Psychiatry and Behavioral Sciences

1. Staff members and Students

Professor	Toru NISHIKAWA	
Associate Professor	Akeo KURUMAJI	
Junior Associate Professor	Naoki YAMAMOTO	
Assistant Professor	Kazunari OSHIMA,	Takashi TAKEUCHI,
	Tomoaki YUKIZANE,	Hidenori ATSUTA,
	Masaki NISHIDA,	kennji NARUSHIMA (2009.6～)
Graduate Student	Akihito UEZATO (～2009.3),	Akiko SHIOIRI(～2009.3),
	Eriko HARA (～2009.3),	Yuichiro ABE,
	Daisuke JITOKU,	Takeshi SASAKI,
	Tomoko TANAKA (2009.4～)	

2. Education

In the first term (two years) of postgraduate training, residents will learn basic laboratory procedures and diagnostic techniques, psychotherapy and drug treatment, and laws and regulations related to clinical practice, and acquire other general knowledge, all being essential for biological, psychological, social, and ethical approaches to neuropsychiatric diseases. Following the two-year period of mandatory clinical training, basic professional training in psychiatry will be provided for 6 ~ 9 months mainly in the university. In the second term of training, they will acquire knowledge and clinical experience necessary for neuropsychiatrists, and undergo practical training at affiliated medical facilities to become qualified psychiatrists. Undergraduate education, which places emphasis on clinical clerkship training after a systematic series of lecture course and seminar-based classes, is designed to develop students' problem-solving skills, and increase their motivation to learn neuropsychiatry, with support from external facilities.

3. Research

Our laboratory is committed to comprehensive research on endogenous psychosis, neurosis, and epilepsy through biological, psychological, and social approaches. In collaboration with external research facilities, we are also involved in social psychiatry, child and adolescent psychiatry, and brain imaging studies.

1) Studies in neurochemistry

(i) Molecular genetic studies to clarify the causes and conditions of neuropsychiatric diseases:

Using animal models with psychotic symptom-causing agents, we are involved in a study to isolate new candidate gene clusters associated with the pathogenesis and pathophysiology of neuropsychiatric disorders from the viewpoint of developmental pharmacology. We are examining the effects of candidate gene clusters in patients with neuropsychiatric disorders.

(ii) Studies in pharmacobiochemistry to develop new therapeutic methods for neuropsychiatric disorders:

We are working to examine the pharmacological/biochemical effects of candidate substances to develop new drugs for neuropsychiatric disorders. Extensive research is being conducted to isolate agents associated with the metabolism of D-serine, an endogenous antipsychotic substance, and examine the effects of D-serine on neurotransmission in the brain.

2) Neurophysiological and psychophysiological studies

(i) A study of biological indicators in schizophrenia with eye cameras:

We are not only involved in studies of monozygotic twins, early-onset patients, and children at a high risk in Japan, but also in an international joint research project of the WHO as a center in charge of operations.

(ii) Studies of receptors in neuropsychiatric diseases with PET/Focal epilepsy with MRS:

We are working together with the National Institute of Radiological Sciences to study dopamine receptors in schizophrenic patients.

(iii) A study of sleep behavior in neuropsychiatric diseases:

A study is being carried out to examine sleep behavior using an originally developed automatic analysis device (polysomnography) and fMRI.

(iv) A study employing the dipole tracing method and 3D-MRI:

A study using 3D-MRI is being performed to extrapolate epileptic discharges, alpha waves, and other dipoles.

3) Psychopathological studies

We are conducting psychological studies of neuropsychiatric diseases from the aspects of phenomenology, anthropology, and linguistics, while employing a psychotherapeutic approach. Other research activities include a review of basic psychiatric concepts and a basic study for the classification and diagnosis of psychiatric disorders, which are important recent issues. In addition to endogenous psychosis including schizophrenia and manic depressive disorder, we are also involved in psychoanalytic studies of neurosis and borderline personality disorder, which are attracting increasing attention, and psychotherapies for them, as well as pathological research on pathography and art therapy in terms of creativity.

