From the Editor

The March issue of *AJHO* has a biological bent—which of course is an understandable trend as new drugs entering into clinical practice are now more commonly biological agents. Moreover, the movement of effective biological agents from advanced to adjuvant settings often (but not always) has the potential to save more lives. In this vein, Drs Asmar and Halmos provide a perspective on the use of targeted agents for early-stage lung cancer. Earlier trials were not using genomic assays to select patients, so the results of ongoing trials—in particular, multifaceted trials such as the ALCHEMIST suite of trials—could change our approaches significantly.

Adjuvant therapy for colon cancer still consists of cytotoxic agents, despite the effectiveness of angiogenesis and EGFR-targeting drugs in the advanced setting. However, a significant proportion of patients are elderly, and Drs Williams and Sanoff provide us with tools for decision support to factor age and other associated factors that predict toxicities and recurrence risk reduction, as well as alternative regimens to optimize benefit/risk tradeoffs in this area.

Our hematological feature also illustrates the biological revolution as multiple myeloma is now approached with both cytotoxic and biological drugs that are deployed in specific combinations based on patient characteristics and treatment goals. Dr Chari provides a very useful summary of the current state of the art and a preview of a new generation of targeted drugs under investigation.

Our pathway-based biology and targeted therapy review by Dr Ma focuses on PI3 kinase and downstream mTOR inhibitors in breast cancer. Recent results of PI3K inhibition are not producing the same results seen with approved mTOR inhibitor therapy with everolimus, yet we cannot clearly explain this with our current biological understanding of these pathways. The number of genomic-guided therapies is rapidly growing, both in the clinical practice setting after FDA approval and in the clinical research setting, where treatment decisions must be made rapidly.

Is next-generation sequencing that encompasses hundreds of genes the answer? Certainly, as the cost drops and accuracy improves, we are very likely moving to high-throughput, broad-scale analytic platforms that will require oncologists to become fluent with these technologies. Drs Basho, Eterovic, and Meric-Bernstam provide a timely primer on the methods, applications, future potential, and current limitations of next-generation sequencing.

Our CME article reviews updates from the ASCO GI symposium that revolve around one of the more successfully targeted pathways—angiogenesis. Following the initial demonstration of bevacizumab of improving survival in advanced colorectal cancer, two newer anti-angiogenic drugs have been approved beyond second line therapy with several others under investigation and showing various degrees of promise. Chosen studies are highlighted and in this piece and provide a snapshot of the future landscape in this area.

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