

CURRICULUM VITAE**Peter Anthony Campochiaro, M.D.****ADDRESS**

Johns Hopkins Hospital School of Medicine
 The Wilmer Eye Institute
 719 Maumenee, 600 N. Wolfe Street
 Baltimore, MD 21287-9277

DATE AND PLACE OF BIRTH

September 23, 1952
 Cohoes, New York

CITIZENSHIP

United States

MARITAL STATUS

Married, Elizabeth Anne Campochiaro

EDUCATION

9/70 - 5/74:

University of Notre Dame, South Bend, IND; B.S., Phi Beta Kappa, magna cum laude

9/74 - 5/78:

Johns Hopkins University School of Medicine, Baltimore, MD; M.D.

ACADEMIC HONORS

1978:

Sandoz Research Award

1978:

Henry Strong Denison Research Award

1978:

AOA, Johns Hopkins University

1995

Rosenthal Award from the Macula Society

1995:

Alcon Research Institute Recognition Award

1998

The George S. and Dolores Doré Eccles Endowed Professorship

1999

Steinbach Foundation Merit Award

2003

Macula Vision Research Foundation Merit Award

2006

Research to Prevent Blindness Senior Scientist Award

EMPLOYMENT

7/78 - 6/79:

Intern in Internal Medicine
 Johns Hopkins Hospital, Baltimore, MD

7/79 - 6/82:

Resident in Ophthalmology University of Virginia,
 Charlottesville, VA

7/82 - 6/83:

Fight for Sight Research Fellowship in Retinal
 Neurochemistry, Dr. Joseph Coyle sponsor Department of

Neuroscience, Johns Hopkins Medical School, Baltimore, MD

- 7/82 - 1/83: Fellow in Neuro-ophthalmology
Dr. Neil Miller, sponsor
Wilmer Institute
Johns Hopkins Hospital, Baltimore, MD
- 1/83 - 6/84: Fellow in Vitreoretinal Surgery and Retinal Cell Biology
Drs. Ronald Michels and Bert Glaser sponsors
Wilmer Institute,
Johns Hopkins Hospital, Baltimore, MD
- 7/84 - 6/86: Assistant Professor of Ophthalmology
University of Virginia School of Medicine
Charlottesville, VA
- 7/86 - 7/90: Associate Professor of Ophthalmology
University of Virginia School of Medicine
Charlottesville, VA
- 7/90 - 7/91: Professor of Ophthalmology
University of Virginia School of Medicine
Charlottesville, VA
- 7/91 – 8/98: Professor of Ophthalmology and Neuroscience
Co-Director of Vitreoretinal Surgery
The Wilmer Institute
The Johns Hopkins University School of Medicine
Baltimore, MD
- 9/98 – 1/05 George S. and Dolores Doré Eccles
Professor of Ophthalmology and Neuroscience
Director, Vitreoretinal Surgery
The Wilmer Institute
The Johns Hopkins University School of Medicine
Baltimore, MD
- 1/05 – present George S. and Dolores Doré Eccles
Professor of Ophthalmology and Neuroscience
The Wilmer Institute
The Johns Hopkins University School of Medicine
Baltimore, MD

PROFESSIONAL SOCIETIES

American Academy of Ophthalmology
 American Association for the Advancement of Science
 American Diabetes Association
 American Medical Association
 American Society for Cell Biology
 Association for Research in Vision and Ophthalmology
 International Society for Eye Research
 Macula Society
 Retina Society
 Vitreous Society
 Wilmer Residents Association

GRANTS

1985-1986 “The Role of the Retinal Pigment Epithelium in the Pathogenesis of Diabetic Retinopathy”
 Sponsor: NIH, DRTC Pilot feasibility
 Grant Number: 5P60-AM22125-08
 Principal Investigator

1985-present “Pathogenic Mechanisms in Proliferative Vitreoretinopathy”
 Since 1994, “Functions of PDGFs and FGFs in the Retina and RPE”
 Since 2007, “Oxidative Damage and Cone Cell Death in RP”
 Sponsor: NIH, NEI
 Grant Number: RO1 EY05951
 Principal Investigator

