Together, we can make significant strides in addressing this global public health concern.

We look forward to welcoming you at the APMS 2025 Congress in Hong Kong!

Best regards,



Prof Calvin Pang & Prof Jason Yam
Congress Presidents, APMS 2025 Hong Kong

Welcoming Message

Dear Friends and Colleagues,

We are thrilled to welcome you to the 2nd Hong Kong Vitreo-retina Society (HKVRS) Annual Conference, co-hosted with the 4th Asia-Pacific Myopia Society (APMS) Annual Congress, held at Cyberport 3, on July 12th – 13th, 2025.

Building on the success of our inaugural event, this conference promises to be a significant milestone in the vitreo-retinal field, bringing together 300 to 400 delegates, including leading experts and professionals from both the private and public sectors in Hong Kong, the Greater Bay Area and the Asia-Pacific region.

With a strong emphasis on advancing knowledge and fostering collaboration in the vitreo-retinal and myopia sectors, our conference will feature keynote sessions and workshops covering a diverse range of topics – from innovative surgical techniques to the latest research developments in vitreo-retina and myopia management. The 2nd HKVRS Annual Conference offers a unique opportunity to connect with vitreoretinal and myopia specialists and industry leaders in the region.

We sincerely hope that this year's conference will further establish the HKVRS as a cornerstone for collaboration and innovation in the vitreo-retinal community. Through this annual gathering, we aim to strengthen our network of experts in Hong Kong, the Greater Bay Area and the Asia-Pacific region.

We look forward to seeing you all at the 2nd HKVRS Annual Conference!

Best regards,



Professor Dennis Lam & Timothy Lai
Congress President, HKVRS 2025

Programme Overview

July 12 (Saturday)

	Function Room 1-3	Training Theatre + Room 1-2
10:30 - 11:45	APMS Symposium 1: Myopia in the Populations	Joint HKVRS/APMS Rapid Fire
11:45 - 12:00	Break	Break
12:00 - 13:15	HKVRS Symposium 1: Advances in Medical Retina	APMS Symposium 2: Myopia Mechanisms and Treatment
13:15 - 13:30	Break	Break
13:30 - 14:30	Bayer Sponsored Symposium	Astellas Sponsored Symposium
14:30 - 14:45	Break	Break
14:45 - 15:45	Opening Ceremony cum APMS International Award and HKVRS Mark Tso Lectures	
15:45 - 16:00	Break	Break
16:00 - 17:15	HKGS Symposium	HKVRS Symposium 2: Free Paper
17:15 - 17:30	Break	Break
17:30 - 18:30	Alcon Sponsored Symposium	Novartis Sponsored Symposium

Programme Overview

July 12 (Saturday)

Social Program

Southside Bristo, Level 4, Le Méridien Hong Kong, Cyberport

19:00 -
21:00

Presidential Dinner
(by invitation)

Programme Overview

July 13 (Sunday)

	Function Room 1-3	Training Theatre + Room 1-2
10:30 - 11:45	APMS Symposium 3: Myopia Pathology and Other Eye Diseases	HKVRS Symposium 3: Challenging and Interesting Cases
11:45 - 12:00	Break	Break
12:00 - 13:00	Roche Sponsored Symposium	Acuitylab Bioscience Sponsored Symposium
13:00 - 14:00	Award Lectures HKVRS Dennis Lam and Patrick Ho Lectures	
14:00 - 14:15	Break	
14:15 - 15:30	HKVRS Symposium 4: Advances in Surgical Retina	APMS Symposium 4: Special Topics in Myopia Studies

Programme Rundown

July 12 (Saturday)

Function Room 1 - 3

10:30 - 11:45 APMS Symposium 1: Myopia in the Populations

Moderators

Ching-yu Cheng

Hua Yan

Xingtao Zhou



Ching-Yu Cheng
Singapore



Hua Yan
China



Xingtao Zhou
China



Environmental Determinants of Myopia and Approaches to Prevention

Speaker: Amanda French (Australia)



Eliminating Barriers to Myopia Interventions

Speaker: Li Lian Foo (Singapore)



Spectro-temporal Tuning of Light for Myopia Prevention and Control: From Bench to Classrooms

Speaker: Raymond Najjar (Singapore)



Eight-Year Clinical Trial of Low-concentration Atropine for Myopia Progression (LAMP1) Study: Phase 5 Report

Speaker: Yuzhou Zhang (China)



Genomics of Myopia in Children: the Hong Kong Children Eye Genetics Study

Speaker: Guy Chen (Hong Kong, China)



Mild Hyperopia is the Preferred Status for Children, Rather than Emmetropia

Speaker: Ian Morgan (Australia)



The Multiple Approaches to Control and Prevent Childhood and Adolescent Myopia in China

Speaker: Mingzhi Zhang (China)

Panel Discussion and Q&A

Programme Rundown

July 12 (Saturday)

Training Theatre + room 1 - 2

10:30 - 11:45 Joint HKVRS/APMS Rapid Fire

Moderators

Guy Chen

Nicholas Fung

Po Lin Leow



Guy Chen
Hong Kong, China



Nicholas Fung
Hong Kong, China



Po Lin Leow
Hong Kong, China



Association of Brain Care and Incidence of Age-related Macular Degeneration:
The UK Biobank Study

Speaker: Jun Yu (China)



Oral Fluorescein Angiography in Children

Speaker: Xiaoyan Ding (China)



Accelerated Biological Aging and Genetic Pleiotropy Contribute to Age-Related Macular Degeneration

Speaker: Yuelan Gao (China)



Application of OCTA in Ocular Blood Perfusion in Patients with Takayasu's Arteritis Without Visual Impairment

Speaker: Ying Xiao (China)



PULSAR Extension: Clinical Improvements Sustained Over 156 Weeks with Aflibercept 8mg in Patients with Neovascular Age-Related Macular Degeneration

Speaker: Timothy Lai (Hong Kong, China)



Aflibercept 8 mg in Diabetic Macular Edema: 156-Week Results from the PHOTON Extension Study

Speaker: Nicholas Fung (Hong Kong, China)



Preliminary Observations on the Efficacy of Faricimab in Refractory Diabetic Macular Edema in the Real World

Speaker: Qianqian Mi (China)



Intraoperative Modified Peripheral Panretinal Photocoagulation in Proliferative Diabetic Retinopathy

Speaker: Gongqian Yuan (China)



Dynamic Changes of Aqueous Matrix Metalloproteinases and Imaging Correlation in Retinal Vein Occlusion Following Ranibizumab Therapy

Speaker: Hengwei Liu (China)

Programme Rundown

July 12 (Saturday)

Training Theatre + Room 1 - 2

10:30 - 11:45 Joint HKVRS/APMS Rapid Fire

Moderators

Guy Chen

Nicholas Fung

Po Lin Leow



Guy Chen
Hong Kong, China



Nicholas Fung
Hong Kong, China



Po Lin Leow
Hong Kong, China



Subthreshold Micropulse Laser for Residual Subretinal Fluid After Vitrectomy in Myopic Tractional Maculopathy: A Randomized Controlled Trial

Speaker: Xifang Zhang (China)



Early Screening for CIND with UWF-SS-OCTA

Speaker: Xuan Cai (China)



Comparing the Effectivity of Anti-VEGF vs Laser Treatment for Aggressive Retinopathy of Prematurity (AROP). A Systematic Review and Meta-Analysis

Speaker: Ditta Shabrina Suhada (Indonesia)



Genome-wide Association Study Identified Novel Loci and Gene-Environment Interaction for Refractive Error in Children

Speaker: Yuyao Wang (China)



Association of Attention-Deficit Hyperactivity Disorder with Myopia among School Children

Speaker: Xiunian Chen (China)



Vision Training Using Virtual Reality for Myopia Treatment: A Review of Literature

Speaker: Ditta Shabrina Suhada (Indonesia)

Programme Rundown

July 12 (Saturday)

Function Room 1 - 3

12:00 - 13:15 HKVRS Symposium 1: Advances in Medical Retina

Moderators

Gemmy Cheung

Mary Ho

Ian Wong



Gemmy Cheung
Singapore



Mary Ho
Hong Kong, China



Ian Wong
Hong Kong, China



Update on Pachychoroid Eye Diseases

Speaker: Xinyuan Zhang (China)



Update on PCV

Speaker: Gemmy Cheung (Singapore)



Update on CSCR Treatments

Speaker: Marten Brelen (Hong Kong, China)



Autoimmune Retinopathy

Speaker: Andrew Mak (Hong Kong, China)



Diagnosis and Management of Pathological Myopia

Speaker: Shida Chen (China)



Advances in Treatment of Non-Infectious Uveitis

Speaker: Mary Ho (Hong Kong, China)



The Mechanisms and Translational Research on DR & DME

Speaker: Jingfa Zhang (China)

Panel Discussion and Q&A

Programme Rundown

July 12 (Saturday)

Training Theatre + Room 1 - 2

12:00 - 13:15 APMS Symposium 2: Myopia Mechanisms and Treatment

Moderators

Jie Chen
Frank Martin
Ian Morgan



Jie Chen
China



Frank Martin
Australia



Ian Morgan
Australia



Factors That Influence Outcome Measures in Myopia RCTs

Speaker: Audrey Chia (Singapore)



Sight and Sunlight: Reducing Myopia with Sensible Outdoor time

Speaker: David Mackey (Australia)



Multicenter Clinical Evaluation of Low-Level Red Light Therapy for Myopia Control: Real-World Evidence

Speaker: Jie Chen (China)



Red Light Therapy for Myopia Control: New Evidence on Efficacy and Safety

Speaker: Mingguang He (Hong Kong, China)



Mechanisms of Repeated Low-Level Red Light Therapy in Myopia Control: A Scoping Review

Speaker: Wing Wong (Hong Kong, China)



Comparative Efficacy of Atropine Versus Orthokeratology in Myopia Control

Speaker: Jianfeng Zhu (China)



Treatment of Myopia with Orthokeratology Lenses

Speaker: Riping Zhang (China)



Environmental Factors for Myopia: What is Known about Mechanisms

Speaker: Kathryn Rose (Australia)

Panel Discussion and Q&A

Programme Rundown

July 12 (Saturday)

Training Theatre + Room 1 - 2

16:00 - 17:15 HKVRS Symposium 2: Free Paper

Moderators

Angie Fong

Simon Szeto

Xinyuan Zhang



Angie Fong
Hong Kong, China



Simon Szeto
Hong Kong, China



Xinyuan Zhang
China



Exploring Faricimab in RVO: Key Results from BALATON & COMINO Studies

Speaker: Nicholas Fung (Hong Kong, China)



The Ang-2 Pathway: A New Horizon in Retinal Disease Management Beyond VEGF

Speaker: Marten Brelen (Hong Kong, China)



Associations of Long-term Joint Exposure to Multiple Ambient Air Pollutants with the Incidence of Age-related Eye Diseases

Speaker: Yingan Li (China)



Full Thickness Macular Hole (FTMH) Post-operative Prone Posturing vs No Prone on Surgical Success Rate

Speaker: Steffi Chong (Hong Kong, China)



Scleral Thickness, Choroidal Perfusion, and Their Interplay in Pachychoroid Spectrum Diseases

Speaker: Yiyun Zeng (China)



A Common Surgery to an Uncommon Problem: Vitrectomy with Membrane Peeling in Myopic Traction Maculopathy

Speaker: Wai Yan Lam (Hong Kong, China)



Gas-Free Vitrectomy for Macular Holes: Analysis of Anatomical Closure and Visual Outcomes in 34 Cases

Speaker: Tiantong Ren (China)



Efficacy of Inverted Internal Limiting Membrane Flap Technique in Vitrectomy for Rhegmatogenous Retinal Detachment with Macular Hole

Speaker: Shuya Wang (China)

Panel Discussion and Q&A

Programme Rundown

July 13 (Sunday)

Function Room 1-3

10:30 - 11:45 APMS Symposium 3: Myopia Pathology and Other Eye Diseases

Moderators

David Mackey

Kyoko Ohno-Matsui

Xiangtian Zhou



David Mackey
Australia



Kyoko Ohno-Matsui
Japan



Xiangtian Zhou
China



State-of-the Art Imaging of Pathologic Myopia

Speaker: Kyoko Ohno-Matsui (Japan)



Axial Length in Children Myopia Management: From Evidence to Practice

Speaker: Xiangui He (China)



Treatment of Refractory Macular Hole with Amniotic Membrane in Patients with High Myopia

Speaker: Hua Yan (China)



Augmentation of Scleral Glycolysis Promotes Myopia Through Histone Lactylation

Speaker: Xiangtian Zhou (China)



Association of Retinal Microvasculature with Myopia Progression in Children: The Hong Kong Children Eye Study

Speaker: Zixuan Lin (China)



Myopia and Age-Related Macular Degeneration: What Do They Have in Common

Speaker: Jost Jonas (Germany)



Progression of Glaucomatous Optic Nerve Damage in Highly Myopic Eyes

Speaker: Ki-ho Park (South Korea)



Astigmatism: the Hong Kong Children Eye Study

Speaker: Aziz Ka Wai Kam (Hong Kong, China)

Panel Discussion and Q&A

Programme Rundown

July 13 (Sunday)

Training Theatre + Room 1 - 2

10:30 - 11:45 HKVRS Symposium 3: Challenging and Interesting Cases

Moderators

Norimatsu Ban
Rose Chan
Keiko Kataoka



Norimatsu Ban
Japan



Rose Chan
Hong Kong, China



Keiko Kataoka
Japan



Treating a Glaucoma Condition with a Vitreoretinal Technique

Speaker: Nicholas Fung (Hong Kong, China)



Intraocular Lens Dislocation, Followed by Acute Primary Angle Closure

Speaker: Norimatsu Ban (Japan)



A Case Bilateral Recalcitrant Chronic Central Serous Chorioretinopathy with a Rare Underlying Cause

Speaker: Timothy Lin (Hong Kong, China)



The Serious Case of the Misleading Maculae

Speaker: Wei Kiong Ngo (Singapore)



Case Series of Iris Retraction in Rhegmatogenous Retinal Detachment

Speaker: Daniel Wong (Hong Kong, China)

Panel Discussion and Q&A

Programme Rundown

July 13 (Sunday)

Function Room 1-3

14:15 - 15:30 HKVRS Symposium 4: Advances in Surgical Retina

Moderators

Chi Wai Tsang
Sherman Valero
Pui Pui Yip



Chi Wai Tsang
Hong Kong, China



Sherman Valero
Philippines



Pui Pui Yip
Hong Kong, China



Intraoperative OCT for Improving Retina Surgery

Speaker: Gavin Tan (Singapore)



Revisiting Pneumatic Retinopexy

Speaker: Sherman Valero (The Philippines)



Keratoplasty-Vitrectomy Combined Surgery

Speaker: Referano Agustiawan (Indonesia)



Macular Hole in Proliferative Diabetic Retinopathy with Fibrovascular Proliferation

Speaker: Teck Boon Tew (Chinese Taipei)



Myopic Maculopathy - Update on Surgical Management

Speaker: Seung Young Yu (South Korea)



Macular Hole Closure by ILM Flap Without Gas Tamponade Versus Conventional Surgery: A Comparative Study

Speaker: Simon Szeto (Hong Kong, China)



Macular Hole Retinal Detachment Repair : Is It Possible Not Using Gas Tamponade? A Proof of Concept Case Series

Speaker: Vivian Hui (Hong Kong, China)



Outcomes of Pars-Plana Vitrectomy in Haemorrhagic Retinal-Macular Detachments

Speaker: Nishant Radke (India)

Panel Discussion and Q&A

Programme Rundown

July 13 (Sunday)

