

Yongdong Zhou, MD, PhD

Assistant Professor of research, Ophthalmology and Neuroscience

Education

2007-2009: Postdoctoral Fellow, LSU Health Sciences Center

1996-2001: PhD, Sichuan University, Chengdu, China

1985-1990: MD, Nantong Medical College, Jiangsu, China

Positions

2009 – present: Assistant Professor Research, Ophthalmology & Neuroscience; Neuroscience Center, LSU Health Sciences Center, New Orleans, LA

2001-2007: Associate Professor & Chairman; Department of Ophthalmology, Second Affiliated Hospital of Nantong Medical College, China

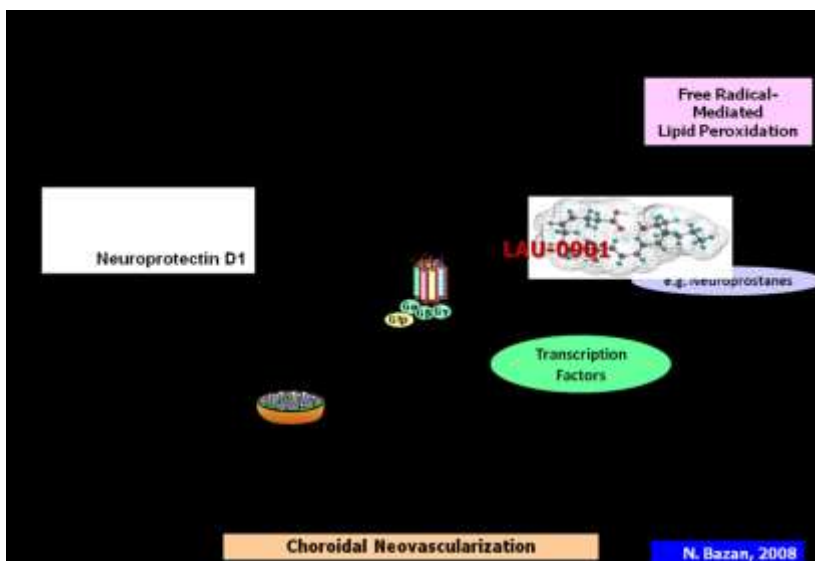
1990-1996: Attending; Department of Ophthalmology, Second Affiliated Hospital of Nantong Medical College.



Current Research

The Effect of Lipids on Laser Induced Choroidal Neovascularization Model

Age-related macular degeneration (AMD) is the leading cause of irreversible blindness among the elderly in most industrialized nations. Choroidal Neovascularization (CNV) is the hallmark of the exudative form of AMD, in which new vessels from the choroidal vasculature penetrate Bruch's membrane and extend into the subretinal space or into the plane of the retinal pigment epithelium (RPE). CNV may lead to RPE detachment, subretinal or intraretinal hemorrhage, or fibrovascular scarring and accounts for the majority of vision loss associated with AMD. The role of immunity and inflammation in AMD pathogenesis has been shown in recent research, where some lipids have been shown to have potent anti-inflammatory in vitro and in vivo effects, and part of the signaling pathways have been described. Thus, we hypothesized an inhibitory role by these lipids on CNV (see paradigm below). We are currently focusing on the assessment of several compounds. Laser induced CNV on mouse retina was established as our model system to address these questions. Our techniques include fundus fluorescence angiography, optical coherence tomography, choroidal-scleral flatmounts with immunolocalization of key molecular labels, and paraffin sections, histochemistry, and confocal imaging analysis to grade CNV-induced blood leakage, measure CNV volumes. Our goal is to describe which signaling pathways are involved in this debilitating retinal disease. The results from our study will provide insights for therapeutic interventions in CNV associated with AMD.



Research Interests and Goals

Keywords:

Retinal diseases, such as AMD, retinitis pigmentosa, and diabetic retinopathy

We will identify the impact of lipids on these diseases with the use of animal models and to describe underlying mechanisms. This information will then be translated from “the bench” to the patient’s “bedside”.

Awards/Prizes

2001-2007: The Outstanding Young Medical Experts award , Nantong, China

2002-2006: The Development of Sciences & Technology Prize, Nantong, China

2006: The Development of Sciences & Technology Prize, Jiangsu Province, China

2002: The Outstanding Young Professionals award, Jiangsu Province, China

2001-2006: The Achievements in Sciences & Technology Prize, Nantong, China

Major Professional Societies/Committees

Member, Association for Research in Vision and Ophthalmology

Vice-chairman of Ophthalmological Committee of Nantong City (2003-2008)

Member of Standing Committee, Ophthalmological Society of Jiangsu Province (2001-2008)

Key Recent Papers

T ZHOU , H FAN and **Y ZHOU**. Power setting of transpupillary thermotherapy for patients with choroidal neovascularization. *Academic Report of Nantong Medical School*, (2008) 2:101-103

Y ZHOU, T ZHOU and H FAN. Transpupillary thermotherapy for choroidal neovascularization in patients with age-related macular degeneration. *International Journal of Ophthalmology*. (2006)5:961-963

Y ZHOU, M YAN and J ZHANG. The response of bFGF、FGFR1、Bcl-2 and caspase3 to visible light in cultured human retinal pigment epithelium cells. *Chin J Ophthalmol*, (2003) 39:655-659

Y ZHOU, M YAN and J ZHANG. The effect of DEVD-CHO and YVAD-cmK on apoptosis induced by visible light on cultured human RPE cells. *Chin Ophthal Res*, (2003) 21:344-346

Y ZHOU, M YAN and J ZHANG. The effect of visible light on apoptosis of cultured human retinal pigment epithelium cells. *Chin J Ocul Fundus Dis*, (2002) 18:227-230

J LIU, H JING, W ZHANG, **Y ZHOU**, S LIAO, L YANG and Q HUANG .The relation between polymorphsim in the gene for angiotensin converting enzyme and diabetic retinopathy. *Chin J Ocul Fundus Dis*, (1999)15:37-38

Funding

“The Program for Mentoring in Sciences & Technology (Ophthalmology)”

Director of the Program: Yongdong Zhou, MD, Ph.D.

Agency: Bureau of Science and Technology of Nantong city, Nantong, China

Period: 09/30/2001-09/30/2007

“The study on treatment of age related macular degeneration”

Principle Investigator: Yongdong Zhou, MD, Ph.D.

Agency: Bureau of Science and Technology of Jiangsu Province, China. (No. S2004)

Period: 10/30/2001-10/30/2004

“The study on transplanting BDNF gene transfected RPE under the retina of RP mouse.”
Principle Investigator: Yongdong Zhou, MD, Ph.D.
Agency: Bureau of Science and Technology of Nantong city, Jiangsu, China (No. 04017)
Period: 09/30/2005-09/30/2007