1986-1988 “Progressive Ultrastructural Damage and Induced Expression of Aldose Reductase in Diabetic Retinopathy”
 Sponsor: American Diabetes Association
 Grant Number: None
 Principal Investigator

1991-2001 “Mediators of Blood-Retinal Barrier Breakdown”
 Sponsor: NIH, NEI
 Grant Number: RO1 EY10017
 Co-Investigator

1992-1995 “Inhibition of Intraocular Proliferative Disorders with Retinoids”
 Sponsor: Allergan, Inc.
 Grant Number: None
 Principal Investigator

- 1993-present “Identification and Characterization of RPE-Specific Genes”
Part of FFB Center since 1999
Sponsor: Foundation Fighting Blindness
Grant Number: None
Co-Investigator
- 1997-2006 “Inhibition of Ocular Neovascularization”
Sponsor: Novartis Ophthalmics, Inc.
Grant Number: None
Principal Investigator
- 1998-present “Pathogenesis of Retinal Neovascularization in Proliferative Diabetic Retinopathy”
Since 2007, “Targeting Survival Factors for Ocular Neovascularization”
Sponsor: NIH, NEI
Grant Number: RO1 EY12609
Principal Investigator
- 1998-present “Effect of Neurotrophic Factors on Retinal Degenerations: Use of an Inducible Transgenic System”
Part of FFB Center since 1999
Sponsor: Foundation Fighting Blindness
Grant Number: None
Principal Investigator
- 1998-2000 “Development of a Model of Choroidal Neovascularization”
Sponsor: American Health Assistance Foundation
Grant Number: None
Principal Investigator
- 1999-present “FFB Center for the Study of Retinal Degenerations and AMD at the Wilmer Eye Institute”
Sponsor: Foundation Fighting Blindness
Grant Number: None
Principal Investigator
- 2000-2004 “Molecular Biology of AAV”
Sponsor: NIH, NEI; subcontract from University of Florida
Grant Number: RO1 EY13101
Subcontract Number: UF 00005
Co-Investigator

- 2000-2004 “Expression of Anti-Angiogenic Agents with AAV Vectors”
Sponsor: Juvenile Diabetes Research Foundation
Grant Number: None
Subcontract from University of Florida Center Grant
- 2000-2003 “Identification of Inhibitors of Ocular Neovascularization”
Sponsor: R.W. Johnson
Grant Number: None
Principal Investigator
- 2000-present “Effects in the Eye of Purported Inhibitors of Angiogenesis”
Sponsor: Alcon
Grant Number: None
Principal Investigator
- 2000-2005 “Gene Therapy for Ocular Neovascularization” K08
Clinician-Scientist Award for Dr. Peter Gehlbach
Sponsor: NIH, NEI
Mentor
- 2001-2006 “Analysis of VMD2: a Model for RPE Gene Regulation”
Sponsor: NIH, NEI
Grant Number: RO1EY013357
Co-investigator
- 2001-2006 “Effects of Supplemental Inspired Oxygen in Hypoxia-mediated Retinal and Choroidal Diseases”
K23 Clinician-Scientist Award for Dr. Quan Nguyen
Sponsor NIH, NEI
Mentor
- 2001-present By invitation from Foundation Fighting Blindness
FFB Medical Therapy Assessment Center
Principal Investigator
- CLINICAL TRIALS**
- “A multicenter, randomized, double-masked placebo-controlled parallel group dose finding phase II study of PKC412 (50, 100, 150 mg/day) in patients with diabetic macular edema”
Sponsor: Novartis Ophthalmics, Inc.
Grant number: None
Principal Investigator

“Sandostatin LAR for moderate or severe nonproliferative diabetic retinopathy”

Sponsor: Novartis Pharmaceuticals

Grant Number: None

Co-investigator

“Intraocular Sustained Release of Dexamethasone for Macular Edema” (Posurdex)

Sponsor: Allergan

Grant Number: None

Co-investigator

“Intraocular Sustained Release of Dexamethasone for Vein Occlusion” (Posurdex)

Sponsor: Allergan

Grant Number: None

Co-investigator

“Supplemental Oxygen for Hypoxia-Mediated Retinal Diseases”

Sponsor: NIH, NEI

Grant Number: K23 EY13552

Mentor for K23

“Effects of an Anti-VEGF Aptomer in Neovascular AMD”

Sponsor: EyeTech, Inc.

