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Intravenous Pamidronate in the Management of Cancer-Associated Hypercalcemia: An Experience in the Taipei Veterans General Hospital

ABSTRACT

In the management of cancer patients, the metabolic complications of hypercalcemia are commonly encountered. Therapeutic modalities, including adequate hydration, diuretics, steroids, and bisphosphonates, such as pamidronate, are commonly used for the treatment of hypercalcemia. This study is performed in attempt to evaluate the efficacy and toxicity of intravenous pamidronate. In this prospective, phase-II clinical trial, there were overall 18 patients (5 with breast cancer, 3 with multiple myeloma, 2 with malignant lymphoma, 2 with pulmonary squamous cell carcinoma, 2 with hepatocellular carcinoma, and 4 with others) had persistent cancer-related hypercalcemia after 48 h hydration by normal saline. We divided these patients into 3 groups who received different doses (30, 45, and 60 mg) of pamidronate based on the severity of the hypercalcemia. Our results showed that there was one patient died within 2 days after being given pamidronate and it was therefore unable to assess the response in this patient. Fourteen of 17 patients (82.4%) achieved a reduced serum calcium level to normal range within 8 days. The median time for recovery of hypercalcemia was 4 days (range 2 to 7) after treatment. The median duration of sustaining normocalcemia was 18 days (range 5 to 199 days). Of those 14 patients who returned to normocalcemia, 6 (42.9%) experienced hypercalcemia again and 4 underwent the second course of pamidronate treatment, while only 1 achieved normocalcemia. Regarding the side effects of pamidronate, 6 (35.3%) experienced fever, and 13 (76.5%) had asymptomatic hypophosphatemia. Transient lymphopenia and asymptomatic hypocalcemia were also noted without clinical significance. Otherwise, no other significant toxicity was observed. Based on this study, the efficacy and relative low toxicity of pamidronate were beneficial in the treatment of cancer-associated hypercalcemia.

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