Denosumab Shows Potential for Treating Hypercalcemia of Malignancy

Denosumab, a monoclonal antibody, lowered serum calcium in advanced cancer patients who failed to respond to intravenous bisphosphonates.

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January 11, 2015 – In patients with persistent hypercalcemia of malignancy (HCM) despite treatment with bisphosphonates, the monoclonal antibody denosumab reduced serum calcium levels in a single-arm proof-of-concept study.

Mimi I. Hu, MD, of the University of Texas MD Anderson Cancer Center in Houston, and colleagues reported their results in the September 18, 2013 issue of the *Journal of the National Cancer Institute.*

Previous studies on the treatment of HCM with bisphosphonates showed over a 20% incidence of both relapse and incomplete treatment. The current study was designed to evaluate the efficacy of denosumab in the treatment of HCM in such patients.

Fifteen patients with albumin-corrected serum calcium (CSC) levels above 12.5 mg/dL after treatment with bisphosphonates received denosumab 120 mg on days 1, 8, 15, and 29 and every 4 weeks thereafter.

Twelve patients achieved the primary endpoint of CSC ≤ 11.5 mg/dL within 10 days, with a median decrease of 2.7 mg/dL on day 10. Duration of response was a secondary endpoint with a median of 26 days.

The reported adverse effects included nausea (20%), hypercalcemia associated with cancer progression (20%), and pyrexia (20%). A total of 14 patients (93%) experienced adverse effects, 8 (53%) of which were fatal but not considered related to denosumab. The researchers noted that “the safety profile of denosumab observed in this study was similar to that reported previously for denosumab and is consistent with an advanced cancer population.”

The researchers concluded that “these interim results suggest that denosumab may offer a new treatment option for HCM in this challenging population.”

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Hu MI, Glezerman I, Leboulleux S, et al. Denosumab for patients with persistent or relapsed hypercalcemia of malignancy despite recent bisphosphonate treatment. *J Natl Cancer Inst*. 2013;105(18):1417-1420.