Grant number: None

Co-investigator

“Exploratory Study of the Safety, Tolerability and Biological Activity of VEGF Trap in Patients with Neovascular Age-related Macular Degeneration”

Sponsor: Regeneron

Grant Number: None

Co-investigator

“An Open Label, Long-term, Safety and Tolerability Study of VEGF Trap in Patients with Neovascular Age-related Macular Degeneration”

Sponsor: Regeneron

Grant Number: None

Co-investigator

“Evaluation of Retina of Subjects without Diabetic Mellitus and Subjects with Diabetes Mellitus without Retinopathy using Optical Coherence Tomography”

Sponsor: NA

Grant Number: None

Co-investigator

“An Open Label, Pilot (Phase I/II), Dose-escalation Safety and Tolerability Study of Combretastatin A4 Phosphate in Patients with Neovascular Age-related Macular Degeneration”

Sponsor: Foundation Fighting Blindness

Grant Number: None

Co-investigator

“An Open Label, Phase I, Single Administration, Dose-escalation Study of AdGVPEDF.11D in Neovascular Age-related Macular Degeneration (AMD)”

Sponsor: GenVec

Grant Number: None

Principal Investigator

“Preliminary Multi-center Assessment of Laser and Medical Treatment of Diabetic Macular Edema”

Sponsor: NIH

Grant Number: None

Co-investigator

“A Phase III Multi-center, Randomized, Double Masked, Sham Injection Controlled Study of the Efficacy and Safety of rhuFab V2 (ranibizumab) in Subjects with Minimally Classic or Occult Subfoveal Neovascular Age-related Macular Degeneration”

Sponsor: Genentech

Grant Number: None

Co-investigator

“A Pilot, Open-label Study of the Safety, Tolerability and Bioactivity of Multiple Intravitreal Injections of Ranibizumab in Subjects with Macular Edema Secondary to Diabetes Mellitus”

Sponsor: JDRF

Grant Number: None

Co-investigator

“Multi-center, masked, Randomized, Sham-controlled Trial Assessing the Safety and Efficiency of Dexamethasone Posterior Segment Drug Delivery System in Patients with Macular Edema Following Central Retinal Vein Occlusion or Branch Retinal Vein Occlusion” (Posurdex)

Sponsor: Allergan

Grant Number: None

Co-investigator

“Randomized Trial to Compare Efficacy and Safety of Intravitreal Injection of Triamcinolone Acetonide to Treat Macular Edema Caused by Central Vein Occlusion”

Sponsor: NEI, NIH

Grant Number: None

Co-investigator

“Randomized Trial to Compare Efficacy and Safety of Intravitreal Injection of Triamcinolone Acetonide to Treat Macular Edema Caused by Branch Retinal Vein Occlusion”

Sponsor: NEI, NIH

Grant Number: None

Co-investigator

INVITED LECTURES

- 10/85: Duke University Eye Center, Durham, NC
"Pathogenic Mechanisms in Proliferative Vitreoretinopathy"
- 3/86: 5th Vail Vitreoretinal Seminar
Sponsored by Duke University in Vail, CO
"Cellular Migration in the Pathogenesis of Proliferative Vitreoretinopathy"
"The Blood-Retinal Barrier and Retinal Reattachment"
- 9/86: International Symposium on Ocular Circulation and Neovascularization, Jerusalem, Israel
"Localization of Angiogenesis Markers to Inner and Outer Retina"
- 4/87: Duke Advanced Vitreous Surgery Course
Duke University, Durham NC
"The Cell Biology of Proliferative Vitreoretinopathy"

