The Challenge of Managing Increasingly Complex Cancer Toxicity

By Linda D. Bosserman, MD [3]

To achieve real precision medicine we need not only the right therapy for each patient’s disease, we need the right toxicity management to improve overall health and quality-of-life outcomes.

The review by Dr. Bhave and colleagues in this issue of ONCOLOGY of the complex cardiotoxicities of biologic anticancer therapies brings to mind the increasing challenges oncologists face in managing the growing number of complex toxicities from many newer agents, as well as from the use of these agents in combination with older anticancer therapies. As busy clinicians strive to provide the most cost-effective personalized cancer therapies, they are simultaneously charged with delivering the most cost-effective management of toxicities—in order not only to minimize short- and long-term suffering, but also to minimize emergency room and hospital visits from therapy side effects, and to maximize patients’ ability to complete therapies.

Previously, clinicians most commonly faced nausea/vomiting, and marrow and mucosal effects of cancer therapies; these had fairly predictable time courses for onset and resolved with specific management strategies, regardless of the agent causing them. Cardiac, dermatologic, and renal toxicities were rarely acute. With targeted biologic agents, whether used alone or in combination with other cytotoxic or biologic therapies, we are seeing a much wider array of acute and late toxicities, differing timings, and a greater need for initial assessments of baseline status. In addition, patients now need more active management during therapies, since often there is little time between the detection of a symptom and the start of the next cycle, necessitating immediate evaluation and stabilization in order for the next cycle to be able to begin on time—or to determine that a dose reduction or cessation is needed. And if stopping a drug is called for, knowledge is needed of when the medication might be safe to reintroduce or when it is fully contraindicated—especially in the case of precision medications that may be the most potentially effective against an individual patient’s cancer.

This raises the question of how to better help already very busy practicing oncologists meet the challenges posed by the increasing complexity of cancer toxicity.

First, we need to strategize new clinical trial designs for new agents—designs that don’t just report on toxicities, but expand our knowledge of their timing, appropriate assessment, therapeutic options, and resolution expectations. We also need to consider the most cost-effective pre-therapy risk assessments, and determine what constitutes effective testing before, during, and after therapy, as needed for longer-term monitoring. What is perhaps needed most of all are better and more comprehensive patient reported outcome (PRO) tools. Patients need to be prompted to report complex toxicities, since clinicians need patient input as well as diagnostic and clinical assessments of toxicities in order to develop optimal treatment plans. We need a comprehensive patient assessment tool that is validated and that addresses the growing number of toxicities—physical, emotional, spiritual, social, and financial—that our patients face. None of the available tools are comprehensive or practical or patient-friendly, and none give clinicians an immediate and comprehensive picture of what their patients are experiencing in a way that will make it possible to tailor visits and treatment so as to better address symptoms and relieve suffering.

One possible starting point for such a tool might be the National Cancer Institute’s common toxicity criteria (CTC), which are used to assess complex, common, and rare disease and therapy symptoms. These criteria include measures of toxicities in physical, emotional, social, and spiritual domains. Building on this foundation, Dr. Ethan Bach led research that translated cancer toxicities into patient-friendly language in order to develop a set of validated PROs. Our group has piloted a paper tool using 39 of what we felt were the most common CTC-PRO cancer toxicities. We use this tool to prompt patients to tell us what is going on and to ensure a more complete and useful review of systems at each visit. Whether we need 39 items or more (or fewer), the idea is to have an agreed-upon standard CTC-PRO list that clinicians and patients can become familiar with. The
current growth in the use of patient portals offers a unique opportunity for the oncology community to put such PRO tools into practice—tools that could improve clinicians’ ability to better address toxicities in real time.

As the toxicities of anticancer therapies increase, oncologists and patients are in need of evidence-based guidance on the optimal management of these adverse effects. In addition, we need an effective and comprehensive PRO tool that will ensure a better understanding of the side effects patients are experiencing, as well as enabling clinicians to more efficiently address these toxicities in the setting of already burdensome workloads. These are exciting times, with increasing numbers of targeted therapies becoming available. To achieve real precision medicine, however, we need not only the right therapy for each patient’s disease, we need the right toxicity management to improve overall health and quality-of-life outcomes.

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