Training Theatre + Room 1-2

14:15 - 15:30 APMS Symposium 4: Special Topics in Myopia Studies

Moderators

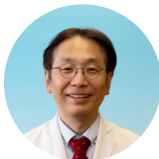
Jost Jonas

Atsuya Miki

Jianfeng Zhu



Jost Jonas
Germany



Atsuya Miki
Japan



Jianfeng Zhu
China



Enhancing Eye and Myopia Care Through Vision-Language Models

Speaker: Ching-Yu Cheng (Singapore)



The Study of Advanced Technique of SMILE and ICL

Speaker: Xingtao Zhou (China)



Optic Disc and Macular OCT Parameters in Children with Myopia

Speaker: Atsuya Miki (Japan)



Exploring the Cellular Origin of Subretinal Fibrosis in Proliferative Vitreoretinopathy: A Serious Consequence of High Myopia

Speaker: Xiaohong Wang (China)



Effect of School Entrance Age on Myopia Among Primary School Children in the Shantou Myopia Study (SMS)

Speaker: Hongxi Wang (China)



Prevalence of Myopia: The Hong Kong Children Eye Study

Speaker: Emily Wong (Hong Kong, China)



Ocular Surface Microbiota Profiles in Myopic and Non-myopic Children and Adolescents

Speaker: Yu Peng (China)

Panel Discussion and Q&A

Programme Rundown

July 12 (Saturday)

Function Room 1 - 3

Sponsored Symposium



13:30 - 14:30 **Bayer Sponsored Symposium: A New Era with
Aflibercept 8mg: Translating Clinical Trials to Real-
World Practice**

Moderator



Timothy Lai
Hong Kong, China

Welcome & Introduction



Real-World Practice with Aflibercept 8mg with Insight of UK Cases

Speaker: Richard Gale (United Kingdom)



**Navigating IOP and IOI Management in Intravitreal Injection and Local Experiences with
Aflibercept 8mg in HK**

Speaker: Danny Ng (Hong Kong, China)

Discussion and Q&A

Closing Remarks

Programme Rundown

July 12 (Saturday)

Training Theatre + Room 1 - 2

Sponsored Symposium



**13:30 - 14:30 Astellas Sponsored Symposium:
Advancing Geographic Atrophy: Latest Insights &
Therapeutic Innovations**



Advancing Geographic Atrophy: Latest Insights & Therapeutic Innovations

Speaker: Arshad Khanani (United States)

Panel Discussion and Q&A

Programme Rundown

July 12 (Saturday)

Function Room 1 - 3

Alcon

Sponsored Symposium

17:30 - 18:30 **Alcon Sponsored Symposium:
The Legend Continues - Leading the Next Generation
of Retinal Surgery**

Moderator



Po Lin Leow
Hong Kong, China



27G Surgery in Challenging Conditions

Speaker: Chien Hui Jennifer Hung (Hong Kong, China)

Q&A Session



Tips and Pearls of New 20K Vitrectomy

Speaker: Lai Ting Fanny Yip (Hong Kong, China)

Q&A Session

Programme Rundown

July 12 (Saturday)

Training Theatre + Room 1 - 2

Sponsored Symposium



**17:30 - 18:30 Novartis Sponsored Symposium:
Optimizing the Use of Brolucizumab for Managing nAMD
and DME**

Moderator



Timothy Lai
Hong Kong, China



Clinical Trials and Long-term Real World Experience of Brolucizumab

Speaker: Timothy Lai (Hong Kong, China)



Switching to Brolucizumab and Local HK Case Series

Speaker: Nicholas Fung (Hong Kong, China)



Role of Brolucizumab in the HK Public Sector and Safety Management

Speaker: Guy Chen (Hong Kong, China)

Panel Discussion and Q&A

Programme Rundown

July 13 (Sunday)

Function Room 1 - 3

Sponsored Symposium



12:00 - 13:00

**Roche Sponsored Symposium:
Shifting Goals through Vascular Stability**



APVRS Consensus and Guidelines on PCV: Essential Insights for Diagnosis and Management

Speaker: Timothy Lai (Hong Kong, China)



A Japanese Perspective on Faricimab-Led IVT Monotherapy for Superior Clinical Outcomes in PCV management

Speaker: Keiko Kataoka (Japan)

Programme Rundown

July 13 (Sunday)

Training Theatre + Room 1 - 2

Sponsored Symposium



12:00 - 13:00

**AcuityLab Bioscience Sponsored Symposium:
Awareness of Corneal Dystrophy in Hong Kong**

Faculty Members

APMS Congress Presidents



Jason Yam
Hong Kong, China



Calvin Pang
Hong Kong, China



Dennis Lam
Hong Kong, China



Frank Martin
Australia

Distinguished Lineup of international and Local Chair and Speakers



Jie Chen
China



Guy Chen
Hong Kong, China



Ching-Yu Cheng
Singapore



Audrea Chia
Singapore



Li Lian Foo
Singapore



Emily Wong
Hong Kong, China



Amanda French
Australia



Minguang He
Hong Kong, China



Xiangui He
China



Jost Jonas
Germany



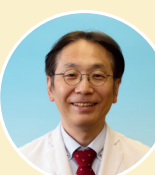
Aziz Ka Wai Kam
Hong Kong, China



Zixuan Lin
China



David Mackey
Australia



Atsuta Miki
Japan



Ian Morgan
Australia



Raymond Narjjar
Singapore



Kyoko Ohno-Matsui
Japan



Ki-Ho Park
South Korea



Yu Peng
China



Kathryn Rose
Australia



Hongxi Wang
China



Xiaohong Wang
China



Wing Wong
Hong Kong, China



Hua Yan
China



Mingzhi Zhang
China



Riping Zhang
China



Yuzhou Zhang
Hong Kong, China



Xiangtian Zhou
China



Xingtao Zhou
China



Jianfeng Zhu
China

HKVRS Congress Presidents



Dennis Lam
HKVRS President
Hong Kong, China



Timothy Lai
HKVRS President-elect
Hong Kong, China



Dr. Shaheeda Mohamed
HKVRS Scientific Secretary
Hong Kong, China

Distinguished Lineup of international and Local Chair and Speakers



Referano Agustiawan
Indonesia



Norimitsu Ban
Japan



Marten Berlen
Hong Kong, China



Rose Chan
Hong Kong, China



Shida Chen
Hong Kong, China



Gemmy Cheung
Singapore



Steffi Chong
China



Angie Fong
Hong Kong, China



Nicholas Fung
Hong Kong, China



Mary Ho
Hong Kong, China



Vivian Hui
Hong Kong, China



Keiko Kataoka
Japan



Wai Yan Lam
Hong Kong, China



Yingan Li
Hong Kong, China



Timothy Lin
Hong Kong, China



Andrew Mak
Hong Kong, China



Wei Kiong Ngo
Singapore



Nishant Radke
India



Tiantong Ren
China



Simon Szeto
Hong Kong, China



Gavin Tan
China



Teck Boon Tew
Chinese Taipei



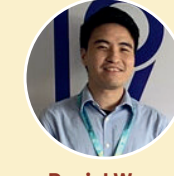
Chi Wai Tsang
Hong Kong, China



Sherman Valero
Philippines



Shuya Wang
China



Daniel Wong
Hong Kong, China



Ian Wong
Hong Kong, China



Pui Pui Yip
Hong Kong, China



Seung Young Yu
South Korea



Jingfa Zhang
China



Xinyuan Zhang
China



Yiyun Zeng
China

Award Lectures

APMS International Award 2025

Established in 2021, the APMS International Award Lecture is to recognize individuals with significant contributions to fostering developments in preventing and treating myopia in the Asia-Pacific region and beyond.



Xingtao Zhou
(China)

Professor Xingtao Zhou, PhD, chief ophthalmologist, President of EENT Hospital of Fudan University, PhD supervisor. Director of Shanghai Research Center of Ophthalmology and Optometry. Section Editor of APJO. Reviewer for the Lancet, Ophthalmology, AJO, JRS, JCRS, IOVS, BJO, etc.

Leadership

As President of Fudan University Eye & ENT Hospital and Director of the National Expert Committee on Quality Control in Ophthalmology, he spearheads the hospital's pursuit of excellence, recognized with Shanghai's Quality Gold Award for its "advanced management model."

Achievements

Professor Zhou is one of the most influential leading clinician scientists in the field of myopia prevention and laser treatment of refractive errors. He has published more than 400 SCI articles and is entitled to more than 30

patents. He has been the PI for 15 nationally or provincially sponsored research projects and the chief editor of 8 professional books.

Professor Zhou performed the first case of SMILE in China, and he has led his team in performing over 300,000 vision correction surgeries. His unwavering commitment to patients is exemplified by his 29-year longitudinal care. His team has developed innovative surgical equipment and subsequently completed clinical translation.

Professor Zhou is devoted to the popularization of science in myopia. To standardize refractive surgery globally, he established the Asia-Pacific International Training Center for Refractive Surgery and SMILE, mentoring over 2700 specialists from >300 hospitals worldwide. His team has also hosted annual "Care for Myopia, Smile Symposium" continuously for 13 years to promote the management of myopia in China. Professor Zhou founded the "Vision Guardians" volunteer initiative, serving >1 million people annually. His "School-Clinic-Family" myopia prevention model safeguards eye health. Since 2021, his "Pathway to Light" medical mission has provided free clinics and trained local doctors across 10 revolutionary base areas, garnering widespread acclaim.

Professor Zhou is dedicated to the full life cycle management of myopia. He took the lead to establish the "Clinical Demonstration Center for Myopia Precision Prevention and Treatment" and launched the standards for myopia precision prevention and control in children and adolescents, also for patients in all age groups. His work has greatly promoted the standardization of myopia and eye health management at home and abroad.

Driven by compassion, Professor Zhou perseveres through challenges to shed light on patients worldwide.

Award Lectures

HKVRS Mark Tso Award Lecture 2025

Established in 2025, the HKVRS Mark Tso Lecture honors individuals (no age limit) who have made significant contributions to vitreoretinal development, particularly in the areas of visual sciences, resident and fellowship training, and postgraduate education.



Liping Yang
(China)

Work Experience and Current Appointment

2005-2011	Appointment: Assistant Researcher, Laboratory Head Institution: Department of Ophthalmology, Peking University Third Hospital, PKU
2011-2021	Appointment: Associate Researcher/Ph.D. supervisor Institution: Department of Ophthalmology, Peking University Third Hospital, PKU
2021-present	Appointment: Researcher/Ph.D. supervisor, Vice President of Beijing key laboratory of restoration of damaged ocular nerve Institution: Department of Ophthalmology, Peking University Third Hospital, PKU

Research Interest and Strength

IRDs Gene therapy drug development and translation: IRDs is a monogenic disease, there is no effective treatment at present. Based on the gene diagnosis platform, we summarized the common pathogenic genes and mutation hot spots in Chinese IRDs patients, research and develop gene therapy drugs, including gene replacement therapy drugs and gene editing therapy drugs.

- **CYP4V2 gene replacement therapy—ZVS101e**

Bietti crystalline corneoretinal dystrophy (BCD) is an inherited retinal dystrophy caused by mutations in CYP4V2 gene, there is no effective treatment at present. Since 2011, our team has been researching and developing the BCD gene replacement therapy product ZVS101e. The research results have been published in Hum Mol Genet 2023 and Nat Commun 2024. The first IIT clinical trial of ZVS101e was conducted in June 2021, which is the first international clinical trial targeting BCD. ZVS101e obtained authorization for orphan drug qualification (ODD) from the US FDA in August 2021, obtained IND approval from China and the US on Dec 2022 respectively; ZVS101e was granted the BTM (breakthrough therapeutic product) designation from China NMPA on June 2024 and RMAT (Advanced Therapy for Regenerative Medicine) certification from US FDA on July 2024. At present, the Phase III clinical trial of ZVS101e has officially started in China in Nov 2024, and a consensus was reached with the US FDA on Phase III Multi Regional Clinical Trial (MRCT) on Jan 7, 2025. Up to now, ZVS101e has completed three clinical trials, including two investigator initiated IIT clinical trials (NCT04722107 and NCT05714904) and one phase I/II clinical trial (NCT05832684). A total of 29 subjects were included in the study, making it the largest sample size and longest observation time for BCD gene therapy to date. The research results showed that ZVS101e has excellent safety and significant effectiveness, and some clinical trial results have been published in Signal Transduction and Targeted Therapy (2024).

Award Lectures

HKVRS Mark Tso Award Lecture 2025

Established in 2025, the HKVRS Mark Tso Lecture honors individuals (no age limit) who have made significant contributions to vitreoretinal development, particularly in the areas of visual sciences, resident and fellowship training, and postgraduate education.



Liping Yang
(China)

Research Interest and Strength

RHO gene editing therapy–ZVS203e

Mutations in the rhodopsin gene (RHO) lead to autosomal dominant RP (adRP), which has no effective treatment. Since 2015, we conducted research on the pathogenesis and gene therapy of RHO-adRP. Mutated protein cause disease through dominant negative effects, based on this we designed a gene silencing therapy strategy and completed a series of in vivo and in vitro pharmacological and pharmacological studies, the results were published in eLife 2023. ZVS203e obtained authorizations for orphan drug qualification (ODD) from US FDA on June 7, 2022; The IIT clinical trial completed the first subject administration on September 11, 2023, this is the first clinical trial in the field of RHO-adRP gene editing therapy worldwide. ZVS203e obtained INDs for new drug clinical trials from China (April 2024) and US (December 2023), and plans to initiate phase I/II clinical trials in Q2 2025.

Genetic diagnosis and reproductive prevention

Since 2010, in Q2 2025, we built a genetic diagnosis platform for hereditary eye diseases, and more than 3000 families have been taken genetic diagnosis here, based on genetic diagnosis more than 30 healthy children were born with effective prenatal diagnosis and PGD in our hospital every year.

Novel pathogenic gene study

On the basis of gene diagnosis, we collected the samples of hereditary eye diseases caused by unknown gene mutation and studied the new pathogenic genes. AdipoR1 gene was found to be a new pathogenic gene of RP for the first time.

Award Lectures

HKVRS Patrick Ho Award Lecture 2025

Established in 2025, the HKVRS Patrick Ho Award Lecture honors individuals (aged over 50) for exemplary leadership and significant contributions in advancing the understanding, diagnosis, and treatment of vitreoretinal diseases.



Jost Jonas
(Germany)

Jost B. Jonas, MD is a comprehensive ophthalmologist and clinical scientist. He is Chairman of the Department of Ophthalmology of the Medical Faculty Mannheim of the Ruprecht-Karls-University Heidelberg/Germany. He received his medical degree at the University of Freiburg/Germany. After attending the military service in the German Navy, he underwent his ophthalmology training at the private praxis Dres. Schmitz-Valckenberg / Brambring in Koblenz / Germany and at the University of Erlangen, Germany, where he became staff member and Vice Chairman in 1991, before he moved to the Heidelberg University in 2000.

His research interests include:

- Intravitreal application of medication as treatment of intraocular edematous, proliferative and neovascular diseases (first descriptions of intravitreal medication (triamcinolone) for diabetic macular edema, proliferative diabetic retinopathy, retinal vein occlusions, ocular hypotony, sympathetic ophthalmia, uveitis, secondary neovascular angle glaucoma, cataract surgery);
- Process of emmetropization and myopization (including axial elongation-associated shifting of Bruch's membrane, histology of Bruch's membrane and choriocapillaris in myopia, spatial relationships of morphometric parameters; intraocular myopia-associated messenger molecules);
- Morphology of the optic nerve head (interindividual size variability of the optic disc, pseudoglaucomatous macrocups in macrodiscs, ISNT-rule, parapapillary alpha, beta, gamma and delta zones; peripapillary border tissue of the choroid and scleral flange in myopia; lamina cribrosa thickness in glaucoma and myopia), localized retinal nerve fiber layer defects;
- Ophthalmodynamometry (assessment of the retinal arterial and venous blood pressure for estimation of brain pressure, and evaluation of the retinal venous and carotid artery status);
- Surgical aspects (intraocular foreign body removal; transpupillary silicone oil release combined with cataract surgery; topical anesthesia for glaucoma surgery; femtosecond laser-assisted penetrating keratoplasty with conical cutting edges and anti-rotational indentation spikes);
- Cerebrospinal fluid pressure in the pathogenesis of glaucomatous optic neuropathy, diabetic retinopathy and retinal vein occlusions;
- Intravitreal cell-based (drug) therapy;
- Homologous intravitreal bone-marrow transplantation;
- Retinal microglial cell system as retinal "gardeners";
- Epidemiology in ophthalmology and general medicine (including 21 population-based or community-based studies such as the Beijing Eye Study 2001, 2006, 2011; Central India Eye and Medical Study; Shandong Children Eye Study; Ural Eye and Medical Study, Ural Children Eye Study, and Ural Very Old Study).