- "Strategies in Designing Therapies in Proliferative Vitreoretinopathy"
 "Practical Approach to Endophthalmitis"
- 10/87: Diabetes Research Center
 University of Virginia School of Medicine
 "The Role of Retinal Pigment Epithelium in Diabetic Retinopathy"
- 11/87: Department of Anatomy & Cell Biology
 University of Virginia School of Medicine
 "The Cell Biology of Proliferative Vitreoretinopathy"
- 3/88: Visiting Professor
 Department of Ophthalmology
 University of Alabama at Birmingham
- 5/88: Visiting Professor
 Department of Ophthalmology
 University of Tennessee School of Medicine, Memphis
- 9/88: International Symposium on Proliferative Vitreoretinopathy
 Cologne, West Germany
 "The Role of Breakdown of the Blood-retinal Barrier in Cell Injection Models of Proliferative Vitreoretinopathy"
- 11/88: Visiting Professor
 Department of Ophthalmology
 Medical College of Virginia, Richmond
- 3/89: 6th Vail Vitreoretinal Seminar
 Sponsored by Duke University in Vail, Co
 "Clinical Risk Factors for Proliferative Vitreoretinopathy"
 "Inhibition of Growth Factor Induced Effects in Retinal Pigment Epithelial Cells"
- 5/89: American Academy of Ophthalmology Focus Course on
 Posterior Segment Laser
 Durham, NC
 "Treatment of Choroidal Neovascularization"
- 10/89: International Symposium on Diabetes
 Sponsored by the Diabetes Research Center
 University of Virginia, Charlottesville, VA
 "The Pathogenesis of Diabetic Retinopathy"

- 11/89: The American Academy of Ophthalmology
New Orleans, LA
Symposium on Ocular Wound Healing
"Antimetabolites and Other Agents in the Treatment of Proliferative Vitreoretinopathy"
- 8/90: Ninth International Congress of Eye Research
Helsinki, Finland
Symposium on RPE: Receptors and Growth Factors
"Human Retinal Pigment Epithelial Cells Possess Cholinergic and Vasopressin Receptors Coupled to Calcium Mobilization"
- 9/90: Alcon Lecturer
The Emory Eye Center
Robert W. Woodruff Health Sciences Center
"Mechanisms Involved in Breakdown of the Blood-Retinal Barrier in Diabetic Retinopathy"
"Mechanisms Involved in Breakdown of the Blood-Retinal Barrier in Ocular Inflammatory Disease"
"Spontaneous Involution of Subfoveal Neovascularization"
- 4/91: Visiting Professor
Departments of Anatomy and Cell Biology and Ophthalmology
Bowman Gray School of Medicine
Winston-Salem, NC
- 9/92: Tenth International Congress of Eye Research
Stresa, Italy
Symposium on Cytodifferentiation of RPE
"Laminin and bFGF Promote Differentiation of RPE *in Vitro*"
- 11/92: The American Academy of Ophthalmology
Dallas, TX
"Angiogenic Factors in Choroidal Neovascularization"
- 1/93: The Japanese Retina Society
Fukuoka, Japan
"Treatment of Proliferative Vitreoretinopathy"
"Localization and Mechanisms of Breakdown of the Blood-Retinal Barrier in Retinal Diseases"
- 3/94: Guest Lecturer and Visiting Professor
Department of Ophthalmology
Casey Eye Institute
University of Oregon and Oregon Academy of Ophthalmology

- 3/94: Department of Ophthalmology
Tufts University
Frontiers in Vision Research Seminar Series
"Trophic Interactions Between Photoreceptors and Retinal Pigmented Epithelium"
- 1/95 The 18th Congress of the Japanese Society of Ophthalmic Surgery
"Growth Factors in the Retina: Pathophysiology and Therapeutic Implications"
- 3/95 Department of Ophthalmology
University of Alabama School of Medicine
Distinguished Lecture Series
"Trophic Interactions Between Photoreceptors and RPE"
- 4/95: Department of Neuroscience
Cornell University
"Trophic Interactions Between Photoreceptors and Retinal Pigmented Epithelium"
- 8/95 The Second Great Basin Visual Science Symposium
University of Utah Health Sciences Center
"The Retinal Pigmented Epithelium and Retinal Wound Repair"
- 1/96 St. Louis Ophthalmological Society
"Management of Proliferative Diabetic Retinopathy"
"Trophic Interactions Between the Retina & the RPE"
- 10/96 Visiting Professor Lecture Series
Wills Eye Hospital
"Progress in Development of Pharmacologic Treatment of Ocular Neovascularization"
- 5/97 Visiting Professor
Goldschleger Institute - Bnai Zion Medical Center
Stein Award Dedication
"The Pathogenesis of Ocular Neovascularization; Insights From Genetically Engineered Mice With Overexpression of Growth Factors in the Retina"
- 9/97 Visiting Professor
Kansai Medical University
5th International Symposium on Ocular Circulation & Neovascularization

