Letter to the Editor

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Indication for Oral 1,25-Dihydroxy vitamin D₃ Pulse Therapy in Patients with Renal Osteodystrophy at Hemodialysis Induction

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Dear Sir,

Most cases in which 1,25-dihydroxyvitamin-D₃ [1,25(OH)₂D₃] pulse therapy was performed seem to have severe secondary hyperparathyroidism [1, 2]. The set-point between Ca and parathyroid hormone (PTH) is thought to be already abnormal at the end stage of renal failure and the number of receptors of parathyroid glands to 1,25 (OH)₂D₃ is also already decreased [3-6]. It is not thought to be effective to administer conventional doses of 1,25(OH)₂D₃ to patients in this condition. Therefore, many patients develop secondary hyperparathyroidism instead of receiving the effect of 1,25(OH)₂D₃ therapy.

Figure 1 shows a case that had a good serum PTH level after receiving 1,25(OH)₂D₃ by conventional therapy following hypercalcemia due to its pulse therapy. We consider hypercalcemia as a sign of normalization of the set-point and a reduction of hungry-bone status. At this point, alkaline leukocyte phosphatase (ALP) isoenzyme is also normalized.

We noted several cases which had moderately elevated serum PTH levels (C-PTH: 7-12 ng/ml, normal range: less than 0.5 ng/ml).

We would like to propose a protocol for administering 1,25(OH)₂D₃. At first the set-point should be normalized by oral 1,25(OH)₂D₃ pulse therapy from induction of hemodialysis while testing for hypercalcemia. When hypercalcemia appears and ALP isoenzyme is normalized (%ALP₂ > %ALP₃), the set-point is considered to change for the better, and conventional therapy should

A = 1,25(OH)₂D₃ 3.0 µg x 2/month
1,25(OH)₂D₃ 2.5 µg x 2/month C = 1,25(OH)₂D₃ 2.0 µg x 2/month

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Fig. 1. A case (male, 39 years old, hemodialysis duration 76 months) that had a good serum PTH level after receiving 1,25(OH)2D3 by conventional therapy following hypercalcemia after oral pulse therapy.

be begun. By this method, the conventional ers [e.g. CaCH3COO]2 can be expected to dose of 1,25(OH)2D3 will be effective for the increase.

parathyroid glands, and, moreover, there is a We would like to propose administering possibility that the dose of 1,25(OH)2D3 can oral 1,25(OH)2D3 pulse therapy at the induc-

be decreased. As the result, phosphate bind- tion of hemodialysis.

References


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