SCTC Visiting Fellowship Report
Antonia Valenzuela 2022

I am a consultant rheumatologist and assistant professor at Pontificia Universidad Católica de Chile. I have devoted my work to the study of systemic sclerosis and systemic sclerosis-spectrum disorders, and I am currently working to build the first Scleroderma Center in Chile at our university, with the goal to combine scleroderma patient care, clinical research, and teaching.

I travelled to Manchester, UK, to learn how to perform capillaroscopy, which have not been developed at our university. With the support of the Scleroderma Clinical Trial Consortium Benedict Visiting Fellowship Program and under the mentorship of Professor Ariane Herrick and her team at Salford Royal Hospital NHS Foundation Trust, I was able to accomplish this objective and more.

Salford Royal Hospital is a tertiary referral center for systemic sclerosis. The Vascular research program that Prof. Herrick leads, investigates different aspects of pathogenesis, measurement and treatment of Raynaud's phenomenon and systemic sclerosis, involving expert physicians, as well as physicists and computer scientists. They specialized in the use of nailfold capillaroscopy and other methods of measuring digital vascular structure and function for clinical and research purposes.

For three weeks, members of the team (Graham Dinsdale, Joanne Manning, and Melissa Mandzuk) taught me capillaroscopy image acquisition and interpretation. Under their supervision, I was able to perform capillaroscopies on my own by the end of my training period, and to clearly identify abnormal findings. In addition, I participated in an online meeting where we reviewed and discussed the most challenging capillaroscopic images, deepening acquired knowledge.

In the clinical setting, I also learnt how thermography, a method that uses an infrared camera to measure skin temperature, was used to perform cold challenge test. Patients with Raynaud phenomenon are commonly referred for this test in addition to capillaroscopy and both methods are used to try to differentiate primary from secondary Raynaud phenomenon.

I also spent time in the vascular lab, where in addition of different microscope devices to look at the nailfold capillaries, the research team explore the use of other imaging techniques for the study of cutaneous oxygenation and perfusion, such as laser Doppler imaging, laser speckle contrast imaging and multispectral imaging. Andrea Murray, member of the team, was instrumental in helping me understand how these different techniques work and the ongoing studies where these are used. I was able to briefly participate in an ongoing research project aimed to explore whether results from nailfold capillaroscopy and thermography can together predict future onset of SSc or disease severity by helping with data collection. At the lab, I also assisted with research visit of patients currently enrolled in clinical trials and observed recruitment and screening visits.

In addition, twice weekly, I attended the Scleroderma Clinic with Dr. Muditha Samaranayaka, where we evaluated and treated patients with Raynaud, systemic sclerosis, and systemic sclerosis-related disorders. I was able to witness the multidisciplinary management of these patients, and the coordinated work of registrars, specialized nurses, and other specialties, such as vascular

surgeons, bronchopulmonary doctors, and podiatrists, among others. Often, patients who were evaluated for the first time, would get a complete vascular evaluation with capillaroscopy, thermography and vascular doppler ultrasound on the same day of the visit.

Furthermore, I was able to participate in the weekly Rheumatology Department Meeting and was given the opportunity to present my research on calcinosis in patients with systemic sclerosis. I received valuable feed-back and generated interest in this overlooked manifestation of SSc.

Overall, this was a great learning experience that enabled me to witness first-hand the functioning of a Scleroderma center and to learn a technique that is directly applicable to my research and clinical work. This will be key in the implementation of my own scleroderma center. I was very impressed with the vascular lab team assembled by Professor Herrick, their generosity, work ethic, spirit of collaboration, and the very interesting research they conduct at Salford Royal Hospital.

Finally, I was able to connect with scleroderma colleagues and to engage in future research activities, moving a step forward to becoming an independent researcher in the thrilling field of systemic sclerosis-related disorders.