Ophthalmology and Visual Science

1. Staff and students (April, 2012)
Professor; Manabu Mochizuki
Associate Professor; Kyoko Ohno-Matsui
Assistant Professor; Yoshiharu Sugamoto, Hiroshi Takase
Hospital staff; Akiko Tanaka, Koju Kamoi, Masaru Miyanaga, Manabu Ogawa.
Graduate student; Moriyama Muka, Murai Hideki, Yuko Kawazoe, Ayano Imai, Naonori Ohno, Kousei Shinohara

2. Purpose of education
Ophthalmology and Visual Science deal with the eye. 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. Publications
[Original Article]


34. Spaide RF, Akiba M, Ohno-Matsui K. Evaluation of peripapillary intrachoroidal cavitation with seopt source and enhanced depth imaging optical coherence tomography. RETINA, 2012; 32: 1037-1044.

[Presentation]


16. Ohno-Matsui K. The Imaging of the optic nerve in eyes with pathologic myopia by using swept-source OCT. 台湾眼科学会會議 Kaoshung (Taipei), 2012.10.5

17. Ohno-Matsui K. Topographical analysis of eye shape of highly myopic patients by using 3D MRI as well as swept-source OCT. In Myopia Symposium. 台湾眼科学会議議 Kaoshung (Taipei), 2012.10.6

18. Mochizuki M. Role of regulatory T cells in uveitis. 8th International Symposium on Uveitis, Thessaloniki (Greece), 2012.10.19.


[Symposium, Special lecture]

1. Ohno-Matsui K. Phenotypes of myopic maculopathy. Myopia GWAS consortium, Rotterdam (Netherlands), 2012.3.15