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Jost Jonas
(Germany)

Statistics

- H-index (Web of Science Core Collection, 16.8.23): 145;
- Number of citations (Web of Science Core Collection), total: 167,186; in 2022: 27,016
- Number of SCI (PubMed) publications: 1,459
- He is Honorary Member of the French Ophthalmological Society and Asia-Pacific Vitreoretinal Society and Fellow of the Association of Research in Vision and Ophthalmology ARVO. From 2014 to 2021, he served as one of the editors-in-chief of the British Journal of Ophthalmology, and actually he is, second to Prof. Dennis Lam, editor-in-chief of the Asian-Pacific Journal of Ophthalmology. He has received the Glaucoma Award of the German Ophthalmologic Society, the Junior and Senior Award of the American Academy of Ophthalmology, the Senior Clinical Scientist Award of the World Glaucoma Association, the Prof. Robert Ritch Glaucoma Award, the International Gold Award of the Chinese Ophthalmologic Society, the Senior Award of the Asian Pacific Academy of Ophthalmology, the International Scholar Award of the American Glaucoma Society, and the International Collaboration Award of the Beijing Municipal of Science and Technology.

Award Lectures

HKVRS Dennis Lam Award Lecture 2025

Established in 2025, the HKVRS Dennis Lam Award Lecture honors individuals (aged 50 or below) for outstanding contributions in advancing the understanding, diagnosis and treatment of vitreoretinal diseases



Guy Chen
(Hong Kong China)

Professor Guy LJ Chen holds the position of Professor (clinical) in the Department of Ophthalmology and Visual Sciences, The Chinese University of Hong Kong. He serves as an Honorary Consultant at the Prince of Wales Hospital and the Hong Kong Eye Hospital, specializing in vitreoretinal and macular diseases, providing service at the public and private sectors.

Professor Chen is dedicated in teaching and training. As Head of the Graduate Division of Ophthalmology and Visual Sciences at The Chinese University of Hong Kong, he has groomed over 100 postgraduate students in his department and has been the direct supervisor or co supervisor of over 25 PhD students. Professor Chen is a Core Area (Vitreoretina) Trainer in Hong Kong, providing training to junior eye doctors and young Vitreoretinal fellows.

Professor Chen is actively engaged in cutting-edge ophthalmic research, focusing prominently on the molecular and clinical genetics of major eye diseases. His research spans a wide spectrum including macular and retinal

diseases such as age-related macular degeneration, polypoidal choroidal vasculopathy, central serous chorioretinopathy, diabetic retinopathy, retinitis pigmentosa, and other inherited retinal dystrophies. He also investigates glaucoma, myopia, and the genetic profiling of myopia progression and ocular traits in children. Together with his team,

Professor Chen has identified numerous new disease genes, loci, mutations, association profiles, and biomarkers that have significantly advanced understanding and treatment options for these conditions.

With an impressive academic record, Professor Chen has authored over 210 papers in SCI internationally indexed peer-reviewed journals, with a H-index of 54 as of December 2024. He has co-authored a number of articles in high-impact journals, including JAMA, Nature Medicine, Nature Genetics, Lancet Oncology, Lancet Global Health, Nature Communications, JAMA Network Open, and Ophthalmology.

Professor Chen is also actively involved in securing research funding, serving as the principal investigator for 10 major local (Hong Kong), national (China), and international competitive research grants, totalling more than HK\$10 million (~US\$1.3 million).

Professor Chen's dedication to advancing global ophthalmic knowledge is further underscored by his extensive international academic service. He served as the Co-congress President and Co-chair of the Scientific Program Committee of the Asia-Pacific Vitreo-retinal Society (APVRS) Annual Congress 2023 Hong Kong. He also served as Council Member of APVRS, and Secretary General of the Hong Kong Vitreo-retinal Society (HKVRS). He has served as session coordinator and abstract reviewer, and delivered over 50 invited lectures / free papers and chaired more than 20 sections at prestigious international conferences, including the World Ophthalmology Congress (WOC), Asia-Pacific Academy of Ophthalmology (APAO) Congress, APVRS Annual Congress, and ARVO Annual Meeting.

Award Lectures

HKVRS Dennis Lam Award Lecture 2025

Established in 2025, the HKVRS Dennis Lam Award Lecture honors individuals (aged 50 or below) for outstanding contributions in advancing the understanding, diagnosis and treatment of vitreoretinal diseases



Guy Chen
(Hong Kong China)

Professor Chen has obtained a number of local and international awards, including the Global Research Award, 2015 Global Ophthalmology Awards Program (GOAP), Bayer, Germany; the APAO Achievement Award 2017; Distinguished Young Fellow (2019) of the Hong Kong Academy of Medicine (HKAM); the Constable Lecture Award in the APVRS Annual Congress 019; the Gold Medal Award of the AAPPO Academic Development Mentorship Scheme (ADMS) 2019 – 2020; and the APAO Distinguish Service Award 2025.

Abstract

Free paper

Subspecialty

Title

Author

Ocular Imaging

Early Screening for CIND with UWF-SS-OCTA

Da Long, Xingyu Chen, Xuan Cai

Pediatric Retina

Comparing The Effectivity of Anti-VEGF vs Laser Treatment for Aggressive Retinopathy of Prematurity (AROP). A Systematic Review and Meta-Analysis

Favian Ariiq Rahmat,
Ditta Shabrina Suhada

Pediatric Retina

Oral Fluorescein Angiography in Children

Xiaoyan Ding

Retina (Medical)

Accelerated Biological Aging and Genetic Pleiotropy Contribute to Age-Related Macular Degeneration

Clement C. Tham, Chi Pui Pang,
Alvin Young, Mary Ho,
Ka Wai Kam, Jianming Xu

Retina (Medical)

Aflibercept 8 mg in Diabetic Macular Edema: 156-Week Results from the PHOTON Extension Study

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Associations of Long-term Joint Exposure to Multiple Ambient Air Pollutants with the Incidence of Age-related Eye Diseases

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Dynamic Changes of Aqueous Matrix Metalloproteinases and Imaging Correlation in Retinal Vein Occlusion Following Ranibizumab Therapy

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Preliminary Observations on the Efficacy of Faricimab in Refractory Diabetic Macular Edema in the Real World

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Retina (Medical)

PULSAR Extension: Clinical Improvements Sustained over 156 Weeks with Aflibercept 8 mg in Patients with Neovascular Age-Related Macular Degeneration

Timothy Lai

Retina (Medical)

Scleral Thickness, Choroidal Perfusion, and Their Interplay in Pachychoroid Spectrum Diseases

Xinyuan Zhang, Yiyun Zeng

Abstract

Free paper

Subspecialty	Title	Author
Retina (Surgical)	A Common Surgery to an Uncommon problem: Vitrectomy with Membrane Peeling in Myopic Traction Maculopathy	Wai Ching Lam, Nicholas Fung, Qing Li, Angie Fong, Wai Yan Lam
Retina (Surgical)	Efficacy of Inverted Internal Limiting Membrane Flap Technique in Vitrectomy for Rhegmatogenous Retinal Detachment with Macular Hole	Xingrong Wang, Shuya Wang
Retina (Surgical)	Full Thickness Macular Hole (FTMH) Postoperative Prone Posturing versus No Prone on Surgical Success Rate	Po Lin Leow, Ting Wang, Chi Lik Au, Ka Ying Cheung, Shing Yee Chong
Retina (Surgical)	Gas-Free Vitrectomy for Macular Holes: Analysis of Anatomical Closure and Visual Outcomes in 34 Cases	Qingli Shang, Tiantong Ren
Retina (Surgical)	Intraoperative Modified Peripheral Panretinal Photocoagulation in Proliferative Diabetic Retinopathy	Gongqiang Yuan
Retina (Surgical)	Subthreshold Micropulse Laser for Residual Subretinal Fluid after Vitrectomy in Myopic Tractional Maculopathy: A Randomized Controlled Trial	Yue Qi, Xifang Zhang

Abstract

Free paper

Ocular Imaging

Early Screening for CIND with UWF-SS-OCTA

Da Long, Xingyu Chen, Xuan Cai

Purpose: Early diagnosis and intervention of participants with cognitive impairment no dementia (CIND) be of vital importance. Benign prognosis. The swept-source optical coherence tomography angiography (SS-OCTA) assesses the retinal microvascular changes in participants with CIND.

Methods: This cross-sectional observational study included 17 CIND participants (33 eyes) and 8 healthy control (15 eyes). We scanned Angio 3 mmx3 mm and Angio 12 mmx12 mm centered on macula and ONH Angio 6 mmx6 mm centered on disc. The quantitative data were obtained and calculated by the built-in software. (18)F-Florbetapir (AV-45) positron emission tomography (PET) imaging was also performed.

Results: Statistically significant indicators on univariate analysis were the inner retina foveal avascular zone FAZ (3x3 mm), choroid thickness (3x3 mm), CVI ONH (6x6 mm), retina thickness ONH (6x6 mm). Lasso-logistic regression analysis was performed on the SS-OCTA parameters and identified risk factors for CIND (e.g. inner retina FAZ area(3x3 mm), inner retina FAZ FD (3x3 mm), TI CVI ONH(6x6 mm), small vessel density AngioSuperficial (ETDRS grid)(12x12mm)(diameter range 1-3mm).

Conclusions: This study provides a new scheme for clinical screening of patients with CIND. SS-OCTA can obtain highly detailed images of the different fundus regions and Quantified data. Using Lasso-logistic regression analysis, several quantitative parameters derived from SS-OCTA may be useful for screening patients for CIND. Further longitudinal studies with larger sample sizes and more detailed groupings are needed.

Abstract

Free paper

Pediatric Retina

Comparing The Effectivity of Anti-VEGF vs Laser Treatment for Aggressive Retinopathy of Prematurity (AROP). A Systematic Review and Meta-Analysis

Favian Ariiq Rahmat, Ditta Shabrina Suhada

Purpose: This meta-analysis was conducted to compare the efficacy of anti-VEGF, or anti-vascular endothelial growth factor vs laser treatment for the therapy of aggressive retinopathy of prematurity (AROP).

Methods: A literature search for studies comparing the efficacy of anti-VEGF vs laser treatment that was published from 2011 to 2024 from Pubmed, EBSCOhost, SpringerLink, Scopus, and ClinicalKey databases was conducted. The efficacy is reflected by the retreatment incidence occurring between the two groups. Relevant data were collected and analyzed.

Results: A total of 5 studies comprising 221 AROP eyes were included in our meta-analysis. Analysis showed that Anti-VEGF compared to laser treatment was not statistically significant with a mean difference of 0.87 (95 % CI 0.56, 1.36, $P = 0.80$). However, some studies suggest that laser treatment results in unfavorable anatomical outcome in more patients compared to anti-VEGF. Both groups showed improvements in regression of AROP. Meta-analysis could not be performed to other parameters due to insufficiency of the data.

Conclusions: Anti-VEGF therapy is an effective choice for treating AROP, with no statistically significant outcome compared to laser treatment. Furthermore, the use of anti-VEGF is promising to avoid unfavorable anatomical outcome in AROP patients. However, an enhanced understanding for the use of anti-VEGF is needed

Abstract

Free paper

Pediatric Retina

Oral Fluorescein Angiography in Children

Xiaoyan Ding

Purpose: To investigate the success rate of oral fluorescein angiography (oral FA) in children with ultrawide scanning laser ophthalmoscopy (SLO) system and whether it can provide images of sufficient quality compared with intravenous FA (IVFA).

Methods: In this comparative case series study, a series of 40 consecutive pediatric patients of the age of 3–18 with retinal vascular diseases, in whom FA was needed for the diagnosis or treatment, were enrolled in this study. IVFA and oral FA were performed within one week and images were obtained with the SLO system. The image quality was scored blindly and compared based on: (I) visualization of the branch retinal vessel, (II) the foveal avascular zone (FAZ), and (III) clinically important findings, such as the presence of microaneurysms, neovascularization, leakage, or significant nonperfusion. All these were scored using a three-point scale.

Results: In preschoolers (three to six years), all 19 children complete oral FA (100%), while only 7 (36.84%) complete IVFA ($p < 0.0001$). With the SLO system, the branch retinal vessels were well visualized both in oral and IV FA (all images were two scores). The visualization of FAZ was similar between oral and IV FA ($p = 0.8972$). The clinically important findings were well visualized in both groups ($p > 0.9999$). The overall image quality was similar between the two groups ($p = 0.2500$).

Conclusions: Oral FA is more acceptable to preschoolers than IVFA owing to the needle-free procedure.

Abstract

Free paper

Retina (Medical)

Accelerated Biological Aging and Genetic Pleiotropy Contribute to Age-Related Macular Degeneration

Clement C. Tham, Chi Pui Pang, Alvin Young, Mary Ho, Ka Wai Kam, Jianming Xu

Purpose: This study aims to assess the combined effects of biological age acceleration (BAA) and genetic risk on age-related macular degeneration (AMD) and blindness.

Methods: Biological age was estimated using Klemmera–Doubal method (KDM-BA) and PhenoAge in 297,375 UK Biobank participants. Logistic and Cox models evaluated cross-sectional and longitudinal associations with AMD. Genetic risk was quantified using polygenic risk scores (PRS), and BAA–genetic interactions were evaluated. Genetic pleiotropy between BAA and AMD was explored at the SNP, gene, and pathway levels. Association between BAA and vision-healthy life expectancy was evaluated in AMD patients.

Results: Each SD increase in KDM-BA and PhenoAge acceleration was associated with 19% and 13% higher cross-sectional AMD risk, and 16% and 13% higher prospective risk, respectively. BAA significantly amplified AMD risk in interaction with genetic susceptibility, particularly in high-PRS individuals. Both BAA measures showed positive genetic correlations and genetic overlap with AMD. Pleiotropic analysis under a composite null hypothesis identified 1,388 candidate pleiotropic SNPs. Functional mapping revealed 19 independent loci in 15 chromosomal regions, with colocalization pinpointing 19q13.32 (APOE) as a shared causal variant. Multimarker analysis of GenoMic annotation identified 88 significant pleiotropic genes enriched in immune and lipid metabolism pathways. Among AMD patients, those without accelerated aging had a significantly longer vision-healthy life expectancy.

Conclusions: BAA is strongly linked to higher AMD risk, especially in genetically susceptible individuals, and may reduce vision-healthy life expectancy. Identifying BAA individuals is crucial for AMD prevention and vision preservation. APOE is a shared genetic locus connecting BAA and AMD, representing a potential therapeutic target.

Abstract

Free paper

Retina (Medical)

Aflibercept 8 mg in Diabetic Macular Edema: 156-Week Results from the PHOTON Extension Study

Nicholas Fung

Purpose: The 96-week PHOTON study (NCT04429503) demonstrated aflibercept 8 mg every 12 and 16 weeks (8q12 and 8q16) after 3 monthly doses providing comparable visual and anatomic improvements as aflibercept 2 mg every 8 weeks (2q8) after 5 monthly doses in diabetic macular edema (DME) patients. An optional one-year PHOTON extension to 156 weeks evaluated long-term treatment outcomes for DME patients continuing aflibercept 8 mg and those switched from aflibercept 2q8 to 8 mg.

