Editorial

Entering the molecular era of gastrointestinal oncology: current updates and challenges

Cancer diagnosis and treatment drastically improved during the molecular era. The past four decades of intense research have unveiled key dysregulated genetic or signaling events that drive specific cancer types. As such, biologics as a class of therapeutic agents that target these critical signaling events, have become a major focus in the development of anti-cancer drugs. In some cancer types such as chronic myeloid leukemia, melanoma and renal cell carcinoma, biologics have already been established as the first line treatment. However, the success of biologics in gastrointestinal (GI) cancers remains relatively limited, underscoring the need to better understand the biological fabric that constitutes each GI cancer type. To this end, the advent of high throughput molecular tools such as cDNA microarrays, RNAseq and next-generation sequencing have allowed each GI cancer type to be categorized into distinct molecular subtypes based on their biological traits, genetic aberrations and clinical characteristics. This approach, while still in the early stages, holds promise for development of personalized, biologics-based treatment regimens that will ultimately improve the outcome of patients with GI cancers. This issue is dedicated to providing readers with an updated and concise overview of novel biologics that are being developed or tested in various GI cancer types. Efforts toward the molecular classification for each GI cancer type will be discussed, and expert insight into the challenges of precision oncology including treatment resistance, side effects and cost-effectiveness will be presented.

This focused issue of the *Journal of Gastrointestinal Oncology* is organized into four sections: (I) Evolution In Cancer Treatment: Adding Genomics to Histology; (II) Biologics in Various GI Malignancies; (III) Challenges in Biologics; (IV) Ongoing Perspectives and Clinical Trials. In Part I, Dr. Kian-Huat Lim will provide a comprehensive review of the status of molecular subtyping, development and use of biologics in each major GI cancer type. Dr. Ignacio Garrido-Laguna will provide expert review and opinions on how to integrate genomic information into treatment decisions. Dr. Teresa Macarulla Mercadé will discuss the role and development of predictive and prognostic biomarkers in aiding precision treatment. In Part II, a panel of experts in GI cancers will provide updated reviews on all biologics that have been and are being developed in various types of GI cancers. Dr. Lei Zheng will focus on pancreatic cancer; Dr. A. Craig Lockhart will focus on esophageal and gastric cancers; Dr. Kian-Huat Lim will focus on biliary tract cancers; Dr. Pamela L. Kunz will focus on GI and pancreatic neuroendocrine tumors; Dr. Brian Van Tine will focus on GI stromal tumors; Dr. Marcus S. Noel will focus on small and large bowel cancers; and Dr. Manik Amin will provide an updated overview on the status of immunotherapy in GI cancers. In Part III, we will address major challenges that face precision oncology. These include primary or acquired resistance to biologics presented by Dr. Sam J. Lubner, adverse side effects and their management from Dr. Preet Paul Singh, and cost effectiveness analyses authored Dr. Simon B. Zeichner. In Part IV, I will provide a concise update on various biologics currently being investigated in clinical trials.

It has been a tremendous honor and privilege to work with this exceptional group of experts who have invaluable experience and knowledge in their respective fields. Besides grasping an updated and comprehensive understanding on the status of novel biologics in GI cancers, readers will have the opportunity to learn the unique perspectives and thoughts from these experts. On behalf of all contributors, we would like to express our special thanks to Cecilia Jiang, Science Editor of *JGO* for coordinating the tremendous amount of work that led to the birth of this focus issue, Dr. Gary Yang, the Editor-in-Chief for his full support, and the entire editorial team of *JGO* for facilitating the process.

In short, we believe this issue dedicated to GI cancer biologics will be extremely appealing to all oncologists who are involved in the care of patients with GI cancer as well as translational and clinical researchers, nursing staff members, patients and families who are interested in getting a concise and comprehensive update on the cutting-edge research happening now in biologics for GI cancers.

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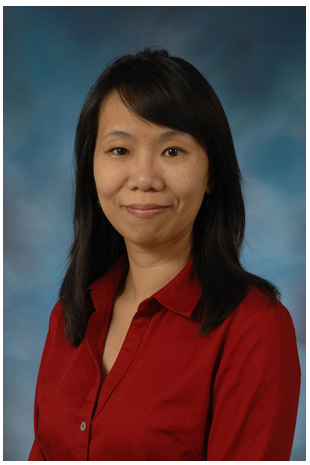

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