Adverse renal effects of novel molecular oncologic targeted therapies: A review of the FDA Adverse Event Reporting System (FAERS)

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Introduction: Novel targeted anti-cancer therapies have resulted in improvement in patient survival compared to standard chemotherapy. Renal toxicities of these agents are increasingly being recognized.

Aim: We studied the renal adverse events associated with oncologic targeted therapies.

Design: We studied all renal toxicities reported by selected novel targeted therapies to the FDA Adverse Event Reporting System (FAERS) 3rd quarter of 2011 to 2nd quarter of 2015. In addition we reviewed published literature and clinical trials to further understanding of renal toxicities with these agents.

Results: The number of adverse events reported was 2,943 during the years 2011-2015. For all agents combined, the most commonly reported events were metabolic disturbances. Of the 3 categories of events, 1,390 (47.3%) were metabolic disturbances, 1,243 (42.2%) were renal impairment and 310 (10.5%) were reports of hypertension. Hypokalaemia with 539 (38.7%) reported events, was the most common metabolic disturbance. Ipilimumab and cetuximab with 508 and 467 events, respectively, were the most common agents with reported adverse events. Events described in FAERS are reported by providers or patients and could have a reporting bias. In addition, not all demographic and co morbidity information is available, limiting the ability to explore nephrotoxic risk factors and certain other clinical characteristics.

Conclusion: Targeted therapies have a number of nephrotoxic adverse effects. Electrolyte disorders, renal impairment and hypertension are the most commonly reported events. Ipilimumab and cetuximab have the most nephrotoxic events reported from the targeted therapies.

Biography
Rimda Wanchoo has completed her Medical Training in Nephrology at Weill Cornell Medical Center and currently is an Assistant Professor of Medicine at Hofstra Northwell School of Medicine in New York, USA. She has published papers in onconephrology and toxicities of chemotherapy agents and their effects on the kidney. She also serves as an expert member for the Cancer and Kidney International Network (C-KIN).

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