Methods: After Week 96, patients initially randomized to 8q12 or 8q16 continued with aflibercept 8 mg (8mg group; n=195), while those on 2q8 switched to aflibercept 8 mg at 12-week intervals (2q8->8mg group; n=70). From Week 100, dosing intervals could be adjusted based on prespecified criteria.

Results: At Week 156, both the 8mg and 2q8->8mg groups maintained visual and anatomic improvements seen at Week 96. In the 2q8->8mg group, fluid reaccumulation was slower 8 weeks after the first aflibercept 8-mg injection compared to after previous 2-mg doses through Week 88. Among 8mg group completers, 45% and 48% had a last completed and last assigned ≥ 20 weeks dosing interval, respectively. By Week 156, 83% of patients in the 2q8->8mg group had a last assigned interval of ≥ 12 weeks. No new safety concerns emerged.

Conclusions: Aflibercept 8mg maintained long-term visual and anatomic improvements at extended dosing intervals without new safety signals through 156 weeks. Extended intervals and slower fluid reaccumulation observed after switching from aflibercept 2 mg to 8 mg highlight the longer duration of action of aflibercept 8 mg.

Abstract

Free paper

Retina (Medical)

Application of OCTA in Ocular Blood Perfusion in Patients With Takayasu's Arteritis Without Visual Impairment

Jiaxuan Zhang, Ying Xiao

Purpose: To evaluate the retinal and choroidal blood perfusion in patients with Takayasu's arteritis (TA) without clinically visual impairment, by optical coherence tomography angiography (OCTA).

Methods: We conducted a prospective case series study in 36 eyes with BCVA > 0.8 in 20 patients and 88 eyes as control. All the patients underwent FFA to evaluate the severity of Takayasu retinopathy (TR). OCTA parameters including foveal avascular zone (FAZ), macular fovea thickness (MFT), vessel density (VD) of the superficial (SCP) and deep (DCP) capillary plexus, choroidal thickness (CT) and choriocapillaris non-perfusion (%). Comparison between patients and the control group were assessed.

Results: Stage I TR was seen in 7 eyes. Stage II was detected in 19 eyes while stage III was in 10 eyes. The mean FAZ area was $0.48 \pm 0.14 \text{ mm}^2$ in study group and $0.38 \pm 0.11 \text{ mm}^2$ ($p=0.000$) in the control group. The mean DCP VD was $50.52\% \pm 4.78\%$ in patients versus $52.92\% \pm 2.95\%$ for the control ($p=0.003$). The average choriocapillaris non-perfusion (%) for TA patients was $11.38\% \pm 1.26\%$ compared to $10.80\% \pm 0.71\%$ for healthy subjects ($p=0.002$). FAZ area was significantly enlarged for each stage of TR than healthy subjects ($p<0.05$), as well as choriocapillaris non-perfusion (%). While DCP VD decreased significantly in each stage of TR ($p<0.05$), even in stage I. MFT, SCP VD and CT did not show statistically significant differences between these two groups ($p>0.05$).

Conclusions: Non-Invasive OCTA can identify ocular hypoperfusion very earlier even when patients have no obvious visual impairment. FAZ, DCP VD and choriocapillaris non-perfusion (%) may be potential sensitive biomarkers correlated with ocular ischemia in TA patients.

Abstract

Free paper

Retina (Medical)

Association of Brain Care and Incidence of Age-related Macular Degeneration: The UK Biobank Study

Li Jia Chen, Jason C Yam, Clement Tham, Chi Pui Pang, Alvin L Young, Bo Gong

Purpose: Preliminary evidence links brain health to eye conditions, but large-scale quantitative assessments are lacking. The Brain Care Score (BCS), recently developed to reflect modifiable brain health factors, has been validated for lower risks of dementia, stroke, and depression. However, whether BCS confers protective effects on age-related macular degeneration (AMD) is still unknown.

Methods: The sample included 382,221 participants without pre-existing AMD and 28,657 participants with optical coherence tomography (OCT) data from UK Biobank. We adopted BCS encompassing physical, lifestyle and social-emotional factors, with higher scores suggesting better brain care. Multivariable Cox proportional hazards regression models were used to estimate associations between BCS and incident AMD, supplemented by gene-BCS interactions using AMD polygenic risk score (PRS). We also cross-sectionally examined associations between BCS and retinal thickness using multivariable linear regression models.

Results: We documented 6754 incident AMD cases during a median follow-up of 13.37 years. Each 5-point increase in baseline BCS was associated with reduced risk of incident AMD (HR = 0.89, 95% CI: 0.84–0.93). The joint association of poor BCS and the highest quintile of PRS conferred the highest risk of AMD incidence with HR 2.39, although the interaction was not observed. The BCS was positively associated with photoreceptor segment (PS) layer ($\beta=0.22 \mu\text{m}$, 95% CI: 0.12–0.33), but not with retinal pigment epithelium–Bruch’s membrane complex layer ($P>0.05$).

Conclusions: Higher BCS is associated with a lower risk of AMD. Improvements in BCS in primary care may serve as a preventive strategy to reduce AMD incidence and support retinal health.

Abstract

Free paper

Retina (Medical)

Associations of Long-term Joint Exposure to Multiple Ambient Air Pollutants with the Incidence of Age-related Eye Diseases

Jason C. Yam, Li Jia Chen, Mei Po Kwan, Clement C. Tham, Chi Pui Pang,
Alvin L. Young

Purpose: To investigate the association between long-term joint exposure to multiple air pollutants at low concentration levels with incident cataract, glaucoma, and age-related macular degeneration (AMD).

Methods: We conducted a prospective, population-based cohort study using data from 441,567 participants in the UK Biobank who were without cataract, glaucoma, and AMD at baseline. Air pollutants (PM_{2.5}, PM_{2.5-10}, PM₁₀, NO₂ and NO) were estimated for each participant's residential address using the land use regression model. The combined exposure to multiple pollutants was captured by an air pollution score, calculated using principal components analysis. Cox proportional hazards model with time-varying air pollution exposure was used to evaluate the associations.

Results: Over a median follow-up of 14.41 years, 55,104 participants developed cataract, 11,940 glaucoma, and 9,060 AMD. For every interquartile range increase in the air pollution score, there was a 5% increased risk for incident cataract (HR [95% CI], 1.05 [1.04-1.06]; $P < 0.001$), glaucoma (1.05 [1.03-1.07]; $P < 0.001$), and AMD (1.05 [1.02-1.07]; $P = 0.001$). Compared to individuals in the lowest exposure quartile, those in the highest exposure quartile had a 13%, 10%, and 15% greater risk of developing cataract (1.13 [1.10-1.16]; $P < 0.001$), glaucoma (1.10 [1.04-1.17]), and AMD (1.15 [1.08-1.23]; $P < 0.001$), respectively.

Conclusions: Long-term joint exposure to low levels of multiple air pollutants is associated with an increased risk of cataract, glaucoma, and AMD incidence, indicating that intervention of air pollution will contribute to improving human ocular health

Abstract

Free paper

Retina (Medical)

Dynamic Changes of Aqueous Matrix Metalloproteinases and Imaging Correlation in Retinal Vein Occlusion Following Ranibizumab Therapy

Yanying Zhao, Hengwei Liu, Zhongping Chen

Purpose: To investigate changes in aqueous humour matrix metalloproteinases (MMPs) after intravitreal ranibizumab (IVR) therapy, and their correlations with imaging parameters in retinal vein occlusion (RVO).

Methods: Aqueous humour samples from 28 RVO patients were collected at baseline, 1 and 2 months after IVR therapy. MMP-1, -2, -3, -7, -8, -9, -10, TIMP-1, and VEGF-A levels were measured using Luminex $\times$ MAP[®]. Participants were categorized as Responders or Non-responders based on $\geq 30\%$ central retinal thickness (CRT) reduction at month 2. MMPs and TIMP-1 changes were analyzed. Correlations between baseline MMP-1, MMP-2, TIMP-1, and retinal structural and microvascular parameters were assessed. Multivariate regression analyzed associations with treatment response.

Results: Intraocular MMP-1, MMP-2, and TIMP-1 levels significantly decreased in responders but not in non-responders. Baseline MMP-1, MMP-2, and TIMP-1 were positively correlated with CRT, IS-OS and ELM disruption, DRIL, and SRD height (all $P < 0.05$). Negative correlations were observed between MMP-1 ($r = -0.520$, $P = 0.006$), TIMP-1 ($r = -0.416$, $P = 0.039$) and FAZ size. Higher baseline MMP-1 ($P = 0.024$) and lower TIMP-1 ($P = 0.034$) levels were associated with greater CRT reduction.

Conclusions: Aqueous MMP-1, MMP-2, and TIMP-1 are associated with in macular edema, retinal damage, and microvascular changes in RVO. Baseline MMP-1 and TIMP-1 may serve as potential biomarkers for predicting short-term therapeutic response.

Abstract

Free paper

Retina (Medical)

Preliminary Observations on the Efficacy of Faricimab in Refractory Diabetic Macular Edema in the Real World

Qianqian Mi

Purpose: To observe the clinical efficacy of faricimab in refractory DME in the real world, and provide a new treatment strategies for refractory DME.

Methods: Thirty-two patients who remained with a CST over than 300 μm or a CST reduction of less than 10% after receiving 3 doses intravitreal injection Q4W of a Monoclonal Antibodies or a Fusion Protein were included. These patients were randomized in a 1:1 ratio into two groups, those who continued to complete 6 doses intravitreal injection of loading (Q4W n=16) and switched to receive dual-antagonist drugs (Q4W n=16). The primary endpoint was the mean change from baseline in BCVA averaged over weeks 12 to 16, and secondary endpoints included change in CST, proportion of treatment intervals extended, and safety.

Results: During the 12 to 16 weeks follow-up period, the BCVA letter improvement from baseline was statistically significant at +9.3 and +6.2 in the faricimab and 6-dose loading groups, respectively. And CST decreased from baseline levels in both groups, with changes of -143.8 μm and -96.5 μm , respectively. By week 16, 77.5% of patients had received the extended faricimab dosing regimen. Both groups were well tolerated with no adverse events.

Conclusions: In patients with refractory DME, switching dual-antibody analogs resulted in higher visual acuity gains and greater reduction in CST, and early switching of dual-antibody analog therapy may be considered for refractory DME patients to get more benefits.

Abstract

Free paper

Retina (Medical)

PULSAR Extension: Clinical Improvements Sustained Over 156 Weeks With Aflibercept 8 mg in Patients With Neovascular Age-Related Macular Degeneration

Timothy Lai

Purpose: To describe long-term treatment outcomes with aflibercept 8 mg in patients with neovascular age-related macular degeneration (nAMD) over 156 weeks in the PULSAR Extension.

Methods: The Phase 3 PULSAR trial (NCT04423718) involved treatment-naïve nAMD patients receiving aflibercept 8 mg every 12 (8q12) or 16 weeks (8q16), or aflibercept 2 mg every 8 weeks (2q8), following 3 initial monthly doses. After completing the 96-week main phase, patients entered an optional 1-year, open-label extension to Week 156. From Week 96, the 2mg group switched to aflibercept 8 mg every 12 weeks (2mg->8mg group), while the 8mg groups continued their last assigned intervals (8mg group). Dosing intervals were modified in both groups based on disease activity from Week 100, ranging from 8 to 24 weeks. Exploratory endpoints at Week 156 included change in best-corrected visual acuity (BCVA).

Results: At Week 156, the 2mg->8mg group (n=208) and 8mg group (n=417) reported a mean BCVA change of +4.6 and +3.4 letters and central subfield retinal thickness (CRT) of -145 and -148 μm , respectively. The last assigned dosing interval at Week 156 was ≥ 12 , ≥ 16 , and 20 weeks in 78%, 42%, and 12% of the 2mg->8mg group, and ≥ 12 , ≥ 16 , ≥ 20 , and 24 weeks in 77%, 58%, 40%, and 24% of the 8mg group. No new safety signals were identified through Week 156.

Conclusions: The PULSAR Extension showed sustained functional and anatomic improvements through Week 156 in the 2mg->8mg and 8mg groups, indicating durable improvements for treatment-naïve nAMD with aflibercept 8 mg over extended dosing intervals.

Abstract

Free paper

Retina (Medical)

Scleral Thickness, Choroidal Perfusion, and Their Interplay in Pachychoroid Spectrum Diseases

Xinyuan Zhang, Yiyun Zeng

Purpose: To evaluate whether scleral thickness and its association with choroidal perfusion play distinct roles in the pathogenesis of the subtypes of pachychoroid spectrum disease (PCD).

Methods: A nested case-control study enrolled 108 subjects (124 eyes) with polypoidal choroidal vasculopathy (PCV), neovascular age-related macular degeneration (nAMD), central serous chorioretinopathy (CSC), and 23 healthy participants (38 eyes). Scleral thickness (ST) and choroidal thickness (CT) were measured using swept-source OCT, and the ST/CT ratio was calculated. Choriocapillaris flow density (CFD) and blood flow density of Sattler's and Haller's layers were quantified using ImageJ.

Results: CSC and nAMD patients exhibited significantly thicker scleral thickness than controls. The ST/CT ratio was lower in CSC ($P = 0.006$) compared to controls but higher in nAMD versus PCV ($P = 0.004$). After controlling for age, sex, and refractive error, nAMD had a thicker sclera than PCV and normal control ($P_{all} < 0.01$). Whereas nAMD had a thinner choroid than PCV ($P = 0.021$) and lower blood flow density in Sattler's and Haller's layers compared to normal controls ($P < 0.001$). CSC exhibited thicker sclera and choroid than PCV and normal controls ($P_{all} < 0.01$), along with higher blood flow density in Sattler's and Haller's layers than PCV ($P = 0.035$).

Conclusions: Distinct scleral and choroidal features that characterize PCD subtypes. The pathogenesis of nAMD may involve ischemic perfusion deficits, whereas in CSC, elevated scleral tension and choroidal congestion leads to impaired venous outflow. The ST/CT ratio could serve as a potential image biomarker for assessing choroidal perfusion in PCD.

Abstract

Free paper

Retina (Surgical)

A Common Surgery to An Uncommon Problem: Vitrectomy with Membrane Peeling in Myopic Traction Maculopathy

Wai Ching Lam, Nicholas Fung, Qing Li, Angie Fong, Wai Yan Lam

Purpose: To evaluate vitrectomy with membrane peeling across the spectrum of myopic traction maculopathy (MTM) and identify prognostic factors for anatomical and functional success.

Methods: Patients with MTM who underwent vitrectomy and membrane peeling between 2018 to 2023 were included. Percentage reduction in mean foveal thickness (MFT) was used as a marker of anatomical outcome, and visual acuity were the primary outcome. The secondary outcomes were factors associated with anatomical success and VA improvement.

Results: 94 eyes from 84 patients were included. For myopic foveoschisis-only (37 eyes), the anatomical success rate was 95% with a mean of 8-letter gain. For isolated macular detachment (without macular holes) (15 eyes), 93% achieved retinal reattachment with a mean of 3.5-line gain. For isolated macular holes (22 eyes), 73% achieved macular hole closure with a mean of 7-letter gain. For macular hole retinal detachment (MHRD) (20 eyes), 80% achieved retinal reattachment and 20% had simultaneous macular hole closure with a mean of 3-letter gain.

Higher pre-operative MFT ($p < 0.001$) and more advanced perpendicular staging ($p < 0.001$) were associated with greater % MFT reduction. Better pre-operative VA ($p < 0.001$), less advanced tangential staging ($p = 0.016$) and pre-operative phakic status ($p = 0.004$) were predictive of better post-operative VA. For myopic foveoschisis-only, the use of long-acting gas was associated with 3 lines worse in post-operative VA ($p = 0.04$).

