

Activity Report of International Observership in HBP Surgery

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As an eleventh-generation researcher of the International Observership Program of the Japanese Society of Hepato-Biliary-Pancreatic Surgery (JSHBPS), I visited and studied at 3 facilities in the United States between July 2017 and July 2019. These were Mayo Clinic (Rochester, MN), UCLA (Los Angeles, CA), and Johns Hopkins (Baltimore, MD).

This particular program offers researchers the opportunity to join the high-volume centers leading the world in surgery to participate in clinical observation and research, receiving instruction from the world's top-class surgeons. Various opportunities, including surgery observation, conference attendance, making presentations and organizing clinical data, publishing papers, and deepening exchanges with many other surgeons and researchers, are open for the program participants.

Mayo Clinic, Rochester, Minnesota

Mayo Clinic, located in Rochester, Minnesota, in the northern part of the midwestern United States, was awarded with the highest rank in the 2019-2020 Best Hospitals Rankings by U.S. News & World Report. "The needs of the patient come first" is its fundamental values, providing patients with the best medical practice through comprehensive medical services, education, and research. Rochester is a city full of nature located approximately 125 km southeast of Minneapolis with a population of roughly 11,000, to where over a million patients visit from all 50 states in the U.S. and 140 nations worldwide yearly, looking for the state-of-the-art medical services.

Mayo Clinic is also known as a pioneer in postgraduate education in the U. S., offering more than 280 programs including residency and fellowship programs. I had many opportunities to exchange with young surgeons participating in the General Surgery Residency, HPB Fellowship, and MIS Fellowship programs during my stay. These young surgeons were

unremarkably brilliant and I was impressed with their performance on many occasions, such as at morning or evening conferences, in which they confidently answered educational questions from their supervisory doctors. I was also motivated by the fact that they had published a substantial number of papers in the very early stage of their career before they assumed the post of chief resident.

I spent 9 months at Mayo Clinic, during which Dr. Kendrick instructed me. He is the top runner in the field of laparoscopic pancreatoduodenectomy and had performed more than 500 cases at the time of my visit (2017). In addition to laparoscopic pancreatectomy, he also performs bariatric surgery and I had many opportunities to watch and learn his laparoscopic surgery technique during my 9 month stay. The basic operation methods were stylized to a surprising level and each technique was rational and stable, in particular, the technique to cope with bleeding was outstanding. Bleeding occurs in laparoscopic pancreatoduodenectomy, as with abdominal surgery, and he always identifies the bleeding site immediately, holds it with a clamp, and stitches it precisely to stop the bleeding if necessary. Although sometimes the location of the bleeding point forces a surgeon to stitch it with the clamp he holds in his left hand, it seemed that Dr. Kendrick did not have any trouble in performing each technique regardless of which side he was using. Observing his performance made me feel strongly that there were no limits in the field of laparoscopic surgery. I conducted several studies during my time at Mayo Clinic, including "Prognostic Influences of Laparoscopic Pancreatoduodenectomy in Patients with Pancreatic Cancer", "Pancreatic Fistula Prediction Using Contrast-Enhanced Computed Tomography", and "Laparoscopic Pancreatoduodenectomy for Patients with Borderline Resectable Pancreatic Ductal Adenocarcinoma", and I had opportunities to give presentations at Pancreas Club Meeting (2018) and IHPBA Congress (2018).

UCLA, Los Angeles, California

The Ronald Reagan UCLA Medical Center in Los Angeles is the highest-ranking hospital in the state of California, as well as the sixth-best hospital in the U. S., in the 2019-2020 Best Hospitals Rankings by U.S. News & World Report. Los Angeles was a city full of unique charms; it was comfortably warm throughout a year, with an open townscape filled with vitality and diversity in ethnic groups and sexuality. UCLA is located close to many famous places, such as Beverly Hills, Hollywood, Santa Monica, and Rodeo Drive. Dr. Traverso, who was the past host doctor of the observership, also graduated from UCLA.

I spent 9 months of the observership at UCLA under the supervision of Dr. Donahue, the young leader who succeeded Dr. Reber in the field of pancreatic diseases. He was vigorously engaged in various activities, such as organizing weekly multidisciplinary conferences in the

Center for Pancreatic Disease or monthly NET conferences, as well as promoting basic research programs, acquiring large-scale research grants, and leading teams with a substantial number of researchers and medical students. Surgical operations he handles are mainly specialized in pancreatic diseases. When he performs pancreatoduodenectomy, he enters the abdomen via a limited upper midline incision, I was impressed with how he secured visibility in the surgical field by making the full use of the Thompson retractor system. In cases that required PV or artery reconstruction, he performed surgery in collaboration with transplant surgeons. I also had several opportunities at UCLA to observe robotic pancreatoduodenectomies.