- 7/98 XIII International Congress of Eye Research
Paris, France
“A Novel Secreted Frizzled-Related Protein that is Differentially Expressed in the Retinal Pigmented Epithelium”
- 9/98 Guest Lecturer
German Academy of Ophthalmology
East Berlin, Germany
“Ocular Neovascularization”
- 6/00 European Union Symposium on the Retinal Pigmented Epithelium
Sintra, Portugal
“The Role of the RPE in Choroidal Neovascularization”
- 5/01 Harkness Eye Institute
Columbia University School of Medicine
Visiting Professor
- 10/01 University of Louisville
Louisville Ophthalmological Society
Visiting Professor
- 4/02 University of Florida
Symposium on Age-related Macular Degeneration
“Drug and Gene Therapies for CNV”
- 12/04 University of California San Francisco
2004 Procter Lecture
“Pathogenesis & Treatment of Diabetic Macular Edema”
- 10/06 University of Illinois, Chicago
Key note address at “Frontiers in Vision Research”
New Treatments for Ocular Neovascularization”
- 3/07 The Richard Chenoweth Lecture
Casey Eye Institute
University of Oregon Health Sciences University
“New Treatments for Ocular Neovascularization and Macular Edema”
- 4/07 The Brazilian Retina and Vitreous Society Meeting
Urberlandia, Brazil
Invited speaker
“VEGF antagonists for Diabetic Macular Edema”

“Ocular Gene Therapy”

- 6/07 The Peking University International Ophthalmic Forum
Beijing, China
Invited Speaker
“New Treatments for Ocular Neovascularization and Macular Edema”
“Ocular Gene Therapy”
“Oxidative Damage and Cone Cell Death in Retinitis Pigmentosa”
- 11/07 Bauch and Lomb Visiting Professor at the University of Rochester Department of Ophthalmology
“Molecular Pathogenesis of Ocular Neovascularization and Macular Edema”
“VEGF Antagonists for Retinal Vascular Diseases”
- 12/07 Irving H. Leopold Lecture
Allergan, Newport Beach, CA
“Ocular Neovascularization and Macular Edema”

PUBLICATIONS IN REFEREED JOURNALS

1. Coyle JT and **Campochiaro PA** (1976). Ontogenesis of dopaminergic-cholinergic interactions in the rat striatum: a neurochemical study. *J Neurochem* 27:673-678.
2. Coyle JT, Schwarcz R, Bennett JP and **Campochiaro PA** (1977). Clinical, neuropathologic and pharmacologic aspects of Huntington's disease; correlated with a new animal model. *Progress in Neuropsychopharmacol* 1:13-30.
3. **Campochiaro PA**, Schwarcz R and Coyle JT (1977). GABA receptor binding in rat striatum: localization and effects of denervation. *Brain Res* 136 (3):501-511.
4. **Campochiaro PA** and Coyle JT (1978). Ontogenetic development of kainate neurotoxicity: correlates with glutamatergic innervation. *Proc Natl Acad Sci USA* 75:2025-2029.
5. **Campochiaro PA**, Ferkany JW and Coyle JT (1984). The dissociation of evoked release of [³H]-GABA and of endogenous GABA from chick retina *in vitro*. *Exp Eye Res* 39, 299-305.
6. **Campochiaro PA**, Jerdan JA and Glaser BM (1984). Serum contains chemoattractants for human retinal pigment epithelial cells. *Arch Ophthalmol* 102:1830-1833.
7. **Campochiaro PA**, Kaden IH, Vidaurri-Leal J and Glaser BM (1985). Cryotherapy enhances intravitreal dispersion of viable retinal pigment epithelial cells. *Arch Ophthalmol* 103:434-436.