Conclusions: Vitrectomy with membrane peeling is effective in the management of MTM, especially those with myopic foveoschisis-only and isolated macular detachment. Less advanced tangential stages and better pre-operative VA are predictive of better post-operative VA.

Abstract

Free paper

Retina (Surgical)

Efficacy of Inverted Internal Limiting Membrane Flap Technique in Vitrectomy for Rhegmatogenous Retinal Detachment with Macular Hole

Xingrong Wang, Shuya Wang

Purpose: To compare the anatomical and functional outcomes of vitrectomy combined with inverted internal limiting membrane (ILM) flap technique versus standard ILM peeling for rhegmatogenous retinal detachment (RRD) complicated by macular hole (MH).

Methods: This retrospective study included 33 eyes (16 in the ILM flap group, 17 in the peeling-only group) from January to March 2024. Both groups underwent pars plana vitrectomy with retinal reattachment and silicone oil tamponade. The ILM flap group received inverted ILM flap coverage over the MH, while the peeling group underwent standard ILM removal. Pre- and postoperative best-corrected visual acuity (BCVA, logMAR), MH closure rate, time to closure, and retinal reattachment were analyzed.

Results: Baseline BCVA was worse in the ILM flap group (1.594 ± 0.52 vs. 0.965 ± 0.41 logMAR, $P < 0.01$). Postoperatively, BCVA improved significantly in both groups (ILM flap: 0.819 ± 0.33 , $P < 0.01$; peeling: 0.847 ± 0.29 , $P < 0.05$), with no intergroup difference ($P = 0.68$). All eyes achieved retinal reattachment. Anatomical MH closure occurred in 100% of the ILM flap group versus 47% in the peeling group ($P < 0.01$). Mean closure time was significantly shorter in the ILM flap group (2.88 ± 1.1 days vs. 15.13 ± 4.6 days, $P < 0.01$). No complications were observed.

Conclusions: Inverted ILM flap technique achieved superior MH closure rates and faster anatomical recovery compared to conventional ILM peeling in RRD with MH. The flap acts as a scaffold for retinal regeneration addressing limitations of standard surgery. This technique enhances postoperative visual rehabilitation and warrants integration into complex vitreoretinal practice.

Abstract

Free paper

Retina (Surgical)

Full Thickness Macular Hole (FTMH) Postoperative Prone Posturing versus No Prone on Surgical Success Rate

Po Lin Leow, Ting Wang, Chi Lik Au, Ka Ying Cheung, Shing Yee Chong

Purpose: To evaluate whether post-operative no prone posturing versus conventional 24-hour/day prone posturing would affect the anatomical success rate, i.e. closure rate of FTMH.

Methods: A multi-centered, multi-surgeon, retrospective, non-randomized, observational cohort including all FTMH surgeries performed in a local tertiary ophthalmology unit in 2024. Patients with at least 3-month follow-up data were included. Myopic tractional maculopathy (MTM) and repeated FTMH surgery eyes were excluded. Primary outcome was anatomical success related to prone posturing vs no prone; secondary outcomes were intraoperative factors and characteristics of macular holes associated with anatomical closure.

Results: A total of 23 FTMH eyes from 23 patients were identified, 3 eyes were excluded. 12 male (60%) and 8 females (40%) were included, mean age was 69.7 years old. Axial length ranged from 21.79–30.56mm. Overall surgical success (anatomical closure) rate was 75%. There were no significant differences in closure rate between prone posturing (8 in 11 eyes, 72.7%) vs non-prone groups (7 in 9 eyes, 77.8%)($p=1.00$), and internal limiting membrane peel vs flap groups ($p=0.29$). FTMH parameters (inner diameter, basal diameter, height) were not associated with closure rate ($p=0.62$, 0.97 , 0.52 respectively). SF6 10%, 20%, C3F8 10%, 12%, 14% were used in the prone group, whereas C3F8 12%, 14% were used in the non-prone group. They are not associated with anatomical closure ($p=0.41$, 0.17 respectively).

Conclusions: No prone posturing after FTMH surgeries may be advised without compromising the anatomical closure rate. Future larger scale prospective studies are needed to confirm this pilot's findings.

Abstract

Free paper

Retina (Surgical)

Gas-Free Vitrectomy for Macular Holes: Analysis of Anatomical Closure and Visual Outcomes in 34 Cases

Qingli Shang, Tiantong Ren

Purpose: Conventional macular hole (MH) surgery combines vitrectomy, internal limiting membrane (ILM) peeling, gas tamponade, and prone positioning. This study evaluates a gas-free technique without prone positioning, assessing closure rate, closure morphology, and best-corrected visual acuity (BCVA) improvement.

Methods: Patients with full-thickness MH (OCT-confirmed) underwent vitrectomy with inverted ILM flap fixation using viscoelastic, without gas tamponade. Strict supine positioning was maintained for 24 hours postoperatively. Closure morphology (U/V/W-type) was assessed via OCT and visual function via LogMAR BCVA at 1 day, 1 week, 1 month, and 2 months postoperatively.

Results: 34 eyes (34 patients; Feb-May 2025) were included. Types: idiopathic (28 eyes), high myopia (3 eyes; 1 with CNV), retinitis pigmentosa (1 eye), post-vitrectomy (1 eye), traumatic (1 eye). Minimum hole diameter: 193–881 μ m; Axial length: 21.90–31.08mm. Follow-up: 2 weeks to 3 months. Closure Rate: Primary closure: 31 eyes (91%). 3 eyes (9%) required secondary gas-fluid exchange due to early flap displacement. Final closure: 100% (34 eyes). Closure Morphology: U-type: 28 eyes (82%), V-type: 6 eyes (18%). BCVA: At 1 month (25 eyes): Improved from LogMAR 1.36 to 0.82. At 2 months (10 eyes): Improved from LogMAR 1.46 to 0.53.

Conclusions: Gas-free vitrectomy effectively closes macular holes. Simplified posture management (supine only) improves patient comfort and compliance. The absence of gas maintains optical clarity, enabling early postoperative OCT monitoring of closure.

Abstract

Free paper

Retina (Surgical)

Intraoperative Modified Peripheral Panretinal Photocoagulation in Proliferative Diabetic Retinopathy

Gongqiang Yuan

Purpose: To compare the outcomes of intraoperative conventional panretinal photocoagulation (CPRP) with the modified peripheral panretinal photocoagulation (PPRP) technique in pars plana vitrectomy (PPV) in patients with proliferative diabetic retinopathy (PDR).

Methods: Sixty-three eyes of 56 patients with PDR were retrospectively studied. Twenty-six patients (30 eyes) received CPRP and thirty patients (33 eyes) received modified PPRP in PPV. Preoperative and postoperative ophthalmologic examinations were performed, including BCVA, CMT, inflammation and complications.

Results: The laser spots of the CPRP group ranged from 858–2245, with an average of 1232 (1048, 1369) spots. The laser spots of the PPRP group ranged from 394–992, with an average of 673 (579, 798) spots. The mean logMAR BCVA before surgery was no statistical difference between the two groups ($P=0.476$). The mean logMAR BCVA was 1.15 ± 0.74 in the CPRP group and 0.77 ± 0.54 in the PPRP group at 3 months after surgery, showing that the PPRP group had more visual acuity improvement than the CPRP group ($P=0.037$). The difference of CMT between the two groups was statistically significant at 1 week after surgery ($P=0.02$), but not at 3 months after surgery ($P=0.587$). The postoperative inflammation in the CPRP group was significantly more severe than that in the PPRP group at the first day after surgery ($P=0.002$).

Conclusions: The modified PPRP technique was used during PPV in PDR patients in this study, resulting in better BCVA, decreased CMT and reduced early postoperative inflammation without increasing the incidence of adverse events in PDR.

Abstract

Free paper

Retina (Surgical)

Subthreshold Micropulse Laser for Residual Subretinal Fluid After Vitrectomy in Myopic Tractional Maculopathy: A Randomized Controlled Trial

Yue Qi, Xifang Zhang

Purpose: To evaluate the effectiveness and safety of subthreshold micropulse laser (MPL) in patients with residual subretinal fluid (SRF) after vitrectomy for myopic tractional maculopathy (MTM).

Methods: This was a prospective, randomized controlled trial. We recruited eyes underwent vitrectomy for macular hole retinal detachment (MHRD) and macular schisis with foveal detachment (MSRD) from May 2022 to August 2023. Forty eligible patients were randomized to control and MPL group in a 1:1 allocation ratio. Patients in the MPL group received MPL treatment 1-month after surgery by a same doctor and the procedure was repeated at 1-month intervals when necessary. BCVA and macular thickness (distance between ILM and RPE layer on OCT) was recorded at each follow-up. Kaplan Meier curve was used to exhibit the residual SRF existence of the patients during their follow-ups.

Results: The median follow-up time was 6 months (range: 3-22 months). Preoperatively, macular hole retinal detachment/macular schisis retinal detachment diagnosis, follow-up month, ILM peeling method, tamponade, axial length, diopter, BCVA, macular thickness was not significantly different between two groups. Postoperatively, BCVA was significantly improved, and macular thickness was significantly reduced ($P<0.001$) compared with preoperative baseline. The Kaplan Meier curve showed a trend that the MPL group had better SRF absorption, but the difference is no significant between the two groups ($P=0.33$). No severe complications in both groups during the follow-up.

Conclusions: MPL is a safe non-invasive procedure and may promote SRF absorption in MTM patients with residual SRF after vitrectomy surgery.

Abstract

E-poster

Subspecialty	Title	Speaker
Ocular Imaging	Vascular Biomarkers of Retinal Vascular Diseases in Adaptive Optics Scanning Laser Ophthalmoscopy: A Systematic Review	Ying Lin, Kaiyu Wu, Zehao Liu
Ocular Imaging	The Value of Genetic Diagnosis in Atypical Retinal Diseases	Qianqian Mi
Retina (Medical)	Vascular endothelial growth factor-A and Ranibizumab level in serum and human breast milk of a lactating woman after intravitreal injection: A case report	Bojia Niu, Ying Xiao
Retina (Medical)	The Comprehensive Treatment of Refractory Retinal Macroaneurysms	Yongpeng Zhang
Retina (Medical)	Predictive Value of Platelet Distribution Width and Activated Partial Thromboplastin Time for Vitreous Hemorrhage Secondary to Polypoidal Choroidal Vasculopathy	Ying Lin, Hanlin Li, Jinli Cui, Xiaomei Xiong, Zehao Liu
Retina (Surgical)	Longitudinal Observation of Ocular Biometric Parameters after Intravitreal Ranibizumab Injection for the Treatment of Retinopathy of Prematurity	Jing Yang
Retina (Surgical)	A Modified Suturing Technique to Produce Temporary Scleral Buckling Effect for Noncomplex Rhegmatogenous Retinal Detachment	Zhaotian Zhang
Retina (Surgical)	Ten Surgical Pearls Adapted from Ancient Chinese Allusions in Managing Severe Proliferative Diabetic Retinopathy	Zhe Chen
Retina (Surgical)	Absorbable Gelatin Sponge as an Intrasccleral Buckle in Rabbits: A Pilot Study	Zhe Chen
Retina (Surgical)	Surgical Treatment of Posterior Retinal Tears in High Myopia	Xiaoqing Zhu, Qian Wang
Translational Medicine	MVTT-GMamba: Dual Encoder Graph Mamba for Prediction of DME Anti-VEGF Efficacy	Shijing Wu, Zhiqing Chen

Abstract

E-poster

Ocular Imaging

Vascular Biomarkers of Retinal Vascular Diseases in Adaptive Optics Scanning Laser Ophthalmoscopy: A Systematic Review

Ying Lin, Kaiyu Wu, Zehao Liu

Purpose: Adaptive optics scanning laser ophthalmoscopy (AO-SLO) is an advanced high-resolution and non-invasive imaging technique capable for visualization of retina. Retinal vascular diseases (RVDs), including diabetic retinopathy (DR), hypertensive retinopathy (HR) and retinal vein occlusion (RVO), are characterized by microvascular alterations. Multiple retinal vascular biomarkers using AO-SLO have been proposed currently, but their significance was unclear. This study aims to comprehensively review these researches and summarize important AO-SLO vascular biomarkers of RVDs.

Methods: A literature search was conducted on PubMed and Web of Science up to February 23th, 2025. Studies utilizing AO-SLO to characterize vascular biomarkers of RVDs were included. Structural biomarkers included inner diameter (ID), outer diameter (OD), wall thickness (WT), wall to lumen ratio (WLR), wall cross sectional area (WCSA) and microaneurysm (MA). Functional biomarkers comprised blood flow and velocity, and aggregated erythrocyte velocity (AEV).

Results: From 436 screened publications, 26 studies met inclusion criteria. Most studies focused on DR, which was characterized by a decrease of ID, blood flow and velocity, alongside an increase of WT, WLR and AEV. WLR represents a comprehensive microvascular involvement and may be a sensitive vascular biomarker for DR. HR patients presented with increased WT, WLR and WCSA. RVO patients exhibited a decrease in AEV and differences in MAs.

Conclusions: The vascular biomarkers derived by AO-SLO demonstrated promising clinical utility for screening, diagnosis, treatment and prognosis of RVDs. Further studies and standardized AO-SLO reference values are still required.

Abstract

E-poster

Ocular Imaging

The Value of Genetic Diagnosis in Atypical Retinal Diseases

Qianqian Mi

Purpose: To report 3 cases to explore the diagnostic value of genetic diagnosis in some atypical retinal diseases

Methods: Three cases of atypical retinal diseases were reported, and the diagnosis was determined by combining the results of genetic testing. The first case was a patient with atypical macular atrophy, who was a female, 41 years old, with a BCVA of 0.15 in the right eye, 0.2 in the left eye, and the OCT showed the disappearance of the outer structure of the subcentered concave area. The second patient was a 31-year-old female, with BCVA of 0.8 in both eyes, with yellow-white foci on the macular area with high autofluorescence. The third case was an adolescent with optic nerve atrophy, 11 years old, female, routine optometry and physical examination revealed binocular visual acuity of 0.2, and the OCT showed reduced thickness of the RNFL, the MRI of the head was perfected to exclude the secondary causes of the central nervous system.

Results: Based on the results of genetic testing, the first case was clearly ABCA4 heterozygous mutation, autosomal recessive late-onset STGD1 was diagnosed; the second case was clearly BEST1 mutation, and the diagnosis of autosomal dominantly inherited BEST disease was confirmed; and the third case was suggestive of OPA1 mutation, and the diagnosis of autosomal dominantly inherited ADOA was confirmed.

Conclusions: Some atypical retinal cases can be combined with genetic testing to make a definitive diagnosis when necessary

Abstract

E-poster

Retina (Medical)

Vascular Endothelial Growth Factor-A and Ranibizumab Level In Serum and Human Breast Milk of A Lactating Woman After Intravitreal Injection: A Case Report

Bojia Niu, Ying Xiaoi

Purpose: To explore the concentration of VEGF-A in serum and human breast milk in a lactating women of cystoid macular edema secondary to RVO.

Methods: Ranibizumab was injected into a 30-year-old woman who was breastfeeding a 6-month-old baby and diagnosed with cystoid macular edema secondary to branch retinal vein occlusion in the right eye. The drug concentrations in serum and breast milk were collected before and within 4 weeks after injection. Level of VEGF-A and free Ranibizumab was analyzed in all the samples by ELISA.

Results: VEGF-A was continuously lower than 0.1 ng/ml in serum among the whole study period. VEGF-A protein in breast milk was 29 ng/ml at baseline and decreased after intravitreal injection of Ranibizumab (IVR). Lowest concentration of VEGF-A was detected at day 3 and returned gradually within 4 weeks. Free drug level of Ranibizumab was undetectable in both serum and breast milk at baseline and increased after IVR. The highest concentration appeared at day 1 both in serum and in breast milk and decreased gradually within 4 weeks.