Dr. Donahue provided me with opportunities to conduct 2 multicenter joint research projects. One of these was "Impact of Resection Margin Status on Survival in Pancreatic Cancer Patients After Neoadjuvant Treatment and Pancreatoduodenectomy", in which we investigated combined data from UCLA, Mayo Clinic, and Tohoku University. R0 resection has long been known as a critical prognosticator in post-pancreatectomy patients. However, additional prognosticators, such as sensitivity to chemotherapy, would be involved in patients who underwent neoadjuvant therapy. Therefore, we presumed it necessary to doubt if R0 resection could be a valid prognosticator or if it would be appropriate to set R0 resection as a key endpoint in clinical trials. I gave a presentation of the research results of this project at the Pancreas Club Meeting (2018) and later published this as a paper in *Surgery*. Moreover, Dr. Donahue referred me to Dr. Ferrone at Massachusetts General Hospital and Dr. Wolfgang at Johns Hopkins, my third hosting facility of the observership program, so that I could organize and integrate data from 3 medical facilities in the U. S., including UCLA, to conduct another research, "Different Prognostic Implications of Pathological Treatment Response in Pancreatic Cancer Patients Receiving Neoadjuvant Chemotherapy Versus Chemoradiation". As for the research results, I gave presentations at the APA/JPS Joint Meeting (2019) and the Study Group of Preoperative Therapy for Pancreatic cancer (2019). Currently, a paper based on the data from this study is under review by a medical journal.

Johns Hopkins, Baltimore, Maryland

After a total of a year and a half at Mayo Clinic and UCLA, I moved to Baltimore, Maryland, to begin a 6 month observership at my last hosting facility, Johns Hopkins. Baltimore is one of the oldest cities in the U. S. which became a battleground for both the War of 1812 and the Civil War, and the national anthem was born in this city. It is also one of the most dangerous cities in all the U. S., during the mere 6 months period, many shooting incidents or bank robberies frequently happened near the hospital. Johns Hopkins is ranked as the third-best hospital in the U. S. in 2019-2020 Best Hospitals Ranking by U.S. News & World Report,

though it is located in a very tough neighborhood. It has produced a substantial number of distinguished surgeons; Dr. Longmire who was the first Chairman of Surgery at UCLA and Dr. Sarr, another past host doctor of this observership program, graduated from Johns Hopkins.

The number of pancreatic surgery cases at Johns Hopkins is probably the highest of hospitals in Europe and America and it is also a world-leading facility in regard to basic research. The leader, Dr. Wolfgang, has been extremely busy in his obligations, including research group management, surgical operations, and attending meetings, conferences, and symposiums all over the world. I asked him on several occasions about his operative procedures (e. g., resection and reconstruction) and why he employed specific techniques in specific cases, and he answered me simply "to reduce the operation time". His extremely practical approach to choosing a less time-consuming procedure if the expected outcome should make no difference deeply impressed me. Also at Johns Hopkins, I had several opportunities to observe robotic pancreatoduodenectomies. Although I learned at Mayo Clinic in watching Dr. Kendrick's surgical performances that there are no limits in the field of laparoscopic surgery, I could not help but feel that mainstream minimally invasive surgeries in pancreatoduodenectomy would probably shift to robotic surgeries, considering the difference in learning curves between the two.

As for my research activities at Johns Hopkins, Dr. Yu supported me as my supervisor. He obtained a Ph.D. from Kyushu University and was very fluent in the Japanese language, assisting me both officially and privately during my stay. As I mentioned earlier, I conducted research titled "Different Prognostic Implications of Pathological Treatment Response in Pancreatic Cancer Patients Receiving Neoadjuvant Chemotherapy Versus Chemoradiation" using data from 3 facilities in the U. S., working together for the presentation at Johns Hopkins and elaborating in the research paper. It was also suggested that I should submit a review paper regarding adjuvant therapy and neoadjuvant therapy in pancreatic carcinoma on a timely occasion when results of Prep-02/JSAP05 were reported at ASCO-GI. I therefore organized an article with reference to the Prep-02/JSAP05 report, which was accepted in the Journal of Pancreatology.

After the Observership Program

I was able to learn a lot from the experiences I had during this observership program. For instance, it is known that medical insurance systems are different among nations, for example, Japan, the U. S., and many other countries have quite different systems, and thus there are differences in medical practices according to the system differences. Medical practice based on scientific evidence is undoubtedly essential, and I learned from my experience that we

should fully understand the supporting data in specific research articles in terms of which country, which facility, and which period was it obtained, before evaluating these articles. Aside from robotic surgery, which is conducted daily in U. S. high-volume centers, genomic medicine will probably be used more frequently in Japan soon. During my stay in the U. S., I recognized that medical geneticists were always present at the multidisciplinary conferences in each facility. As rapid clinical applications are in progress in the field of cancer genomic medicine, I feel it desirable for conferences in Japan to be attended by medical specialists.

