



IHPBA Kenneth Warren Fellowship Progress Report

Seoul, July 31st, 2022

Dear IHPBA Research Committee,

I would like to thank the IHPBA Kenneth Warren Fellowship Committee for giving me the opportunity to carry out my clinical research project under the supervision of Prof Han at Seoul National University Bundang Hospital. This is a formidable experience from several points of view, that has enriched me professionally but also personally.

My experience here in South Korea started in January, as planned, but it initially encountered some difficulties due to impact of the COVID-19 pandemic. Another initial shortcoming was the long time needed to get the approval from the local institutional review board committee, mainly related to some differences in the clinical and research practice between our countries. However, thanks to the support of Prof. Ho-Seong Han and Prof. Roberto I. Troisi, we were able after few weeks to start planning the practical realization of the project and to enroll the first patient.

My project aims to develop a clinical collaborative prospective study to evaluate the accuracy of hepatic venous pressure gradient (HVPG, direct invasive method), indocyanine green retention rate at 15 min (ICG-R15, non-invasive method) and liver stiffness measurement (LSM, non-invasive method) in predicting the risk of PHLF and hepatic decompensation in cirrhotic patients undergoing liver resection for Hepatocellular Carcinoma (HCC).

Patient enrollment started in April 2022, and the prospective clinical database is actually completed for about 30 patients, to correlate the preoperative data with the postoperative outcomes. HCC patients are preoperatively evaluated, undergoing the aforementioned preoperative tests, and a close clinical and imaging follow-up is then carried after surgery. Thanks to the high volume of HCC patients treated at the host institution, as well as to the regularly growing inclusions, we estimate to be able to enroll the number of patients needed in the next months. However, because of the initially slow enrollment and of the possibility of new problems related to COVID pandemic in the near future, we have decided to furtherly expand our cohort by allowing more tertiary centers to join our study. Actually, the "Federico II" University Hospital of Naples, the Mauriziano Hospital "Umberto I" in Turin, and the Catholic University of Rome have joined the project.

In conjunction with my study project, I also had the opportunity to participate in other editorial projects in the field of HCC treatment. Firstly, a literature review we wrote about the actual drawbacks of HCC surgical

treatment was published on Cancers journal. Similarly, another work about the role of ctDNA, NGS and other new technologies for Gallbladder Cancer was published by Diagnostics journal. Furthermore, other parallel minor works have been published (or are under review) about the minimally invasive surgical management of Hepatocellular Carcinoma and the role of minimally invasive surgery for anatomical liver resections for HCC.

In conclusion, I am sincerely grateful for the great opportunity to be here in Seoul to improve my skills and expertise in hepato-biliary surgery and liver diseases, and I am looking forward to presenting the results of my research project in Cape Town, in 2024.

With my distinguished regards,

Gianluca Cassese, MD