Conclusions: Systemic exposure to Ranibizumab could be detected after intravitreal injection in a lactating women. Although level of VEGF-A in serum remained unaltered after Ranibizumab administration, functional changes secondary to the fluctuation of VEGF-A in breast milk and complications to breastfeeding infants were uncertain. Further investigations are needed for the safety profile of anti-VEGF therapy to nursing baby when lactating women suffered from some sight-threatening diseases.

Abstract

E-poster

Retina (Medical)

The Comprehensive Treatment of Refractory Retinal Macroaneurysms

Yongpeng Zhang

Purpose: To explore the comprehensive treatment methods for refractory retinal macroaneurysms.

Methods: A retrospective case analysis was conducted on four cases of refractory retinal aneurysms diagnosed from April 2023 to April 2025. All cases were female, aged 50-65 years old. The localization of refractory retinal aneurysms is to undergo anti-VEGF treatment three times or more, combined with laser treatment once or more, without atrophy of the retinal aneurysm body or significant absorption of macular exudation.

Results: Four patients were treated with a combination of anti VEGF and laser therapy, including 5-15 times of anti VEGF therapy and 1-4 sessions of laser therapy. The follow-up period was 2 years, and the macular exudation caused by retinal artery aneurysm stabilized. Before treatment, the corrected visual acuity was 0.1 to 0.8, and after laser treatment, the corrected visual acuity was 0.06 to 0.5. Only one case showed improvement in visual acuity, while the remaining three cases showed a decrease in visual acuity.

Conclusions: Anti-VEGF therapy is an important means of treating macular edema secondary to retinal aneurysms, but laser therapy, as a basic treatment method, is crucial in stabilizing vascular leakage and should not be neglected.

Abstract

E-poster

Retina (Medical)

Predictive Value of Platelet Distribution Width and Activated Partial Thromboplastin Time for Vitreous Hemorrhage Secondary to Polypoidal Choroidal Vasculopathy

Ying Lin, Hanlin Li, Jinli Cui, Xiaomei Xiong, Zehao Liu

Purpose: To explore the systematic blood examination biomarkers with in vitreous hemorrhage (VH) secondary to polypoidal choroidal vasculopathy (PCV).

Methods: 105 PCV-VH participants, 74 untreated PCV patients without vitreous hemorrhage (PCV-NVH) and 102 health volunteers (NC) were recruited in the study. Systemic blood examinations including routine blood test, coagulation function, blood biochemistry, liver function and lipid profile were applied to all participants. Binary logistic regression, machina learning and key variable selection, and receiver operating characteristic (ROC) curve were used to find out significant biomarkers for distinguishing PCV-VH.

Results: PCV-VH group exhibited higher levels of platelet distribution width (PDW), neutrophil lymphocyte ratio (NLR) and activated partial thromboplastin time (APTT), mean corpuscular hemoglobin concentration (MCHC), while showing lower levels of lymphocyte percentage (L%), compared to PCV-NVH and NC. Multivariate binary logistic regression showed PDW as an independent risk factor for PCV-VH compared to NC (odd ratio, OR 2.227, 95%CI: 1.646-3.013). APTT was an independent risk factor for PCV-VH compared to PCV-NVH (OR 1.204, 95%CI: 1.093-1.326) and to NC (OR 1.621, 1.288-2.038). In ROC analysis, PDW could help differentiate PCV-VH group from PCV-NVH and NC (AUC 0.621, 95%CI: 0.536-0.705; AUC 0.949, 95%CI: 0.911-0.986, respectively). APTT could help differentiate PCV-VH group from PCV-NVH and NC (AUC 0.655, 95%CI: 0.574- 0.737; AUC 0.937, 95%CI: 0.898-0.976, respectively).

Conclusions: Systematic blood examination changes in PCV-VH reflected that platelet activation, coagulation function abnormalities, oxidative stress and inflammation activation might be part of disease mechanisms. Among them, PDW and APTT has good predictive value for VH secondary to PCV.

Abstract

E-poster

Retina (Surgical)

Longitudinal Observation of Ocular Biometric Parameters after Intravitreal Ranibizumab Injection for the Treatment of Retinopathy of Prematurity

Jing Yang

Purpose: To assess the longitudinal changes in ocular biometric parameters after intravitreal IVR injection for the treatment of ROP in premature infants during the first year of life.

Methods: Longitudinal observation and comparative study that included 60 eyes of premature infants with ROP was conducted in China, followed up one year. In treatment group patients diagnosed with Type 1 ROP were administered with IVR injection. The control group was set up without any intervention. The patients were examined by A-scan ultrasound biometry at 0 (40 gestational weeks), 3, 6, and 12 months of correct age. Anterior chamber depth (ACD), Length thickness (LT), vitreous chamber depth (VCD) and Axial length (AL) were measured. Anterior segment (AST) was calculated by summing up the ACD and LT. The data analyzed with SPSS 23.0.

Results: Sixty premature infants (60 eyes) were enrolled in this study. No significant differences were found in all parameters at 0 month (40 weeks). However, ACD and LT differed significantly between the two groups at 3 months. Throughout the follow-up period AST, VCD and AL were no significant differences ($p > 0.05$) in two groups.

Conclusions: IVR administered for the treatment of ROP only affected ACD and LT. No significant effects were observed on AL, VCD, or AST during the 1st year of life.

Abstract

E-poster

Retina (Surgical)

A Modified Suturing Technique to Produce Temporary Scleral Buckling Effect for Noncomplex Rhegmatogenous Retinal Detachment

Zhaotian Zhang

Purpose: To introduce a surgical technique for temporary scleral buckling of noncomplex rhegmatogenous retinal detachment using a combination of nonabsorbable and absorbable sutures that would induce minimal permanent refractive changes.

Methods: Twenty consecutive patients (20 eyes) with noncomplex rhegmatogenous retinal detachment were prospectively included. Scleral buckling was performed in all eligible subjects, and encircling buckling was added when necessary. The silicone elements were fixed on the sclera with 5-0 nonabsorbable sutures and tightened to form a ridge with 6-0 absorbable sutures. Best-corrected visual acuity, scleral ridge status, axial length, spherical diopter, and cylinder diopter were collected.

Results: All patients achieved primary retinal reattachment with significant improvement of best-corrected visual acuity after surgery. Scleral ridge was obvious and in situ at the 1-month follow-up but diminished at the 3-month follow-up. At the 1-month follow-up, axial length increased from $24.78 \text{ mm} \pm 2.14 \text{ mm}$ preoperatively to $25.22 \text{ mm} \pm 2.11 \text{ mm}$, and cylinder diopter increased from -1.99 ± 1.03 to -2.95 ± 1.55 (both $P < 0.001$). At the 3-month follow-up, axial length, spherical diopter, and cylinder diopter decreased significantly compared with the values at the 1-month follow-up (all $P < 0.05$). No obvious complications were observed during the whole follow-up. Patients who underwent additional encircling buckling exhibited greater changes in axial length and cylinder diopter at the 1-month follow-up (both $P < 0.001$).

Conclusions: The modified technique of scleral buckling with/without encircling buckling using both nonabsorbable and absorbable sutures offers a safe and effective option to repair noncomplex rhegmatogenous retinal detachment.

Abstract

E-poster

Retina (Surgical)

Ten Surgical Pearls Adapted from Ancient Chinese Allusions in Managing Severe Proliferative Diabetic Retinopathy

Zhe Chen

Purpose: In the surgical management of severe proliferative diabetic retinopathy (PDR), strategies and techniques are of special importance with the current instruments. This study tried to summarize ten pearls adapted from the ancient Chinese allusions and gave each of them a Chinese idiom name for the convenience of understanding and memorizing.

Methods: This was a retrospective, noncomparative, interventional study. Ten surgical pearls were summarized and adapted from the ancient Chinese philosophy (釜底抽薪, 知己知彼, 擒賊擒王, 圍城打援, 融會貫通, 分而治之, 見縫插針, 隔山打牛, 左右開弓, 四兩撥千斤). Flexible combinations of these strategies and techniques were applied according to the specific condition of each patient. The efficacy and safety were analyzed, as well as the application frequencies according to the existence of tractional retinal detachment or not.

Results: 443 eyes of 346 consecutive PDR patients underwent pars plana vitrectomies (PPVs) during the past eight years in our tertiary center. All PPVs went smoothly. The final visual acuities were mostly improved or stable (log MAR 1.92 ± 0.83 preoperatively versus log MAR 1.16 ± 0.85 postoperatively, $p < 0.01$). Recurrent vitreous hemorrhage, retinal detachment, and seldomly hyphema or neovascular glaucoma occurred in 9/473 (1.9%), 15/473 (3.2%), 2/473 (0.4%) and 2/473 (0.4%) times of PPVs, respectively. Final retinal attachment at the macular area was realized in 438/443 (98.9%) eyes.

Conclusions: These ten surgical strategy and technique pearls were mostly effective as well as safe in the management of severe PDR patients. They were relatively easy to be memorized and applicated once the meaning of each Chinese idiom was understood.

Abstract

E-poster

Retina (Surgical)

Absorbable Gelatin Sponge as An Intrasccleral Buckle in Rabbits: a Pilot Study

Zhe Chen

Purpose: This study aimed to evaluate the efficacy and safety of using an absorbable gelatin sponge as an intrasccleral buckle in rabbit eyes; it also monitored degradation of the gelatin sponge over time.

Methods: Ten, New Zealand, White rabbits underwent surgery to implant an absorbable gelatin sponge as an intrasccleral buckle. Weekly ophthalmic examinations were conducted before and after the procedure until the implant was fully absorbed. Assessments included external eye and fundus examinations, color fundus imaging, and optical coherence tomography. Safety and efficacy were determined by comparing preoperative and post-operative conditions.

Results: The surgery was successfully completed in 12 of 20 eyes, yielding favorable postoperative outcomes. Eight eyes were excluded due to issues with scleral tunneling, including accidental penetration, suprachoroidal implantation of the sponge, and choroidal excavation, resulting in a success rate of 60%. The indentation produced by the gelatin sponge implant progressively decreased, entirely disappearing within 2 weeks. No complications, such as retinal or choroidal hemorrhage or detachment, were observed.

Conclusions: Intrasccleral implantation of absorbable gelatin sponge was safe and effective for scleral buckling in rabbits, demonstrating favorable biodegradation characteristics.

Abstract

E-poster

Retina (Surgical)

Surgical Treatment of Posterior Retinal Tears in High Myopia

Xiaoqing Zhu, QianWang

Purpose: To explore the surgical treatment of posterior retinal breaks in patients with high myopia and maculopathy.

Methods: This study included patients with high myopia and macular schisis accompanied by posterior retinal tears. All patients underwent 23G pars plana vitrectomy, during which the internal limiting membrane tamponade was performed on the posterior retinal tears. The reattachment of retinal and closure of posterior retinal tears were observed.

Results: ILM tamponade has an efficient sealing effect on retinal tears in the posterior pole of high myopic maculopathy. All patients in this study had repositioned retinas, good healing of retinal tears, and improved visual acuity to a certain extent after surgery. ILM tamponade avoids laser-induced posterior pole retinal atrophy. In addition, it may provide a natural scaffold for the proliferation and forward migration of glial cells. The ILM flap on the retinal pigment epithelium can create a closed space, allowing the retinal pigment epithelium to effectively pump out subretinal fluid.

Conclusions: Posterior pole retinal tears in high myopia, especially retinal tears in atrophic areas, are difficult to treat. Laser has no reaction in atrophic areas/subretinal fluid, and laser may affect central vision. Covering and packing techniques help restore the anatomical structure of the retina and prevent RPE from migrating from retinal tears into the vitreous cavity to cause further PV.

Abstract

E-poster

Translational Medicine

MVTT-GMamba: Dual Encoder Graph Mamba for Prediction of DME Anti-VEGF Efficacy

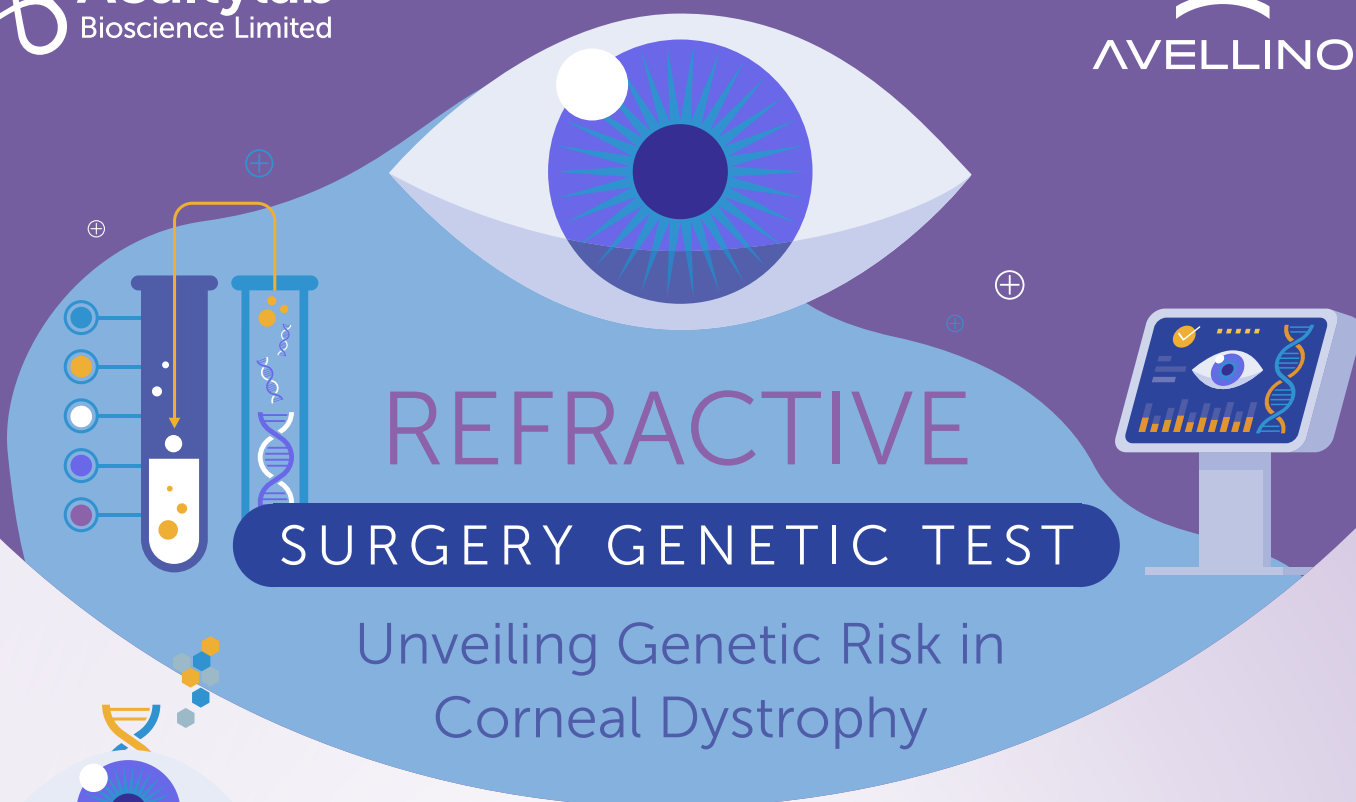
Shijing Wu, Zhiqing Chen

Purpose: This study aims to address the limitations of existing methods for predicting the efficacy of Anti-Vascular Endothelial Growth Factor (Anti-VEGF) therapy in Diabetic Macular Edema (DME) patients. Traditional approaches rely on single-modal data (e.g., retinal OCT images), leading to modality degradation and insufficient utilization of complementary clinical information. The proposed model, MVTT-GMamba, seeks to improve prediction accuracy by integrating multimodal data while mitigating information loss during fusion.

