



IFCC FEN-SNIBE 'Support a Professional' Programme 2019

Report: Dr. Sibtain Ahmed (Pakistan)

I would like to express my sincere gratitude to Dr. Graham Beastall, Prof.Dr. Tomris Ozben , IFCC Foundation for Emerging Nations (FEN), SNIBE Diagnostics, IFCC and Pakistan Society of Chemical Pathologists (PSCP) for awarding me this scholarship to visit a high-quality clinical laboratory at Akdeniz University Hospital, Antalya Turkey, a tertiary level hospital with more than 1050 bed capacity, 33 specialized clinical departments making it one of the leading medical centers in Turkey.

I was privileged, as the IFCC Treasurer and member of the Board of Directors of the IFCC Foundation for Emerging Nations (FEN), Prof.Dr. Tomris Ozben, provided mentorship to me during my training period from 1st September to 15th November 2019. She facilitated me right from the very beginning from finding suitable accommodation till catching my return flight in Antalya. The time spent under a visionary mentor and leader like her not only nurtured me academically, but also professionally.

During my training, I worked as a visiting fellow at the Central Laboratory, headed by Prof.Dr. S. Gultekin Yucel, along with his team of expert clinical biochemists including Prof.Dr. Tomris Ozben, Prof.Dr. S. Halide Akbas, Prof. Dr Sebahat Ozdem, Dr Ikbal Ozen Kucukcetin and many other experts and laboratory technicians. The main agenda of my training was to acquire knowledge regarding Newborn Screening (NBS), Diagnosis of Inherited Metabolic Disorders and applications of Liquid Chromatography-Mass Spectrometry (LC-MS/MS). Keeping in view my training focus, much of my time was spent in the Biochemical Genetic and Metabolic Diseases Laboratory under supervision of Prof.Dr. S. Halide Akbas. She has extensive expertise in NBS and LC-MS/MS applications; with special interest in Lysosomal Storage Disorders (LSDs) Biomarkers and Proteomics. I was able to acquire new knowledge regarding NBS as a coordinated comprehensive system consisting of education, screening, follow-up of abnormal test results, diagnosis, and evaluation of periodic outcome and efficiency. Furthermore, I gained experience and learnt regarding analysis and reporting of Expanded NBS, specifically the amino acids, acylcarnitine analysis, very long chain fatty acids for peroxisomal disorders, enzyme analysis for LSDs, biotinidase enzyme activity and organic acid analysis in urine using GC/MS. I also learnt various other applications of LC-MS from Dr. Akbas particularly Therapeutic Drug Monitoring of Immunosuppressants for transplant patients and area under the curve monitoring. Furthermore,

she also introduced me to Analytical Validation of various LC-MS/MS protocols under development in her research laboratory namely Oxysterols for Niemann-Pick disease.

In the subsequent days, I also learnt Quality Management processes and service delivery from Prof.Dr. Sebahat Ozdem, who is proficient in this field. Moreover, Prof.Dr. Ikbal Ozen Kucukcetin taught me the Turkish national KBUD-EK External Quality Assessment Programme, in which the laboratory participated avidly, alongside its documentation, corrective actions and root cause analysis for failures if any. I also had the opportunity to observe molecular diagnostic platforms particularly Next-Generation Sequencing (NGS) for the Rare Metabolic Disorders e.g. Noonan syndrome, Cystic Fibrosis and Retinitis Pigmentosa.

Additionally, I utilized part of my time in the Special Chemistry Laboratory and observed Polyacrylamide Gel Electrophoresis for lipid sub-fractionation and Porphyrins, Vitamin A & E and Neurotransmitters analysis via High Performance Liquid Chromatography (HPLC).

I would like to particularly mention, that I was able to utilize my time also for scholarly activities and Dr. Tomris Ozben guided me to attend the 27th Balkan Clinical Laboratory Federation (BCLF) and Turkish Biochemistry Society (TBS) joint Congress held in Belek, Antalya, Turkey between October 27-31, 2019. I delivered an oral presentation at this prestigious congress held under the auspices of IFCC and EFLM and had a chance to meet eminent local and international scholars, including the President-Elect of the IFCC, Prof. Dr. Khosrow Adeli.

The FEN scholarship support was adequate, and I was able to manage my expenses accordingly. The laboratory staff was kind and supportive, specifically Dr. Ikbal and Dr. Sebahat who helped me explore the Mediterranean city of Antalya with a rich history, countless monuments, squares, beaches, old town and the famous Turkish cuisine which is an experience in itself.

Apart from academics and laboratory training, this program led me to build on liaisons and scientific links for future projects and good working relationships with the other clinical biochemistry consultants for sharing of ideas and knowledge.

I would like to end this report with a note of thanks to my institution, the Aga Khan University, Karachi Pakistan and senior faculty and colleagues from my department for extending their full support, specially Dr. Lena Jafri for her backing and guidance which enabled me to attend this program. The knowledge acquired during this short package will soon be implemented in my laboratory. Furthermore, I will work for the dissemination of information to peers back home under the ever-flourishing umbrella of the PSCP.



At the Old Town, Antalya. King Attalus II of Pergamon, founder of the city about 150 BC, named Attaleia or Attalia.



In the laboratory with Dr. Tomris Ozben



With the Akdeniz University-Biochemical Genetics laboratory team



With Dr. Tomris Ozben and Dr. Khosrow Adeli at the Annual BCLF and TBS Congress 2019