4. Clinical practice

Approximately eighty new outpatients visit our department every month, about 30% of which are classified as having "mood disorders" (F3) by ICD-10, followed by "neurotic, stress-related, and somatoform disorders" (F4) and "schizophrenia, schizophrenic and paranoid disorders" (F2). We are also actively involved in consultation and liaison psychiatry for inpatients in other departments. Patients with senile dementia, child and adolescent psychiatric disorders, substance dependence, and neurosis requiring intensive psychotherapy are often referred to related and advanced facilities for specialized treatment. Since this facility, the psychiatric department of a general hospital, is used for university education and training, most inpatients are classified as F2, followed by F4 and F3 (ICD-10). We also provide care and treatment for patients with sleep rhythm disorders and neurological disorders, including epilepsy and senile dementia.

In addition to drug treatment, we have introduced and provided mECT (modified electroconvulsive therapy) for inpatients, and individual and group psychotherapy for the patients in our psychiatric ward and clinic and day care center in close collaboration with rehabilitation facilities in the community. The day care center team consists of a doctor, two nurses, and a psycho-social-worker or a clinical psychologist. Day care (partial hospitalization) is the transitional element between inpatient and outpatient care and its indications have a wide range of psychiatric disorders as follows: schizophrenia, depression, bipolar disorder, adjustment disorder and personality disorders. Each member has the own aim and the team gives care with different types of framework. Our day care team regards the potentiality of group very important and the group process could contribute to therapeutic effect. With this kind of experience, patients could develop their ability to communicate with other people and live comfortably in social situations.

5. Publications (in English)

Original Articles

1. Nagase Y, Uchiyam M, Kaneita Y, Li L, Kaji T, Takahashi S, Konno M, Mishima K, Nishikawa T, Ohida T. Coping strategies and their correlates with depression in the Japanese general population. Psychiatry Research 168: 57-66, 2009.
2. Takebayashi H, Yamamoto N, Umino A, Nishikawa T. Developmentally-regulated and thalamus-selective induction of *leiomodin* 2 gene by a schizophrenomimetic, phencyclidine, in the rat. Int J Neuropsychopharmacol 12: 1111-1126, 2009.
3. Hattori E, Toyota T, Ishitsuka Y, Iwayama Y, Yamada K, Ujike H, Morita Y, Kodama M, Nakata K, Minabe Y, Nakamura K, Iwata Y, Takei N, Mori N, Naitoh H, Yamanouchi Y, Iwata N, Ozaki N, Kato T, Nishikawa T, Kashiwa A, Suzuki M, Shioe K, Shinohara M, Hirano M, Nanko S, Akahane A, Ueno M, Kaneko N, Watanabe Y, Someya T, Hashimoto K, Iyo M, Itokawa M, Arai M, Nankai M, Inada T, Yoshida S, Kunugi H, Nakamura M, Iijima Y, Okazaki Y, Higuchi T, Yoshikawa T. Preliminary genome-wide association study of bipolar disorder in the Japanese population. Am J Med Genet Part B (*Neuropsychiatr Genet*) 150B: 1110-1117, 2009.
4. Nishida M, Pearsall J, Buckner RL, Walker MP. REM sleep, prefrontal theta, and the consolidation of human emotional memory. Cereb Cortex 19:1158-1166, 2009.
5. Uezato A, Meador-Woodruff JH, McCullumsmith RE. Vesicular glutamate transporter mRNA expression in the medial temporal lobe in major depressive disorder, bipolar disorder, and schizophrenia. *Bipolar Disorders* 11:711-725, 2009.
6. Miyoshi M, Ito H, Arakawa R, Takahashi H, Takano H, Higuchi M, Okumura M, Otsuka T, Kodaka F, Sekine M, Sasaki T, Fujie S, Seki C, Maeda J, Nakao R, Zhang MR, Fukumura T, Matsumoto M, Suhara T. Quantitative analysis of peripheralbenzodiazepine receptor in the human brain using PET with (11)C-AC-5216. J Nucl Med 50:1095-101, 2009.