Methods: The MVTT-GMamba framework employs a dual-encoder architecture: MambaVision (MBV) for extracting high-dimensional features from OCT images and TabTransformer (TTF) for processing tabular clinical data. A Graph Mamba (GMB)-based heterogeneous graph fusion strategy is introduced to model relationships between modalities, addressing modality degradation through bidirectional cross-attention and edge-aware message passing. The model dynamically combines graph embeddings with a classifier via a progressive weight transition strategy to enhance stability and generalizability.

Results: Experiments on the APTOS2021 dataset and a private clinical dataset demonstrate superior performance compared to state-of-the-art methods. MVTT-GMamba achieves 82.45% accuracy and 84.78% AUC on APTOS2021, outperforming baseline models (e.g., ResNet, ViT, Swin-Transformer) and fusion methods (e.g., GraphTransformer, GraphFusion). Ablation studies confirm the critical roles of cross-attention, GMB fusion, and graph-guided MLP initialization in mitigating modality degradation and improving interpretability.

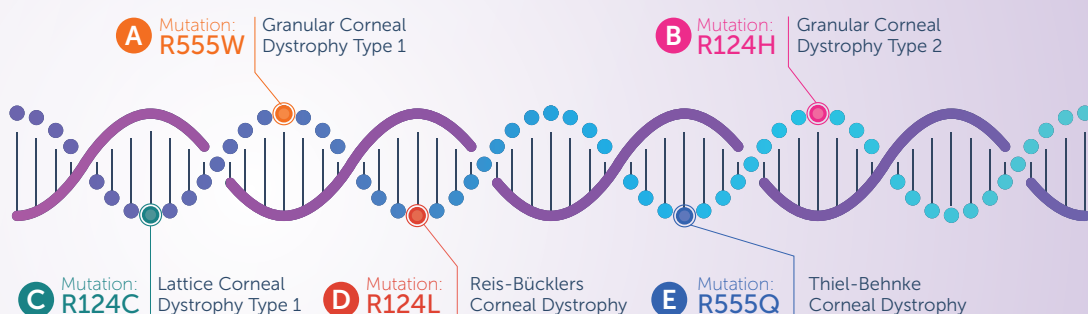
Conclusions: MVTT-GMamba effectively integrates multimodal data to predict Anti-VEGF efficacy in DME patients, offering robust technical support for personalized treatment. The model's dual-encoder design, heterogeneous graph fusion, and dynamic weight adaptation enhance performance and generalizability. Future work will extend its application to broader ophthalmic disease diagnosis and treatment planning.



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Targets Key Mutations:

5 common, high-risk TGFBI gene variants strongly associated with Corneal Dystrophy.



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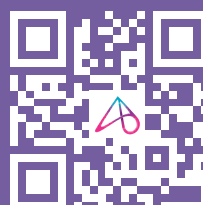
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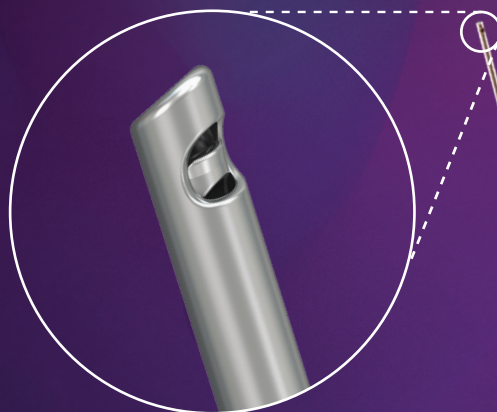
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- Extremely varied phenotypes in granular corneal dystrophy type 2 heterozygotes, Molecular Vision 2012 18:1755-1762

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DUAL BLADE VITRECTOMY PROBE

Reduce pulsatile traction with

20 000

CUTS PER MINUTE at similar single-blade flow rates using 25+^{®1} and 27+^{®2} gauge probes



Please refer to product direction for use (or operator manual) for list of indications, contraindications and warnings.

1. Alcon data on file. Alcon Laboratories, Inc; June 2018. 2. Alcon data on file. Alcon Laboratories, Inc; June 2018.

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Alcon

The Gr8 future has NOW ARRIVED!

The **FIRST** and **ONLY** available anti-VEGF

Enabling beyond q16 up to q20 treatment interval for nAMD and DME in HK¹⁻⁴

3 + 5 = Gr8!

Loading
doses¹

Months
injection
interval^{1*}

Great for nAMD
and DME patients

* EYLEA® 8mg is indicated for nAMD and DME with treatment interval up to 5 months¹.

References: 1. EYLEA (Aflibercept) 8mg Hong Kong Prescribing Information, Aug 2024. 2. Brolucizumab injection Hong Kong prescribing information, Jul 2024. 3. Ranibizumab injection Hong Kong prescribing information, Aug 2023. 4. Faricimab injection Hong Kong product information, Nov 2023.

EYLEA® Solution for Intravitreal Injection 114.3 mg/ml.

Abbreviated Prescribing Information (Please refer to the full prescribing information before prescribing) **Indication for Use:** EYLEA® (Aflibercept) is indicated for the treatment of neovascular (wet) age-related macular degeneration (nAMD) and visual impairment due to diabetic macular oedema (DME). **Composition:** 1ml solution for intravitreal injection contains 114.3 mg Aflibercept. Each vial contains 30.1 mg Aflibercept in 0.263 ml solution. **Posology and Method of Administration:** The posology is the same for the nAMD and DME indications. The recommended dose (Adult) for EYLEA® 8mg, equivalent to 0.07 ml of solution. Please do refer to section 4.2 in the full prescribing information for details. Eylea is for intravitreal injection only, please do refer to section 6.6 in the full prescribing information for step-by-step instructions for use. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients listed in section 6.1 of the full PI; Ocular or periocular infection; Active severe intraocular inflammation. **Warnings and Precautions:** **Traceability:** To improve the traceability of biological medicinal products, the name and the batch number of the administered product should be clearly recorded; **Intravitreal injection-related reactions:** Associated with endophthalmitis, intraocular inflammation, retinal detachment, retinal tear and traumatic cataract (see section 4.8 of the full PI). Proper aseptic injection techniques must always be used when administering Eylea. Patients should be instructed to report any symptoms suggestive of endophthalmitis or any of the above-mentioned events without delay and should be managed appropriately; **Intraocular pressure increased:** Transient increases in intraocular pressure have been seen within 60 minutes of an intravitreal injection, including those with Eylea (see section 4.8 of the full PI). Both the intraocular pressure and perfusion of the optic nerve head must therefore be monitored and managed appropriately. Special precaution is needed in patients with poorly controlled glaucoma (do not inject Eylea while the intraocular pressure is ≥ 30 mmHg); **Immunogenicity:** As this is a therapeutic protein, there is a potential for immunogenicity with aflibercept (see section 5.1 of the full PI). Patients should be instructed to report any signs or symptoms of intraocular inflammation, e.g. pain, photophobia, or redness, which may be a clinical sign attributable to hypersensitivity; **Systemic effects:** Non-ocular haemorrhages and arterial thromboembolic events have been reported following intravitreal injection of VEGF inhibitors and there is a theoretical risk that these may relate to VEGF inhibition (see section 4.8 of the full PI). There are limited data on safety in the treatment of patients with nAMD and DME with a history of stroke, transient ischaemic attacks or myocardial infarction within the last 6 months; **Populations with limited data:** There is only limited experience with Eylea treatment in diabetic patients with an HbA1c over 12 % or with proliferative diabetic retinopathy (see section 4.4 of the full PI). For the details of special warnings and precautions for use, please refer to section 4.4 of the full PI. **Incompatibilities:** In the absence of compatibility studies, this medicinal product must not be mixed with other medicinal products. **Storage:** Store in a refrigerator (2°C to 8°C), do not freeze. Keep the vial in the outer carton in order to protect from light. The unopened vial may be stored outside the refrigerator below 25 °C for up to 24 hours. **Adverse effects: Common ($\geq 1/100$ to $< 1/10$):** Hypersensitivity, Cataract, Intraocular pressure increased, Vitreous floaters, Vitreous detachment, Vitreous haemorrhage, Retinal haemorrhage, Visual acuity reduced, Eye pain, Conjunctival haemorrhage, Punctate keratitis, Corneal abrasion. **Uncommon ($\geq 1/1000$ to $< 1/100$):** Retinal detachment, Retinal tear, Retinal pigment epithelial tear, Detachment of the retinal pigment epithelium, Uveitis, Iritis, Iridocyclitis, Vitritis, Cataract cortical, Cataract nuclear, Cataract subcapsular, Corneal erosion, Vision blurred, Injection site pain, Foreign body sensation in eyes, Lacrimation increased, Injection site haemorrhage, Conjunctival hyperaemia, Eyelid oedema, Ocular hyperaemia, Injection site irritation. For **rare adverse reactions**, please refer to section 4.8 in the full prescribing information. (Nov 2024) (PP-AFL_8mg-HK-0001-1)



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> 7M DOSES⁴

of Dual-Pathway inhibition

For the treatment of adult patients with
nAMD and visual impairment due to **DME¹**

Delivers extended durability
with ~80% of patients on Q12W or
Q16W treatment intervals at Year 2²

Demonstrated comparable safety
profile to aflibercept over 2 years^{2,3}



VABYSMO

faricimab injection 6 mg

References: 1. VABYSMO Hong Kong Prescribing Information 2. Khanani AM et al. TENAYA and LUCERNE: 2-Year Results from the Phase 3 nAMD Trials of Faricimab with Treat-and-Extend Dosing in Year 2. Ophthalmology 2024, in press. 3. Wong et al. Faricimab Treat-and-Extend for Diabetic Macular Edema: 2-Year Results from the Randomized Phase 3 YOSEMITE and RHINE Trials. Ophthalmology 2023, in press. 4. Berdia J et al. ARVO 2025.

Call for Reporting: If you have a suspected side effect or problem to report regarding one of our products, please contact or send the information to the Roche Patient Safety team via: (a) Email: hong_kong.drug_safety@roche.com, or (b) Phone: +852 2733 4711.



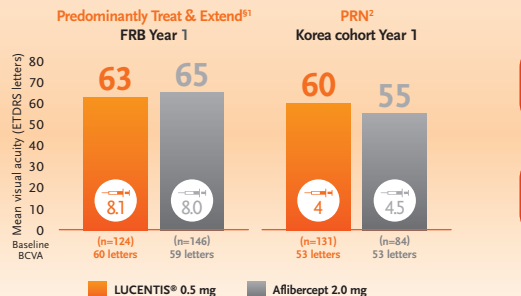
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M-HK-00002067 approved in June 2025 is valid for 2 years or until change is required in accordance with regulatory requirements, whichever comes first.

*For VABYSMO product information, please scan the QR code. Full product information will be provided upon request.



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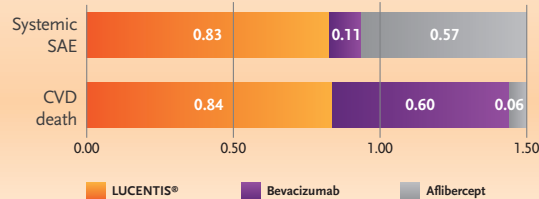


SWITCHING FROM AFLIBERCEPT® – SAFARI STUDY

+48% 180 Day BCVA 0-14 letters³

-30.75 μm 90 Day CSRT (μm)³

SAFETY PROFILE BASED ON P-SCORE (SUCRA EQUIVALENT)^{1,2,3,4}



§ The treatment regimens available for selection were monthly PRN and Treat & Extend. In a 2013 pool of FRB investigators, 74% used Treat & Extend, 22% used PRN and 4% used monthly. + The SAFARI study assessed the anatomical and visual outcomes of switching from aflibercept to ranibizumab following persistent or recurrent disease activity in patients with nAMD (poor response to aflibercept treatment). ** In the frame of this meta-analytic model, LUCENTIS® vs. bevacizumab and LUCENTIS® vs. aflibercept were compared directly, while aflibercept vs. bevacizumab were compared indirectly. The p-scores are similar to SUCRA values in the Bayesian network model and the means probability of being the best treatment option. Safety profile parameters measured in the study included dropout, retinal tear, endophthalmitis, ocular SAE, atherothrombotic events, systemic SAE, CVD death, dropout and death. SUCRA - surface under the cumulative ranking curve. P-scores are similar to SUCRA values in the Bayesian network model and the means probability of being the best treatment option. ^ Where a score of 1 is theoretically the best treatment option. BCVA: Best Corrected Visual Acuity; CSRT: Central Sensory Retinal Thickness

LUCENTIS®
Note: Before prescribing, consult full prescribing information. **Presentation:** Pre-filled syringe: Ranibizumab. Each pre-filled syringe contains 1.65 mg of ranibizumab in 0.165 mL solution. The extractable volume of one pre-filled syringe is 0.1 mL. This provides a usable amount to deliver a single dose of 0.05 mL containing 0.5 mg of ranibizumab. **Indications:** Treatment of neovascular (wet) age-related macular degeneration (AMD). Treatment of visual impairment due to diabetic macular oedema (DME). Treatment of proliferative diabetic retinopathy (PDR). Treatment of visual impairment due to macular oedema secondary to retinal vein occlusion (branch RVO or central RVO). Treatment of visual impairment due to choroidal neovascularisation (CNV). **Dosage and administration:** The recommended dose is 0.5 mg (0.05 mL) as a single intravitreal injection. The interval between two doses injected into the same eye should be at least four weeks. Treatment is initiated with one injection per month until maximum visual acuity is achieved and there are no signs of disease activity. Thereafter, monitoring and treatment intervals should be determined by the physician and should be based on disease activity as assessed by visual acuity and/or anatomic parameters. Monitoring for disease activity may include clinical examination, functional testing or imaging techniques (e.g. optical coherence tomography or fluorescein angiography). In patients with wet AMD, DME, PDR and RVO, initially, three or more consecutive, monthly injections may be needed. The treatment of visual impairment due to CNV should be determined individually per patient based on disease activity. Some patients may only need one injection during the first 12 months; others may need more frequent treatment, including a monthly injection. For CNV secondary to pathologic myopia (PM), many patients may only need one or two injections during the first year. **Treat-and-extend regimen:** While applying the treat-and-extend regimen, the treatment interval should be extended by no more than two weeks at a time for wet AMD and extended by up to one month at a time for DME. For PDR and RVO, treatment intervals may also be gradually extended, however there are insufficient data to conclude on the length of these intervals. If disease activity recurs, the treatment interval should be shortened accordingly. **Lucents and laser photocoagulation in DME or in branch RVO:** Lucents has been used concomitantly with laser photocoagulation in clinical studies. When given on the same day, Lucents should be administered at least 30 minutes after laser photocoagulation. Lucents can be administered in patients who have received previous laser photocoagulation. **Lucents** must be administered by a qualified ophthalmologist using aseptic techniques. Broad-spectrum topical antibiotic and anesthetic should be administered prior to the injection. **Not recommended in children and adolescents.** **Contraindications:** Hypersensitivity to ranibizumab or to any of the excipients, patients with active or suspected ocular or perocular infection, patients with active intracocular inflammation. **Warnings and precautions:** Intravitreal injections have been associated with endophthalmitis, intracocular inflammation, rhegmatogenous retinal detachment, retinal tear and iatrogenic traumatic cataract. Therefore proper aseptic injection techniques must be used. Patients should be monitored during the week following the injection to permit early treatment of an infection. **Transient increases in intraocular pressure (IOP)** have been seen within 60 minutes of injection of Lucents. Sustained IOP increases have also been reported. Intraocular pressure and the perfusion of the optic nerve head must be monitored and managed appropriately. Patients should be informed of the symptoms of the potential adverse reactions and instructed to inform their physician if they develop signs such as eye pain or increased discomfort, worsening redness, blurred or decreased vision, an increased number of small particles in their vision, or increased sensitivity to light. **There is a potential risk of arterial thromboembolic events following intravitreal use of VEGF inhibitors.** A low incidence rate of arterial thromboembolic events was observed in the Lucents clinical trials in patients with AMD, DME, RVO and CNV and there were no major differences between the groups treated with ranibizumab compared to control. Patients with known risk factors for stroke, including history of prior stroke or transient ischemic attack should be carefully evaluated by their physician as to whether Lucents treatment is appropriate and the benefit outweighs the risk.

