Neurology and Neurological Science

1. Staffs and Students (April, 2010)

Professor, Chairman	Hidehiro Mizusawa	
Professor	Takanori Yokota	
Junior Associate Professor	Kinya Ishikawa	
Assistant Professor	Nobuo Sanjo,	Hiroyuki Tomimitsu,
	Satoru Ishibashi,	Takuya Ohkubo
Hospital Staff	Kiyobumi Ota,	Teruhiko Sekiguchi,
	Keisuke Abe,	Miwa Higashi,
	Yousuke Yagi,	Ryo Itami
Senior Resident	Masaki Ohyagi,	Misako Furuki
Post-doctorial Fellow	Kazutaka Nishina,	Nozomu Sato
Graduate Students (Doctoral course)		
	Zen Kobayashi,	Hiroya Kuwahara,
	Makoto Takahashi,	Piao Wenying,
	Toshiki Unno,	Masato Ohbayashi,
	Yusuke Niimi,	Masaki Kobayashi,
	Takumi Hori,	Takaaki Hattori,
	Akira Machida,	Ayaka Yamanami,
	Kazuyuki Saito,	Yugi Hashimoto,
	Tomoko Nishina,	Temuqina
(Master's course)	Kie Yoshida	

2. Education

Neurology is a medical specialty concerned with the diagnosis and treatment of disorders of the nervous system including the brain, spinal cord, peripheral nerves, autonomic nerves and skeletal muscles. Since the nervous system extends to the whole body and regulate all the organs, neurologists have to examine and understand many symptoms of the whole brain and body.

Department of Neurology and Neurological Science at Tokyo Medical and Dental University offers an unique "clinical neurological training for specialist" in a four-year residency program. This program is designed to provide the highest quality clinical training in the clinical practice of neurology, either in an academic or a practice career. To accomplish this, the program integrates extensive practical exposure to all aspects of current clinical neurology with a firm grounding in underlying scientific principles and methods of clinical investigations such as electrophysiology, neuromuscular pathology, neuroimaging, or neurogenetics and so on. The faculty and staff are committed to facilitate resident education and training.

After completion of their training for four years, senior residents are equipped with a lot of clinical experience as attending doctors or teaching assistants in the university hospital and the affiliated hospitals. They are eligible for the board certification by the Japanese Society of Neurology.

3. Research Subjects

1) Gene identification and investigation of its pathomechanism for hereditary diseases such as spinocerebellar ataxias, especially for SCA6 and SCA31
2) Development of gene therapies using RNAi
3) Basic and clinical researches for neurodegenerative diseases such as spinocerebellar ataxia, amyotrophic lateral sclerosis, and Alzheimer disease
4) Development of neuroregenerative therapy using stem cells for cerebrovascular and neurodegenerative disorders
5) Basic and clinical researches of neurological autoimmune diseases
6) Electrophysiological studies using electric and magnetic stimulation
7) Basic and clinical studies of neuromuscular diseases by studying the biopsied peripheral nerves and muscles

4. Clinical Services

We see about 100 out-patients and 40 in-patients daily, and offer in and out-patient consultation services through the

weekday and on weekends. We diagnose and treat stroke patients, as well as patients with epilepsy, headache, multiple sclerosis, Parkinson's disease, spinocerebellar ataxia, and hundreds of other neurological issues, some of which are acute, others may be chronic. We also have an out-patient office specialized to patients with dementia corresponding to needs of the rapidly aging society. Our patients will be reliably evaluated and diagnosed with some skillful techniques, such as the electrophysiological, neuroradiological, and neuropsychological tests and pathological diagnosis of biopsied nerves and muscles.

