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Preoperative Parenteral Ibandronate for Treating Severe Hypercalcemia Associated with Primary Hyperparathyroidism: An Effective and Cheap Drug

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Abstract

Aim: Primary hyperparathyroidism (PHPT) is a prevalent mineral metabolism disorder usually caused by a single parathyroid adenoma. Although PHPT is the most frequent cause of hypercalcemia, severe hypercalcemia cases are rarely encountered. Some patients admitted because of hypercalcemia require intravenous bisphosphonate treatment. The present study aimed to investigate the efficacy of intravenous ibandronate, which is a more cheap drug than other parenteral bisphosphonates, in the preoperative treatment of symptomatic hypercalcemia in patients with PHPT.

Material-Metods: The medical records of patients operated in a Dicle University Endocrinology clinic between 2010 and 2017 due to PHPT were retrospectively evaluated. Patients who were admitted because of hypercalcemia associated with parathyroid adenoma and underwent minimally invasive surgery subsequent to the lowering of calcium levels via preoperative intravenous ibandronate and zolendronate were included.

Results: Totally, 24 of 167 patients received a preoperative bisphosphonate due to hypercalcemia associated with PHPT. Five female and two male patients were treated with zoledronate only. Thirteen were treated with ibandronate only. Seven of the 13 patients were female and six were male. The mean calcium level in patients before ibandronate treatment was 14.31±0.92 mg/dL, and the mean duration of calcium regulation after ibandronate treatment was 3.31±1.03 days. The mean calcium level after ibandronate treatment was 10.19±0.89 mg/dL (p=0.001).

Conclusion: In Turkey, ibandronate use reduces the cost of hypercalcemia treatment by 8570%. Parenteral ibandronate for treating severe hypercalcemia associated with PHPT may thus be an effective and cheap drug. Hypocalcemic period was shorter in the ibandronate group.

Keywords: Hyperparathyroidism, hypercalcemia, ibandronate

Table 1. Characteristic of patients groups.

	Ibandronate group n =13	Zoledronate group n=7	P value
Age (year)	62±19	57±17	N.S.
Sex (female/male)	7/6	5/2	N.S.
Calcium (mg/dl) before treatment	14.3±0.92	14.6±0.96	N.S.
Calcium (mg/dl) after treatment	10.19±0.89	11.02±1.18	N.S.
PTH (pg/ml)before treatment	585±398.95	1351±580	N.S.
PTH (pg/ml)after treatment	44±43.15	28.86±1.58	N.S.
Post-bisphosphonate hypocalcemia (yes/n)	3/13	5/7	
Drug cost (USD)	22	84	

Characteristic of patients groups (N.S: non-significant).

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