8. **Campochiaro PA** and Glaser BM (1985). Platelet-derived growth factor is chemotactic for retinal pigment epithelial cells. *Arch Ophthalmol* 103:576-579.
9. **Campochiaro PA**, Ferkany JW and Coyle JT (1985). Excitatory amino acid analogs evoke release of putative transmitters from isolated chick retina *in vitro*. *Vision Res* 25:1375-1386.
10. **Campochiaro PA**, Jerdan JA, Glaser BM, Cardin A and Michels RG (1985). Vitreous aspirates From patients with proliferative vitreoretinopathy stimulate retinal pigment epithelial cell migration. *Arch Ophthalmol* 103:1403-1405.
11. Jaccoma EH, Conway BP and **Campochiaro PA (1985)**. Cryotherapy causes extensive breakdown of the blood-retinal barrier. A comparison with argon laser photocoagulation. *Arch Ophthalmol* 103:1728-1730.
12. Glaser BM, **Campochiaro PA**, Davis JL and Sato M (1985). Retinal pigment epithelial cells release an inhibitor of neovascularization. *Arch Ophthalmol* 103:1870-1875.
13. **Campochiaro PA** and Glaser BM (1985). Endothelial cells release a chemoattractant for retinal pigment epithelial cells *in vitro*. *Arch Ophthalmol* 103:1876-1880.
14. **Campochiaro PA** and Glaser BM (1986). Mechanisms involved in retinal pigment epithelial cell chemotaxis. *Arch Ophthalmol* 104:277-280.
15. Conway BP and **Campochiaro PA (1986)**. Macular infarction after endophthalmitis treated with vitrectomy and intravitreal gentamicin. *Arch Ophthalmol* 104:367-371.
16. Haller Yeo J, Sadeghi J, **Campochiaro PA**, Green WR and Glaser BM (1986). Intravitreal Fibronectin and platelet-derived growth factor: a new model for traction retinal detachment. *Arch Ophthalmol* 104:417-421.
17. Bryan JA III and **Campochiaro PA (1986)**. A retinal pigment epithelial cell-derived growth factor. *Arch Ophthalmol* 104:422-425.
18. **Campochiaro PA** and Glaser BM (1986). A retina-derived stimulator(s) of retinal pigment epithelial cell and astrocyte proliferation. *Exp Eye Res* 43:449-457.
19. **Campochiaro PA**, Jerdan JA and Glaser BM (1986). The extracellular matrix of human retinal pigment epithelial cells *in vivo* and its synthesis *in vitro*. *Invest Ophthalmol Vis Sci* 27:1615-1621.
20. **Campochiaro PA**, Bryan JA III, Conway BP and Jaccoma EH (1986). Intravitreal chemotactic and mitogenic activity. Implication of blood-retinal barrier breakdown. *Arch Ophthalmol* 104:1685-1687.
21. Hackett SF, Friedman Z and **Campochiaro PA (1986)**. Cyclic 3',5'- adenosine monophosphate modulates retinal pigment epithelial cell migration *in vitro*. *Arch Ophthalmol* 104:1688-1692.

