



Dear IHPBA Research Committee,

October 22nd, 2022

I'm delighted to continue my Warren's HPB fellowship at the Memorial Sloan Kettering Cancer Center, Department of Surgery, NYC, under the mentorship of Dr. W. Jarnagin, Chief, Division of HPB Surgery.

It has been an enlightening experience learning state-of-the-art surgical approaches to complex HPB cancers and innovating in the area of HPB research, particularly cholangiocarcinoma.

I have been working on two research projects that will impact patients' survival and surgical treatment with cholangiocarcinoma. In addition, I'm investigating the impact of COVID-19 on the timing of liver surgery. Besides these research projects, I participate in pre-op evaluations, fellows teaching symposiums, clinical research activities, M&M and Journal Club activities, and HPB team multidisciplinary team meetings.

My first research project focuses on establishing a microfluidic platform to address the heterogeneity on a single cell level of the tumor in the case of cholangiocarcinoma. While cholangiocarcinoma comprises 20% of all liver cancers, it remains a challenge. Identifying the immune profile of the tumor (i.e., PD-1, CTLA-4) and intrahepatic versus extrahepatic tumor cell types at the gene level can help us to create a single-cell atlas, thus providing more insight into tumor behavior, unique response to surgical treatment and resistance to chemotherapy agents. I'm grateful to collaborate closely with Mortimer B. Zukerman's Research Center scientists, where we target liver nuclei isolation utilizing the newest technologies.

In addition, my second project addresses the impact of *KRAS* spectrum mutations and their impact on surgical and systemic treatment outcomes. The database consists of more than 1500 patients who underwent treatment at MSKCC.

In light of COVID-19 challenges to elective liver surgeries, we decided to explore in more depth the impact on the timing of COVID-19, patient vaccination status, comorbidities, and other factors influencing elective liver surgery. We have identified a cohort of more than 600 patients.

To conclude, I'm grateful for the opportunity IHPBA has provided me. I'm excited to finish the projects that will lead to multiple presentations at national and international academic meetings and publications changing the management of cholangiocarcinoma patient care. I look forward to sharing the results at the next IHPBA meeting in 2024.

Fondly,
Aiste Gulla, MD, PhD, MHCM