

Onconeurology: Future Perspective

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Editorial Note

Onconeurology is a conventional specialized area of nephrology that constitutes the broad range of kidney diseases that can occur in cancer patients. It provides authoritative, comprehensive coverage of the process and treatment of the two life-threatening diseases. The relationship between kidney disease and cancer has historically been known, and even certain clinical issues such as inappropriate antidiuretic hormone syndrome and tumour lysis syndrome have similar association with cancer. This interaction involves multiple types of associations with cancer including drug-induced nephrotoxicity, electrolyte disturbances, paraneoplastic glomerulonephritis and chronic kidney disease.

Acute Kidney Injury is probably the most common form of renal disease for which an onconeurologist should be consulted, who looks after patients with cancer. Nephrologists need a greater understanding of the continually evolving field of cancer biology and cancer therapy to become a core value of the cancer care team, making the best quality care for nephrology available to enhance patient safety and encourage the creation of modern, non-toxic therapies. Precise dosing of chemotherapeutic agents is necessary to ensure optimum effects and to prevent toxicity.

Kidney function is a significant determinant of a patient's eligibility for newer medicines and clinical trials. It is imperative to analyze how the involvement of chronic kidney disease, acute kidney injury and other kidney diseases can affect treatment choices, and how certain medications can raise the risk of kidney toxicity as several chemotherapeutic agents can lead to AKI and reduced renal function. They are caused primarily by acute tubular toxicity, acute tubulointerstitial nephritis (ATIN), and various glomerular injuries. Effective interventions are to use Glomerular Filtration Rate to ensure adequate dosing based on actual kidney function and kidney injury biomarkers in order to ensure early diagnosis of kidney damage.

It is appropriate to administer dialysis to critically ill patients with cancer as short-term survival rates are close to those in patients without cancer, and renal regeneration can be predicted in some patients. The substantial advances

in predialysis and dialysis treatment have contributed to extended longevity and a greater prevalence of cancer patients with chronic kidney disease. Renal toxicity of chemotherapy agents is no longer a concern, but patients with dialysis are still vulnerable to all other possible dose-related adverse reactions.

Current methodologies for the measurement of kidney function have limitations in the patient with cancer because of their reliance on serum creatinine. Recent studies demonstrated the problems in using serum creatinine for determination of the Glomerular Filtration Rate. As we understand more about how cancer can lead to kidney failure, the various kidney-related problems associated with cancer need a new knowledge base that is quickly evolving. Medical practice in the inpatient cancer setting presents an enormous opportunity for teaching medical students and fellows the fundamentals of nephrology.