22. Friedman Z, Hackett SF and **Campochiaro PA** (1987). Characterization of adenylate cyclase activity in human retinal pigment epithelial cells *in vitro*. *Exp Eye Res* 44:471-479.
23. Glaser BM, **Campochiaro PA**, Davis JL Jr. and Jerdan, JA (1987). Retinal pigment epithelial cells release inhibitors of neovascularization. *Ophthalmology* 94:780-784.
24. Hackett SF, Friedman Z and **Campochiaro PA** (1987). Cyclic 3',5'- adenosine monophosphate modulates vascular endothelial cell migration *in vitro*. *Cell Biol Internat Rep* 11:279-287.
25. Dircks C, Williams EH and **Campochiaro PA** (1987). High glucose concentrations inhibit protein synthesis in retinal pigment epithelium *in vitro*. *Exp Eye Res* 44:951-958.
26. Stahl JH, Miller DB, Conway BP and **Campochiaro PA** (1987). Dexamethasone and indomethacin attenuate cryopexy-induced breakdown of the blood-retinal barrier. *Graefe's Arch Clin Exp Ophthalmol* 225:418-420.
27. **Campochiaro PA**, Gaskin HC and Vinos SA (1987). Retinal cryopexy stimulates traction retinal detachment formation in the presence of an ocular wound. *Arch Ophthalmol* 105:1567-1570.
28. Wilson WG, **Campochiaro PA**, Conway BP, Carter BT, Sudduth KW, Atkin JF, Watson BA and Sparkes RS (1987). Deletion (13)(Q14.1 Q14.3) in two generations. Variability of ocular manifestations and definition of the phenotype. *Amer J Med Gen* 28:675-683.
29. Hackett SF and **Campochiaro PA** (1988). Implication of protein carboxymethylation in retinal pigment epithelial cell chemotaxis. *Ophthalmic Res* 20:54-59.
30. Friedman Z, Hackett SF and **Campochiaro PA** (1988). Human retinal pigment epithelial cells possess muscarinic receptors coupled to calcium mobilization. *Brain Res* 446:11-16.
31. Vinos SA, **Campochiaro PA**, May E and Blaydes SH (1988). Progressive ultrastructural damage and basement membrane thickening of the retinal pigment epithelium in spontaneously diabetic BB rats. *Exp Eye Res* 46:545-558.
32. **Campochiaro PA** and Blaydes SH (1988). Photocoagulation does not ablate angiogenic markers in rabbit retina. *Arch Ophthalmol* 106:676-679.
33. Sen HA, Robertson TJ, Conway BP and **Campochiaro PA** (1988). The role of breakdown of the blood-retinal barrier in cell injection models of proliferative vitreoretinopathy. *Arch Ophthalmol* 106:1291-1294.
34. **Campochiaro PA** and Conway BP (1988). Hemangioma-like masses of the retina. *Arch Ophthalmol* 106:1409-1413.
35. Vinos SA, **Campochiaro PA**, Williams EH, May EE, Green WR and Sorenson RL (1988).

- Aldose reductase expression in human diabetic retina and retinal pigment epithelium. *Diabetes* 37:1658-1664.
36. Cowley M, **Campochiaro PA**, Newman SA and Fogle JA (1988). Retinal vascular occlusion without retrobulbar or optic nerve sheath hemorrhage after retrobulbar injection of lidocaine. *Ophthalmic Surg* 19:859-861.
 37. **Campochiaro PA** (1988). Retinal thinning and regression of neovascularization. *Arch Ophthalmol* 106:1646-1647.
 38. Conway BP, Tabatabay CA, **Campochiaro PA**, D'Amico DJ and Kenyon KR (1989). Gentamicin toxicity in the primate retina. *Arch Ophthalmol* 107:107-112.
 39. Vinore SA, Gadegbeku C, **Campochiaro PA** and Green WR (1989). Immunohistochemical localization of blood-retinal barrier breakdown in human diabetics. *Am J Pathol* 134:231-235.
 40. Hackett SF, Conway BP and **Campochiaro PA** (1989). Subretinal fluid stimulation of RPE migration and proliferation is dependent upon certain features of the detachment or its treatment. *Arch Ophthalmol* 107:391-394.
 41. **Campochiaro PA** and Sen HA (1989). Adenosine and its agonists cause retinal vasodilation and hemorrhages: implications for ischemic retinopathy. *Arch Ophthalmol* 107:412-416.
 42. Friedman Z, Hackett SF, Linden J and **Campochiaro PA** (1989). Human retinal pigment epithelial cells in culture possess A₂ adenosine receptors. *Brain Res* 492:29-35.
 43. **Campochiaro PA**, Sugg R, Grotendorst G and Hjelmeland LM (1989). Retinal pigment epithelial cells produce PDGF-like proteins and secrete them into their media. *Exp Eye Res* 49:217-227.
 44. **Campochiaro PA**, Mimuro J, Sugg R and Loskutoff DJ (1989). Retinal pigment epithelial cells produce a latent fibrinolytic inhibitor that is antigenically and biochemically related to type 1 plasminogen activator inhibitor produced by vascular endothelial cells. *Exp Eye Res* 49:195-203.
 45. Sen HA and **Campochiaro PA** (1989). Intravitreal injection of adenosine or its agonists causes breakdown of the blood-retinal barrier. *Arch Ophthalmol* 107:1364-1367.
 46. Vinore SA and **Campochiaro PA** (1989). Prevention or moderation of some ultrastructural changes in the RPE and retina of galactosemic rats by aldose reductase inhibition. *Exp Eye Res* 49:495.
 47. Cowley M, Conway BP, **Campochiaro PA**, Kaiser D and Gaskin H (1989). Clinical risk factors for proliferative vitreoretinopathy. *Arch Ophthalmol* 107:1147-1151.
 48. Vinore SA, **Campochiaro PA** and Conway BP (1990). Ultrastructural and electron-immunocytochemical characterization of cells in epiretinal membranes. *Invest Ophthalmol Vis Sci* 31:14-28.