5. Publications

Original Article

1. Tao O, Shimazaki T, Okada Y, Naka H, Kohda K, Yuzaki M, Mizusawa H, Okano H. Efficient generation of mature cerebellar Purkinje cells from mouse embryonic stem cells. J Neurosci Res. 2010; 88: 234-247.
2. Kobayashi Z, Tsuchiya K, Takahashi M, Yokota O, Taki K, Ishizu H, Arai T, Akiyama H, Mizusawa H. Morel's laminar sclerosis showing apraxia of speech: distribution of cortical lesions in an autopsy case. Neuropathogy. 2010; 30: 76-83.
3. Tsunemi T, Ishikawa K, Tsukui K, Kitamura K, Mizusawa H. The effect of 3,4-diaminopyridine on the patients with hereditary pure cerebellar ataxia. J Neurol Sci. 2010; 292: 81-84.
4. Ishibashi K, Ishii K, Oda K, Mizusawa H, Ishiwata K. Competition between 11C-raclopride and endogenous dopamine in Parkinson's disease. Nucl Med Commun. 2010;31:159-66.
5. Ishibashi K, Saito Y, Murayama S, Kanemaru K, Oda K, Ishiwata K, Mizusawa H, Ishii K. Validation of cardiac (123) I-MIBG scintigraphy in patients with Parkinson's disease who were diagnosed with dopamine PET. Eur J Nucl Med Mol Imaging. 2010;37:3-11.
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7. Nishida Y, Irioka T, Sekiguchi T, Mizusawa H. Pure sensory infarct in the territories of anterior cerebral artery. Neurology 2010; 75: 287.
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9. Irioka T, Ayabe J, Mizusawa H.Hemichorea improved by extracranial-intracranial bypass surgery for middle cerebral artery occlusion. J Neurol;257:1756-8.
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11. Arai T, Hasegawa M, Nonaka T, Kametani F, Yamashita M, Hosokawa M, Niizato K, Tsuchiya K, Kobayashi Z, Ikeda K, Yoshida M, Onaya M, Fujishiro H, Akiyama H. Phosphorylated and cleaved TDP-43 in ALS, FTLD and other neurodegenerative disorders and in cellular models of TDP-43 proteinopathy. Neuropathology 2010; 30: 170-181.
12. Sanjo N, Katayama T, Hasegawa H, Jin H, Duthie M, Mount H, Mizusawa H, St George-Hyslop P, Fraser P. Localization and trafficking of endogenous anterior pharynx-defective 1, a component of Alzheimer's disease related γ-secretase. Neuroscience Lett 2010; 483: 53-56.
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14. Katsuno M, Banno H, Suzuki K, Takeuchi Y, Kawashima M, Yabe I, Sasaki H, Aoki M, Morita M, Nakano I, Kanai K, Ito S, Ishikawa K, Mizusawa H, Yamamoto T, Tsuji S, Hasegawa K, Shimohata T, Nishizawa M, Miyajima H, Kanda F, Watanabe Y, Nakashima K, Tsujino A, Yamashita T, Uchino M, Fujimoto Y, Tanaka F, Sobue G; Japan SBMA Interventional Trial for TAP-144-SR (JASMITT) study group. Efficacy and safety of leuprorelin in patients with spinal and bulbar muscular atrophy (JASMITT study): a multicentre, randomised, double-blind, placebo-controlled trial. Lancet Neurol 2010; 9: 875-884.
15. Ishikawa K, Mizusawa H. The chromosome 16q-linked autosomal dominant cerebellar ataxia (16q-ADCA*): A newly identified degenerative ataxia in Japan showing peculiar morphological changes of the Purkinje cell. Neuropathology 2010; 30: 490-494.
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basophilic inclusions and FUS-immunoreactive neuronal and glial inclusions in a case of familial amyotrophic lateral sclerosis J Neurol Sci. 2010; 293: 6-11.
17. Jin H, Sanjo N, Uchihara T, Watabe K, St. George-Hyslop P, Fraser P, Mizusawa H. Presenilin-1 Holoprotein is an Interacting Partner of Sarco Endoplasmic Reticulum Calcium-ATPase and Confers Resistance to Endoplasmic Reticulum Stress. J Alzheimers Dis 2010; 20: 261-273.
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Review Articles

1. Mizusawa H. National Council of the University Medical Association in Japan: A new leader of medical school reform. JMAJ. 2010;53:188-190.