potential risk. Available data do not suggest an increased risk of systemic adverse events with bilateral treatment. **As with all therapeutic proteins, there is a potential for immunogenicity with Lucents.** **Lucents** has not been studied in patients with active systemic infections or in patients with concurrent eye conditions such as retinal detachment or macular hole. **There are insufficient data to conclude on the effect of Lucents in patients with RVO presenting irreversible ischemic visual function loss.** **Should not be used during pregnancy** unless the expected benefit outweighs the potential risk to the fetus. For women who wish to become pregnant and have been treated with ranibizumab, it is recommended to wait at least 3 months after the last dose of ranibizumab before conceiving a child; use of effective contraception is recommended for women of child-bearing potential. Based on very limited data, ranibizumab may be excreted in human milk at low levels. The effect of ranibizumab on a breast-fed newborn infant is unknown. As a precautionary measure, breast-feeding is not recommended during treatment with Lucents. **Following treatment** patients may develop transient visual disturbances that may interfere with their ability to drive or use machines. Patients should not drive or use machines as long as these symptoms persist. **Risk factors associated with the development of a retinal pigment epithelial tear after anti-VEGF therapy for wet AMD and potentially also other forms of CNV, include a large and/or high pigment epithelial retinal detachment.** When initiating ranibizumab therapy, caution should be used in patients with these risk factors for retinal pigment epithelial tears. **Interactions:** No formal interaction studies have been performed. **Adverse drug reactions:** **Very common (≥10%):** vitritis, vitreous detachment, retinal haemorrhage, visual disturbance, eye pain, vitreous floaters, conjunctival haemorrhage, eye irritation, foreign body sensation, eye, lacrimation increased, blepharitis, dry eye, ocular hyperemia, eye pruritus, intraocular pressure increased, nasopharyngitis, headache, arthralgia. **Common (1 to 10%):** hypersensitivity, retinal degeneration, retinal detachment, retinal tear, detachment of the retinal pigment epithelium tear, retinal pigment epithelium tear, visual acuity reduced, vitreous haemorrhage, vitreous disorder, uveitis, iris, iridocyclitis, cataract, cataract subcapsular, posterior capsule opacification, punctate keratitis, corneal abrasion, anterior chamber flare, vision blurred, injection site hemorrhage, eye hemorrhage, conjunctivitis, conjunctivitis allergic, eye discharge, photophobia, photophobia, ocular discomfort, eyelid edema, eyelid pain, conjunctival hyperemia, urinary tract infection, anemia, anxiety, cough, nausea, allergic reactions (rash, pruritus, urticaria, erythema). **Uncommon (0.1 to 1%):** blindness, endophthalmitis, hypopyon, hyphema, keratopathy, iris adhesions, corneal deposits, corneal edema, corneal striae, injection site pain, injection site irritation, abnormal sensation in eye, eyelid irritation. **Serious adverse events:** related to intravitreal injections include endophthalmitis, blindness, rhegmatogenous retinal detachment, retinal tear and iatrogenic traumatic cataract. **observed only in the DME population**
A meta-analysis of pooled safety data from completed, randomized, double masked global studies showed a higher incidence rate of non-serious, non-ocular wound healing/inflammation in DME patients treated with ranibizumab 0.5 mg (1.85/100 patient years) compared to control (0.27/100 patient years). The relationship to ranibizumab remains unclear. **Packs:** 1 pre-filled syringe per pack. **Legal classification:** P11513. Revision Date: Nov 2024 Ref: EU Feb 2023 + CDS07066 (TGA) + 2021-P58/GC-125-X
References: 1. Gillies MC, Nguyen V, Olsen V, et al. Ophthalmology. 2016;123:2540-2553. 2. Jin KW, Kim JH, Park JY, et al. Sci Rep. 2021;11:4623. 3. Gale RP, Pearce L, Eter NJ, et al. Br J Ophthalmol. 2020;104:693-694. 4. Puvion-Aube A, Budzinski M, Sarrafian M, et al. J Clin Med. 2020;9:1522.

Beovu™ brolucizumab

For adult patients with wet AMD and visual impairment due to DME¹

THEIR VISION IS A MASTERPIECE



In head-to-head trials vs aflibercept, Beovu®:

- Demonstrated **robust vision gains**²
- Outperformed aflibercept in achieving **superior fluid resolution**^{1,2†}
- Proved to have higher proportion of patients had a last treatment interval of **q16w with no disease activity** at week 64.³
- Achieved significantly higher (p=0.043) **complete resolution rate** of polypoidal lesions (78.6%)⁴



In Kestrel and Kite Studies, overall ocular and non-ocular adverse event rates were similar between Beovu® and Beovu®. Most frequently reported ocular AEs were conjunctival hemorrhage, cataract, and dry eye. Other common AE were reported as vitreous floaters, vitreous detachment, and diabetic retinal edema, eye pain and conjunctivitis.⁴
AMD: Age-Related Macular Degeneration; DME: Diabetic Macular Edema

BEVOU®
INDICATION: Beovu® is indicated in adults for the treatment of neovascular (wet) age related macular degeneration (AMD) and visual impairment due to diabetic macular oedema (DME).
BEVOU® Important note: Before prescribing, consult full prescribing information. **Presentation:** Solution for injection. Each vial contains 27.6 mg of brolucizumab in 0.21 mL solution. Each pre-filled syringe contains 18.9 mg of brolucizumab in 0.165 mL solution. **Indications:** Beovu® is indicated in adults for the treatment of neovascular (wet) age related macular degeneration (AMD) and visual impairment due to diabetic macular oedema (DME). **Dosage regimen and administration:** Single-use vial or single-use pre-filled syringe for intravitreal use only. Each vial or pre-filled syringe should only be used for the treatment of a single eye. Beovu® must be administered by a qualified ophthalmologist experienced in intravitreal injections. **Adults: Wet AMD:** The recommended dose is 6 mg brolucizumab (0.05 mL solution) administered by intravitreal injection every 4 weeks (monthly) for the first 3 doses. Thereafter, the physician may individualise treatment intervals based on disease activity as assessed by visual acuity and/or anatomical parameters. A disease activity assessment is suggested 16 weeks (4 months) after treatment start. In patients without disease activity, treatment every 12 weeks (3 months) should be considered. In patients with disease activity, treatment every 8 weeks (2 months) should be considered. However, the interval between two doses should not be less than every 8 weeks (2 months). **Adults: DME:** The recommended dose is 6 mg brolucizumab (0.05 mL solution) administered by intravitreal injection every 6 weeks for the first 3 doses. Thereafter, the physician may individualise treatment intervals based on disease activity as assessed by visual acuity and/or anatomical parameters. In patients without disease activity, treatment every 12 weeks (3 months) should be considered. In patients with disease activity, treatment every 8 weeks (2 months) should be considered. If visual and anatomical outcomes indicate that the patient is not benefiting from continued treatment, Beovu should be discontinued. **Special populations:** **Renal impairment:** No dose adjustment is required. **Hepatic impairment:** No dose adjustment is required. **Geriatric patients:** No dose adjustment is required. **Pediatric patients:** Safety and efficacy have not been established. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients. **Active or suspected ocular or perocular infection.** **Active intracocular inflammation.** **Warnings and precautions:** **Traceability:** In order to improve the traceability of biological medicinal products, the name and the batch number of the administered product should be clearly recorded. **Endophthalmitis, intracocular inflammation, traumatic cataract, retinal detachment, retinal tear, retinal vasculitis, and/or retinal vascular occlusion:** Intravitreal injections, including those with Beovu®, have been associated with endophthalmitis, intracocular inflammation, traumatic cataract and retinal detachment and retinal tear. Proper aseptic injection techniques must always be used when administering Beovu®. Retinal vasculitis and/or retinal vascular occlusion, typically in the presence of intracocular inflammation, have been reported with the use of Beovu®. These immune mediated adverse events may occur following the first intravitreal injection. Discontinue treatment with Beovu® in patients who develop these events. Patients treated with Beovu® who experience intracocular inflammation may be at risk of developing retinal vasculitis and/or retinal vascular occlusion and should be closely monitored. Based on clinical studies these events were more frequent in female patients treated with Beovu® than male patients and in Japanese patients. Patients should be instructed to report any symptoms suggestive of the above-mentioned events without delay. In a Phase III clinical study (MERLIN, patients with nAMD who received Beovu® every 4-week maintenance dosing experienced a higher incidence of intracocular inflammation (including retinal vasculitis) and retinal vascular occlusion than patients who received Beovu® every 8- or 12-week maintenance dosing in the pivotal Phase III clinical studies (HAWK and HARBIE). The interval between two Beovu doses during maintenance treatment should not be less than 8 weeks. **Intraocular pressure increases:** Transient increases in intraocular pressure have been seen within 30 minutes of intravitreal injection with vascular endothelial growth factor (VEGF) inhibitors, including brolucizumab. Special precaution is needed in patients with poorly controlled glaucoma (do not inject Beovu® while the intraocular pressure is >30 mmHg). Both intraocular pressure and perfusion of the optic nerve head must be monitored and managed appropriately. **Bilateral treatment:** The safety and efficacy of brolucizumab administered in both eyes concurrently have not been studied. **Immunogenicity:** As this is a therapeutic protein, there is a potential for immunogenicity. Patients should be instructed to inform their physician if they develop symptoms such as eye pain or increased discomfort, worsening eye redness, blurred or decreased vision, an increased number of small particles in their vision, or increased sensitivity to light. **Concomitant use of other anti-VEGF:** There are no data available on the concomitant use of Beovu® with other VEGF-inhibiting products in the eye. Brolucizumab should not be administered concurrently with other anti-VEGF medicinal products (systemic or ocular). **Withholding treatment:** In intravitreal anti-VEGF treatments, the dose should be withheld and treatment should not be resumed earlier than the next scheduled treatment in the event of: a decrease in best corrected visual acuity (BCVA) of ≥30 letters compared with the last assessment of visual acuity; a retinal

break; a subretinal haemorrhage involving the centre of the fovea, or, if the size of the haemorrhage is ≥50% of the total lesion area; a performed or planned intracocular surgery within the previous or next 28 days. **Retinal pigment epithelial tear:** Risk factors associated with the development of a retinal pigment epithelial tear after anti-VEGF therapy for wet AMD include a large and/or high pigment epithelial retinal detachment. When initiating brolucizumab therapy, caution should be used in patients with these risk factors for retinal pigment epithelial tears. **Rhegmatogenous retinal detachment or macular holes:** Treatment should be discontinued in subjects with rhegmatogenous retinal detachment or stage 3 or 4 macular holes. **Systemic adverse events:** Systemic adverse events, including non-ocular haemorrhages and arterial thromboembolic events, have been reported following intravitreal injection of VEGF inhibitors and there is a theoretical risk that these may relate to VEGF inhibition. There are limited data on safety in the treatment of patients with AMD and DME with a history of stroke, transient ischaemic attacks or myocardial infarction within the last 3 months. Caution should be exercised when treating such patients. **Sodium content:** This medicinal product contains less than 1 mmol sodium (23 mg) per dose, that is to say essentially 'sodium free'. **Driving and using machines:** Beovu® has a minor influence on the ability to drive and use machines due to possible temporary visual disturbances following the intravitreal injection and the associated eye examination. Patients should not drive or use machines until visual function has recovered sufficiently. **Pregnancy, lactation, women of childbearing potential, fertility:** Based on the mechanism of action of VEGF inhibitors, there is a potential risk for female reproduction. **Adverse drug reactions:** **Common (≥1/100 to <1/10):** Hypersensitivity (including urticaria, rash, pruritus, erythema), visual acuity reduced, retinal haemorrhage, uveitis, iris, vitreous detachment, retinal tear, cataract, conjunctival haemorrhage, vitreous floaters, eye pain, intraocular pressure increase, conjunctivitis, retinal pigment epithelial tear, vision blurred, corneal abrasion, punctate keratitis. **Uncommon (≥1/1,000 to <1/100):** Blindness, endophthalmitis, hypopyon, hyphema, keratopathy, iris adhesions, corneal edema, corneal striae, injection site pain, injection site irritation, abnormal sensation in eye, detachment of retinal pigment epithelium, vitritis, anterior chamber inflammation, iridocyclitis, anterior chamber flare, corneal oedema, vitreous haemorrhage, retinal vascular occlusion, retinal vasculitis. **Interactions:** No interaction studies have been performed. **Packs:** Vial: Pack size of 1 vial and 1 blunt filter needle. Pre-filled syringe: Pack size of 1 pre filled syringe. Not all pack sizes may be marketed. **Legal classification:** P11513 Revision date: Nov 2023. Ref: EU/P/1/28 Mar 2022

The materials for Beovu® are approved for use only in Hong Kong. Prescribing information may vary depending on local approval in each country/location. Before prescribing any product, always refer to local materials such as the prescribing information and/or the Summary of Product Characteristics (SPC).
For Hong Kong Healthcare Professionals' reference and sale use only.
[†] The primary efficacy endpoint for the studies was the change from baseline in BCVA at Week 48 as measured by the ETDRS Letter Score, with the primary objective to demonstrate noninferiority of Beovu vs aflibercept.
[‡] Secondary endpoint in HAWK and HARBIE, confirmatory analysis in HAWK only (1-sided P-value for superiority of Beovu).
REFERENCES: 1. Beovu Prescribing Information HK May 2022. 2. Dugel PU, Koh A, Ogura Y, et al, on behalf of the HAWK and HARBIE Study Investigators. HAWK and HARBIE: Phase 3, multicenter, randomized, double-masked trials of brolucizumab for neovascular age-related macular degeneration. Ophthalmology. 2020;127(1):122-133. 3. Fukuda Y, et al. Comparison of Outcomes between 3 Monthly Brolucizumab and Aflibercept Injections for Polypoidal Choroidal Vasculopathy. Biomedicine. 2021;9(9):1164. 4. Román J, et al. TAILOR, a Phase IIIb study of brolucizumab versus aflibercept in a matched (Treat-and-Extend) regimen in patients with neovascular age-related macular degeneration: 64-week results. Presented at the European Society of Retina Specialists (EURETNA) Annual Meeting, RAI Amsterdam, The Netherlands, October 2023. 5. Khosravi A, et al. Safety and efficacy of brolucizumab in neovascular age-related macular degeneration: results from the IRIS registry and Extended Healthcare Map. JAMA Ophthalmol. 140, 20-28 (2022). 6. Brown DM, Emanuel A, Bandello P, Bressan LJE, Figuera J, Sasseg F, Wolf S, Gupta V, Ngai W, Liaw J, T. R. Tashiro R, Dheia D, Wong L, Bouhassira D, Wang Y, Kovacs L, Guenard N, Gormley JC, AUREL and KITE: 52-Week Results From Two Phase III Pivotal Trials of Brolucizumab for Diabetic Macular Edema. Am J Ophthalmol. 2022 Jun;238:157-172. doi: 10.1016/j.ajoph.2022.01.004. Epub 2022 Jan 14. PMID: 35038415. 7. Data on file. RTH258-C002 Clinical Study Report. Novartis. 2018. 8. Data on file. RTH258-C001 Clinical Study Report. Novartis. 2018.

IT'S TIME TO SEE GA DIFFERENTLY

Geographic atrophy (GA) is a progressive condition that can cause irreversible destruction of photoreceptors—depriving your patients of their sight and their physical and emotional well-being.^{1,2} Given that GA can reach the foveal center within 2.5 years, it puts millions of people at risk of vision loss.^{1,3}

To address GA, we need
to see it differently.



Astellas Pharma HK Co. Ltd.
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Tel: (+852) 2377 9801 Fax: (+852) 2856 1440
Website: <https://www.Astellas.com/hk/en>

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