49. Leschey KH, Hackett SF, Singer JH and **Campochiaro PA** (1990). Growth factor responsiveness of human retinal pigment epithelial cells. *Invest Ophthalmol Vis Sci* 31:839-846.
50. **Campochiaro PA**, Morgan KM, Conway BP and Stathos J (1990). Spontaneous involution of subfoveal neovascularization. *Am J Ophthalmol* 109:668-675.
51. Viores SA, **Campochiaro PA**, Lee A, McGehee R, Gadegbeku C and Green WR (1990). Localization of blood-retinal barrier breakdown in human pathologic specimens by Immunohistochemical staining for albumin. *Lab Invest* 62:742-750.
52. Viores SA, McGehee R, Lee A, Gadegbeku C and **Campochiaro PA** (1990). Ultrastructural localization of blood-retinal barrier breakdown in diabetic and galactosemic rats. *J Histochem Cytochem* 38:1341-1352.
53. Viores SA, **Campochiaro PA**, McGehee R, Orman W, Hackett SF and Hjelmeland LM (1990). Ultrastructural immunocytochemical changes in RPE, retinal glia, and fibroblasts in vitreous culture. *Invest Ophthalmol Vis Sci* 31:2529-2545.
54. **Campochiaro PA**, Hackett SF and Conway BP (1991). Retinoic acid promotes density-dependent growth arrest in retinal pigment epithelial cells. *Invest Ophthalmol Vis Sci* 32:65-72.
55. Leschey KH, Hines J, Singer JH, Hackett SF and **Campochiaro PA** (1991). Inhibition of growth factor effects in retinal pigment epithelial cells. *Invest Ophthalmol Vis Sci* 32:1770-1778.
56. Hackett SF, Singer JH, Leschey KH and **Campochiaro PA** (1991). Thrombin is a stimulator of retinal pigment epithelial cell proliferation. *Exp Eye Res* 53:95-100.
57. Sen HA and **Campochiaro PA** (1991). Stimulation of cyclic AMP accumulation causes breakdown of the blood-retinal barrier. *Invest Ophthalmol Vis Sci* 32:2006-2010.
58. Friedman Z, Delahunty TM, Linden J and **Campochiaro PA** (1991). Human retinal pigment epithelial cells possess V₁ vasopressin receptors. *Curr Eye Res* 10:811-816.
59. **Campochiaro, PA** and Conway BP (1991). Aminoglycoside toxicity: A survey of retinal specialists. *Arch Ophthalmol* 109:946-950.
60. **Campochiaro PA**, Van Niel E and Viores SA (1992). Immunocytochemical labeling of cells in cortical vitreous from patients with premacular hole lesions. *Arch Ophthalmol* 110:371-377.
61. Viores SA, Sen H and **Campochiaro PA** (1992). An adenosine agonist and prostaglandin E₁ cause breakdown of the blood-retinal barrier by opening tight junctions between vascular endothelial cells. *Invest Ophthalmol Vis Sci* 33:1870-1878.
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