It was not an entirely comfortable tour. I visited 3 facilities, one after another, and each time I had to organize things myself, such as updating visas, insurance paperwork, looking for accommodation, moving, or updating my driver's license. I sometimes had a hard time in communicating in English. One of the purposes of this observership program is to cultivate surgeons who can play an active part in the international stage. However, learning English is not an easy task, even when living in the English-speaking world. I actually attended a night language school when I was in Los Angeles to improve my English because of the sense of crisis I felt in how slow I was learning English. I had challenges, yet now I believe that all the experiences I had in these new environments served as nourishment for my personal growth.

As my final remark, I would like to express my sincere gratitude to those who allowed me to participate in such a fantastic observership program: Professor Takada, who has established this remarkably splendid program; Professor Kawarada, Professor Hanyu, all of the past host doctors and members of the International Exchange Committee, including Professor Eguchi, as well as doctors who participated in this program; members of the JSHBPS secretariat office; and all the members of the society. I would also thank my friends I met in the U. S. and I am grateful to my family who continually supported me. I hope the program will continue to prosper and many doctors will benefit from it to have valuable experiences in the future. Thank you very much.



Mayo Clinic, Saint Marys Hospital



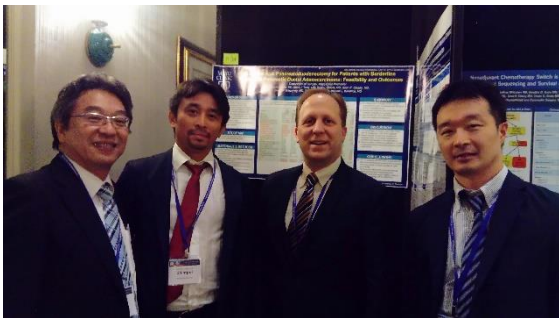
Mayo brothers statue



Mayo Clinic, Gonda Building



HPB Conference at Mayo Clinic



At the Pancreas Club 2018

From left to right: Professor Unno, myself, Dr. Kendrick, and Dr. Sugimoto



In Dr. Kendrick's private plane



At Dr. Reber's residence

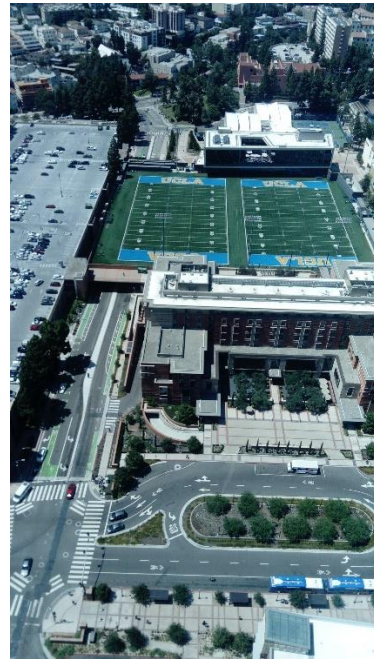
From left to right: Dr. Donahue, myself, Dr. Reber, Dr. Buchler, and Dr. Hines



David Geffen School of Medicine at
UCLA



Ronald Reagan UCLA Medical Center



UCLA



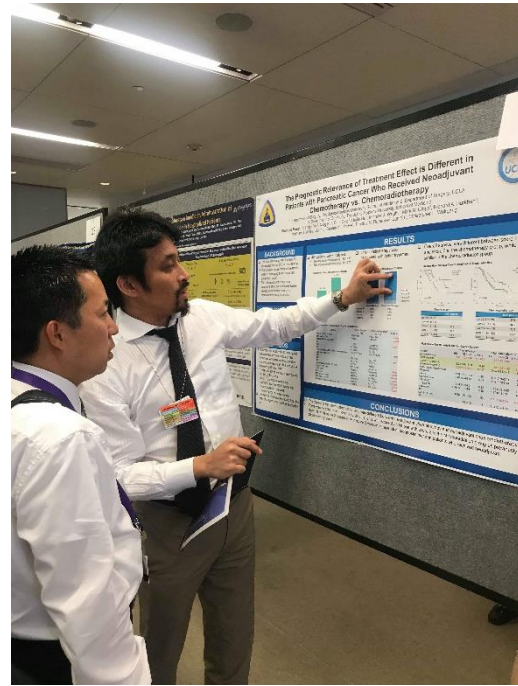
With Dr. Cameron at Johns Hopkins



With Dr. Wolfgang at Johns Hopkins



From left to right:
Dr. Marohn, Dr. He, Dr. Wolfgang,
myself, Dr. Cameron, Dr. Burkhardt,
and Dr. Yu



The presentation at Hopkins Surgery
Research Day



Johns Hopkins Hospital