

Advisor: Dr. Yasodha Natkunam

Ronald F. Dorfman, MBBCh, FRCPath Professor of Hematopathology

Institution:

Stanford University School of Medicine

Department of Pathology



Program Duration: April 1, 2022 to June 30, 2022

I spent my time in Stanford University as a Visiting Scholar in Hematopathology, under the supervision of Dr. Yasodha Natkunam for a period of 3 months, between April 1 to June 30, 2022. My training was funded by the Gordon Signy Fellowship awarded by the World Pathology Foundation. I spent my time as an observer in several hematopathology services including the hematopathology consultation service that brings challenging adult and pediatric hematopathology cases from numerous national and international centers for expert opinion. Most of the cases required complex interpretive skills, not only in histopathologic diagnoses, but also in ancillary diagnoses that included immunohistochemistry, flow cytometry, molecular diagnostics and cytogenetics. I was exposed to all these sub-specialities on a case to case basis and this experience broadened my knowledge and perspective about diagnosing various hemato-lymphoid malignancies.

The day-to-day sign outs and reporting sessions were focussed on lymph nodes, bone marrows as well as flow cytometry and I could attend these sessions with the hematopathology experts in these areas. Most of the lymphoma cases were diagnosed on needle-core biopsies and I was able to learn tremendously, especially with limited tissue being available to make a diagnosis, morphologic variations and careful use and meticulous interpretation of immunohistochemical markers. I thoroughly enjoyed the sign-out sessions, where Dr. Yasodha Natkunam took us through the most difficult cases with a simple, thorough, and systematic approach to offering the best diagnosis.

Apart from the routine sign-outs, I was able to participate in the weekly Hemepath Consensus Conference where difficult cases were discussed by expert pathologists, Regional (West Coast) conferences where the state-of-the-art issues in hematopathology were discussed and the Department of Pathology Grand Rounds where prestigious people are invited as speakers. I also attended the weekly Hodgkin Lymphoma Tumour Board, which was started in the year 1952. Expert review of

each of the Hodgkin lymphoma cases diagnosed over the previous week was discussed in detail by the Hematologist, Radiologist, Pathologist and Radiation Oncologist. Discussing every case in detail and studying the disease pattern on a case to case basis has helped device clinical trials for Hodgkin's lymphoma in Stanford University.

Attending these sessions gave me a different perspective of how medicine is being practised at one of the premier institutes in the World, and I was able to carefully integrate these results in clinical hematology practice.

Dr. Natkunam was very supportive of my research interests and guided me to vet new ideas and pursue primary research projects. Under her expert guidance, I was able to characterise a previously untested transcription factor in Rosai-Dorfman Disease and a new check-point molecule in a wide variety of haemato-lymphoid malignancies. I also worked on a project on nodular lymphocyte predominant Hodgkin lymphoma. I could learn how the latest advances in research including CAR-T cell therapy for diffuse large B cell lymphoma and myeloma which are on-going clinical trials in the university. Tissue microarray (TMA) for various lymphoproliferative disorders have been made which are being used for research activities in the department. I learned the process of selection of cases for TMA as well as how to map them and utilise them for research.

I was also given the opportunity to share and conduct a slide seminar which included a collection of infectious organisms and other rare diseases which are not commonly encountered in the Western world. The session was much appreciated by the trainees and other faculty.

During my visit, I also got the opportunity to interact and discuss a few interesting cases with the renowned Professor and Father of Neuroblastoma, Dr. Hiroyuki Shimada. With his guidance, I am now trying to collaborate with the neuroblastoma experts in India and form a Neuroblastoma Forum in India. By associating with Dr. Shimada, I believe that we can better study the genetics of neuroblastoma cases in India, in the future.

Overall, my training in hematopathology was exceptional and I could learn the most advanced techniques and gained an integrated diagnostic approach to cases. This opportunity also helped me to groom myself into being a better human being, apart from being a good pathologist and a researcher. Dr. Natkunam is a well accomplished hematopathologist with several International publications to her

credit. Her special interest is on Nodular Lymphocyte Predominant Hodgkin Lymphoma and her unique contributions in describing the different histologic patterns of NLPHL is extra-ordinary and continues to benefit patients diagnosed with this rare disease. Her research focuses on refining the diagnosis and prognosis of patients with hematopoietic tumors and has furnished novel reagents, diagnostic criteria and guidelines for clinical practice. She currently serves on a number of editorial boards, expert panels and professional societies in her field. I feel privileged to have learnt directly from her phenomenal and vast knowledge and experience.

I would like to thank the World Pathology Foundation, for selecting me for the 'Gordon-Signy Fellowship' for the year 2022. This initiative by the World Pathology Foundation which helps the young pathologists from developing countries is commendable. The incredible experience and knowledge I gained in pathology, through my training will definitely help my patients to get a refined diagnosis and also further the advance of hematopathology research in Pune, India. I sincerely thank and appreciate the members of the World Pathology Foundation from the bottom of my heart for funding me through my training.