
Division of Diagnostic Pathology

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Introduction and Organization

Department of Pathology and Diagnostic Pathology (*) and Division of Diagnostic Pathology of University Hospital have been organized to function as a unit.

We set up Telepathology & Remote Diagnosis Promotion Center (TRDP Center), and started Out-patient Clinic of Pathology. Chief of TRDP Center, Dr. Sasaki explained the detail of cancer pathology to the patients with breast cancer.

To promote the genomic medicine in clinical practice, we set up Center for Genome Pathology

Standardization (assisted by Japan Agency for Medical Research and Development) (<http://genome-project.jp/>). The mission of the Center is to investigate basic technologies for tissue banking, and to hold seminars for doctors and technicians (Drs. Sasasaki, Morikawa, Kunita). Clinical Genome Conference started in the University of Tokyo Hospital for the application of cancer clinical sequencing to medical practice (Drs. T and A Ushiku) as a research project of genome medicine (Project organizer: Prof. Hiroyuki Mano).

Clinical activities (diagnostic pathology and autopsy)

The annual statistics of the pathologic practice in 2016 fiscal year consisted of 17,101 cases of histological examination (23,906 specimens), 17,781 cases of cytology (22,388 specimens), 795 of frozen histology, 391 of intra-operative cytology, 55 cases of autopsy (17.7% of the autopsy rate), and 1 autopsy case from an outside hospital.

The following surgical pathology conferences are regularly held with each clinical division for the cases of various tumors of organs; thoracic organs (Dr. Shinozaki-Ushiku in charge), liver and pancreato-biliary tract (Drs. Ushiku, Hayashi, Tanaka), liver metastasis (Dr. Abe), male genitourinary (Dr. Morikawa) and female genital tracts (Dr. Ikemura), breast (Drs. Ikemura, Sasaki), and bone and soft tissues (Drs. Ushiku, A Tanaka). Biopsy conferences are also held in the cases of kidney (Drs. Shintani, Hayashi), and skin (Dr. M Tanaka).

Our aim in the pathologic practices is to provide the correct diagnosis as soon as possible. We are addressing ‘one-day pathology’ using a rapid-histoprocessing machinery. We also perform double check for reviewing the reports and slides for all cases of histological examination to prevent a potential misdiagnosis.

Virtual slide scanners have been installed, which enabled us to deposit the biopsy specimens as digital information. We are setting out a future providing system of pathologic images for clinical divisions.

We hold autopsy case conferences on every Monday. Hospital clinico-pathological conferences (CPC) is also held every month as mentioned above, and two cases are discussed in each CPC. The contents are provided as CPC Digest by the hospital internet.

Teaching activities

The lectures and exercise course of systemic pathology are for the 2nd grade–students. Clinical Clerkship (CC) courses of autopsy and surgical pathology are for the 4th grade students. Four students of 3rd grade took the elective clinical clerkship course.

We instructed all clinical residents (junior course) to submit a report of CPC case as an obligatory

requirement of their medical training for each of them. We have made out the digest version of CPC slides open in the hospital (Drs. Shintani and Hayashi), and also started e-learning program for interns to solve the problems in CPC by themselves, thereby facilitating their understanding (Dr. Ikemura).

The Division of Diagnostic Pathology received eight junior residents (total 31 months) in 2016 for their second year program.

Research activities

Dr. Sasaki is in charge of the research to evaluate feasibility of telepathology for daily practice of diagnostic pathology. We conduct research of developing artificial intelligence (AI)-system, such as “Development of a support tool of pathology diagnosis such as rare cancers, intraoperative report and double check using artificial intelligence (Dr. Sasaki)”, and cooperate the project by “Efficiency improvement and diagnostic support of pathological diagnosis by automatic classification of renal biopsy pathology images using Deep Learning Technology (Prof. Kazuhiko Ohe)”

We continue the study to investigate the usefulness of post mortem CT images for hospital autopsy (Drs. Shintani and Abe). We obtain postmortem images with a CT apparatus in the autopsy-assisting CT room, and compare the results with those of autopsy in order to understand the patients’ pathophysiology (ref.25, 35 in Department of Pathology and Diagnostic Pathology).

We continue the pathological studies of neoplastic diseases on the basis of surgical pathology conferences (see the pages of Department of Pathology and Diagnostic Pathology). We also cooperate for the projects developing PET and in vivo imaging of cancers of Departments of Upper GI tract Surgery (ref.27 in Department of Pathology and Diagnostic Pathology) and Hepato-biliary & Pancreas Surgery.

Dr. Miyagawa was a Research Associate of Division of Diagnostic Pathology, primarily engaged in Investigation of Health Hazard by Radiation (ref. 17 in Department of Pathology and Diagnostic Pathology).

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See the corresponding section of Department of Pathology and Diagnostic Pathology

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