Onco-Nephrology: What the Nephrologist Needs to Know about Cancer and the Kidney

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The field of oncology is rapidly changing as new therapies emerge and improve the outcomes for many types of cancer. Not surprisingly, the population with cancer, like the general population, is aging. As a result, patients with cancer are probably receiving diagnoses and treatment in the setting of more comorbid conditions, including CKD. Furthermore, there is an ever-growing list of new antineoplastic treatments, and many of these therapies have kidney-related complications.

Thus, although patients with cancer may be surviving longer, they may suffer renal complications of their treatments that can both limit short-term therapy and lead to chronic sequelae that could ultimately lead to CKD. There is an intersection, therefore, between nephrology and oncology that includes both acute events (such as tumor lysis syndrome, AKI, and electrolyte disorders) and longer-term issues (such as the development of CKD). Evidence of a growing interest in the relationship between oncology and nephrology led to the development of a full-day program at the 2011 American Society of Nephrology Kidney Week on onco-nephrology. As an extension of that program, we have asked some of the speakers, along with others, to contribute to this Moving Points in Nephrology collection. Although not exhaustive, this compilation of papers provides an up-to-date reference for some of the more common issues seen in this emerging field.

First, Drs. Lam and Humphreys discuss AKI in patients with cancer, addressing what is known of the epidemiology of AKI in these patients and its diagnosis and treatment. They also consider the development of AKI associated with hematopoietic cell transplantation, an increasingly common problem facing oncologists and nephrologists. Next, Dr. Ronco discusses glomerular diseases in patients with cancer, those associated epidemiologically and perhaps pathophysiologically with cancer, and those that result from cancer treatment. Dr. Perazella then comprehensively reviews nephrotoxicity of cancer chemotherapy, first explaining some of the reasons the kidneys are particularly susceptible to drug-induced injury, then addressing some of the most interesting renal complications of both newer biologic therapeutic agents and older, more classic, antineoplastic agents that cause thrombotic microangiopathy, glomerular disease, AKI, and tubular dysfunction.

Drs. Rosner and Dalkin provide an in-depth discussion of hypercalcemia in patients with cancer. These authors summarize important information on the pathophysiology of this electrolyte disorder and its evidence-based treatment. Finally, there is a review by Drs. Wilson and Berns of tumor lysis syndrome, a serious and potentially fatal complication of cancer and its treatment. These authors review the risk factors for the syndrome, its pathophysiology, and its treatment, including use of the relatively recently available recombinant urate oxidase compounds.

There are many important topics we were not able to include in this collection—hyponatremia, multiple myeloma and other paraprotein disorders, primary renal cancers, cancer and kidney transplantation, and cancer screening in patients with ESRD, to name a few. Perhaps another time. We sincerely hope you find the articles in the Moving Points in Nephrology interesting and stimulating, and extend our sincerest thanks to all the contributing authors.

Disclosures

None.

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