IMSUT Hospital

Department of Diagnostic Pathology 病理診断科 Department of Pathology 病理部

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Our mission

1. We provide an accurate and high-quality pathological diagnosis to the patient in this research hospital, The Institute of Medical Science, The University Of Tokyo.

Make diagnosis by morphological approach using microscope to the laboratory materials.

Overview

We study about the hematological malignancy and transplantation pathology. We emphasize many clinical cases and write case reports about human diseases. We also perform pathological and cytological diagnosis of many specimens submitted by various departments.

1. HHV8 negative effusion-based lymphoma has been adopted for the new WHO classification.

Effusion-based lymphoma is found in pleura or ascites and usually lack of evidence for nodular lesion. Conventional findings about EBL are bad clinical course and many patients are infected by HIV. However, some of Japanese patients were not infected HIV and good clinical course. We reported some case reports about EBL in Japan and are going to promote multi-institutional joint research in Japan. We therefore conducted a retrospective study of 95 patients with EBL, regardless of HHV8 status, in Japan. Of 69 patients with EBL tested for HHV8, a total of 64 were negative. The median age of patients with primary HHV8-negative EBL at diagnosis was 77 years (range, 57-98 years); all 58 tested patients were negative for HIV. Primary HHV8-negative EBL was most

commonly diagnosed in pleural effusion (77%). Expression of at least 1 pan B-cell antigen (CD19, CD20, or CD79a) was observed in all cases. According to the Hans algorithm, 30 of the 38 evaluated patients had nongerminal center B-cell (non-GCB) tumors. Epstein-Barr virus-encoded small RNA was positive in 6 of 45 patients. In 56 of 64 HHV8-negative patients, systemic therapy was initiated within 3 months after diagnosis. Cyclophosphamide, doxorubicin, vincristine, and prednisolone (CHOP) or CHOP-like regimens with or without rituximab (n=48) were the most common primary treatments. The overall response and complete response rates were 95% and 73%, respectively. Three patients did not progress without systemic treatment for a median of 24 months. With a median 25-month follow-up, the 2-year overall survival and progression-free survival rates were 84.7% and 73.8%. Sixteen patients died; 12 were lymphoma-related deaths. Thus, most EBL cases in Japan are HHV8-negative and affect elderly patients. The non-GCB subtype is predominant. Overall, primary HHV8-negative EBL exhibits a favorable prognosis after anthracycline-based chemotherapy.

This disease concept has been adopted for the new WHO classification of hematolymphoid tumor.

2. Medical Activities

We have performed microscopic diagnosis of many pathological and cytological samples. We also provided immunohistochemical analysis and in situ hybridization in order to improve the diagnostic accuracy and decide the treatment.

Pathological diagnosis n = 1540

- Emi Sugimoto, Jingmei Li, Yasutaka Hayashi, Kohei Iida, Shuhei Asada, Tsuyoshi Fukushima, Moe Tamura, Shiori Shikata, Wenyu Zhang, Keita Yamamoto, Kimihito Cojin Kawabata, Tatsuya Kawase, Takeshi Saito, Taku Yoshida, Satoshi Yamazaki, Yuta Kaito, Yoichi Imai, Tamami Denda, Yasunori Ota, Tomofusa Fukuyama, Yosuke Tanaka, Yutaka Enomoto, Toshio Kitamura, Susumu Goyama. Hyperactive Natural Killer cells in Rag2 knockout mice inhibit the development of acute myeloid leukemia. *Commun Biol.* 2023 Dec 21;6(1):1294. doi: 10.1038/s42003-023-05606-3.(2023)
- Miyazaki H, Hoshi N, Ishida T, Nishioka C, Ouchi S, Shirasaka D, Yoshie T, Munetomo Y, Sakamoto Y, Osuga T, Matsui S, Hyodo T, Denda T, Watanabe D, Ooi M, Kodama Y. Association of CD4-positive cell infiltration with response to vedolizumab in patients with ulcerative colitis. *Sci Rep.* 2023 Nov 20;13(1):20262. doi: 10.1038/s41598-023-47618-3. (2023)
- 3. Sayaka Nagao, Yu Takahashi, Tamami Denda, Yukihisa Tanaka, Yuko Miura, Hiroya Mizutani, Daisuke Ohki, Yoshiki Sakaguchi, Seiichi Yakabi, Yosuke Tsuji, Keiko Niimi, Naomi Kakushima, Nobutake Yamamichi, Yasunori Ota, Kazuhiko Koike, Mitsuhiro Fujishiro. Reduced DEFA5 Expression and STAT3 Activation Underlie the Submucosal Invasion of Early Gastric Cancers. *Digestion.* 2023 Aug 18;1-14. doi: 10.1159/000531790. Online ahead of print.(2023)
- Keisuke Baba, Yasuo Matsubara, Yoshihiro Hirata, Yasunori Ota, Satoshi Takahashi, Narikazu Boku.

Biopsy	n = 959
Surgical resection	n = 294
Bone marrow aspiration	n = 176
Intraoperative diagnosis	n = 22
Consultation	n = 78
Other	n = 11
Cytological diagnosis	n = 445
Autopsy	n = 3

3. Pathology Core Laboratory II

Pathology Core Laboratory II handles a large number of specimens, including mouse, cultured cells and human tissue samples collected at the IMSUT hospital. We have performed preparation of pathological specimen and pathological analysis (n = 71).

Publications

Case report: Irinotecan-induced interstitial lung disease in an advanced colorectal cancer patient resurfacing decades after allogeneic bone marrow transplantation for aplastic anemia; a case report and narrative review of literature. *Front Oncol.* 2023; 13: 1215789.Published online 2023 Jun 16. doi: 10.3389/fonc.2023.1215789. (2023)

- 5. Aki Sato, Masayuki Kobayashi, Nozomi Yusa, Miho Ogawa, Eigo Shimizu, Toyotaka Kawamata, Kazuaki Yokoyama, Yasunori Ota, Tatsuo Ichinohe, Hitoshi Ohno, Yasuo Mori, Emiko Sakaida, Tadakazu Kondo, Seiya Imoto, Yasuhito Nannya, Kinuko Mitani, Arinobu Tojo. Clinical and prognostic features of Langerhans cell histiocytosis in adults. *Cancer Sci.* 2023 Jun 26. doi: 10.1111/cas. 15879. Online ahead of print.(2023)
- Hans Jiro Becker, Reiko Ishida, Adam C Wilkinson, Takaharu Kimura, Michelle Sue Jann Lee, Cevayir Coban, Yasunori Ota, Yosuke Tanaka, Meike Roskamp, Tsubasa Sano, Arinobu Tojo, David G Kent, Satoshi Yamazaki. Controlling genetic heterogeneity in gene-edited hematopoietic stem cells by single-cell expansion. *Cell Stem Cell*. 2023 Jul 6;30(7):987-1000.e8. doi:10.1016/j.stem.2023.06.002. Epub 2023 Jun 28. (2023)
- Koichi Yabunaka, Haruka Oshima, Yasunori Ota, Masayo Matsuzaki. Ultrasonographic Evaluation of Intravenous Lobular Capillary Hemangioma in the Cephalic Vein. *J Med Ultrasound*. 2023 Jan-Mar; 31(1): 66–68. Published online 2022 May 27. doi: 10.4103/jmu.jmu_210_21 (2023)