

## **BISPHOSPHONATES AND ACUTE KIDNEY INJURY IN CANCER PATIENTS: A COHORT STUDY.**

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Bisphosphonates (BPs) have become important tools for the treatment of bone lesions from various solid tumors or multiple myeloma, as they prevent, reduce, and delay cancer-related skeletal complications in patients. However, many concerns remain concerning their potential renal toxicity which could limit their use.

The purpose of our study was to study the relationship of both zoledronic acid and pamidronate and renal function and to compare the renal safety of zoledronic acid vs pamidronate. Using a computer based research interface with the Montefiore Medical Center electronic patient records, we reviewed the data of 481 patients older than 18 years with a diagnosis of cancer who sought health care in the Montefiore Medical system from January 1, 2001 to December 31, 2007 and received either pamidronate or zoledronic acid or both. The outcome was acute kidney injury (AKI) defined as a serum creatinine increase  $\geq 2$  times the baseline serum creatinine value.

Of the 481 patients, 292 received pamidronate and 189 received zoledronic acid. The mean age was  $63 \pm 13$  years, 53% were women, 37% were African-American, 23% were Hispanic and 22% were white. Median baseline creatinine, within 21 days of first dose, was 0.8 mg/dl (interquartile range, 0.7, 1.1). 13 patients developed AKI after their first dose, for an overall incidence of 3%. 11 patients who received pamidronate developed AKI compared to 2 patients who received zoledronic acid ( $p=0.07$ ).

In summary, the incidence of AKI is similarly low in cancer patients receiving pamidronate or zoledronic acid.