Department of Ophthalmology and Visual Science

1. Staff and students (April, 2009)

Professor: Manabu Mochizuki
Associate Professor: Kyoko Ohno-Mastui
Assistant Professor: Sunao Sugita, Yoshiharu Sugamot
Hospital staff: Akiko Tanaka, Takeshi Yoshida, Hiroshi Takase, Kouju Kamoi, Kawaguchi Tatsushi, Miyanaga Masaru
Graduate student: Noriaki Shimada, Shintaro Horie, Jiying Wang, Yukiko Yamada, Kengo Hayashi, Megumi Shimizu, Manabu Ogawa, Moriyama Muka, Murai Hideki

2. Purpose of education

Ophthalmology and Visual Science deals with the eye. The main objective of ophthalmology and visual science in the graduate course is to obtain the highly advanced knowledge in the diagnosis and the treatment of various ocular disorders and to perform the basic research based on clinical experience. The graduate students are expected to be academic doctors who develop and perform highly-qualified ophthalmologists, as well as become scientists who can perform basic research focusing on their clinical interest.

3. Research subjects

1) Evaluation of the molecular mechanism of immunoregulation in intraocular inflammation
2) Pathogenic mechanism of intraocular inflammatory diseases
3) Development of novel treatments of intraocular inflammation
4) Molecular diagnosis of virus-infected uveitis and intraocular lymphomas.
5) Evaluation of the change of the circulation as well as the glucose metabolism in the visual cortex using positron emission tomography (PET) in various ocular disorders
6) Mechanism of visual pathway in normal conditions as well as in the patients with amblyopia.
7) Development of a novel treatment for vitreoretinal disorders like retinal detachment, diabetic retinopathy, and macular holes.
8) Analysis of retinochoroidal complications in high myopia (choroidal neovascularization, myopic tractional retinopathy)
9) Evaluation of the molecular mechanism of choroidal angiogenesis using the cultured cells as well as experimental animals (collaboratory project with Department of Cellular Physiological Chemistry)
10) Gene analysis of highly myopic patients (collaborator project with Kyoto University)
11) Establishment of a novel therapy to prevent an axial elongation or the formation of posterior staphyloma
12) Development of new materials for contact lens, the development of a novel drug delivery system using contact lens
13) Effect of the visual background on binocular vision as well as the influence of strabismus on dynamic visual acuity.

4. Clinical services

Clinical practice is organized by the general ophthalmology clinic as well as the several subspecialty clinics. When the patients visited our department, they are screened in the general clinic, and then the final decision of the diagnosis and treatment is made in cooperation with each subspecialty clinic.

Subspecialty clinics include uveitis clinic, retinal detachment clinic, diabetic retinopathy clinic, neuro-ophthalmology clinic, high myopia clinic, and medical retina clinic.

Approximately, 1,100 surgeries are performed per year (e.g., cataract surgery, vitreoretinal surgery, glaucoma surgery, strabismus surgery).

5. Publicationss

[Original Article]


Systems Neuroscience

upregulates complement factor B in retinal pigment epithelial cells through cytokines released from recruited macrophages/microglia: Another mechanism of complement activation in age-related macular degeneration. J Cell Physiol, 2009; 220:119-128


[Review Article]


[Presentation]


3. Mochizuki M. Regional immunity of the eye. SOIE Course: a Comprehensive and up to date Approach to Uveitis: The Basics and Beyond, 10th International Congress of the Middle East African Council of Ophthalmology, Bahrain, 2009.3.29.


5. Mochizuki M. Sarcoidosis. SOIE Course: a Comprehensive and up to date Approach to Uveitis: The Basics and Beyond, 10th International Congress of the Middle East African Council of Ophthalmology, Bahrain, 2009.3.29.


