

The Effect on the 1-84 PTH/7-84 PTH Ratio by Renagel, Phoslo, Calcium, Tums

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It has been demonstrated that the intact PTH assay is a measurement of both 1-84 PTH (hypercalcemic) and 7-84 PTH (hypocalcemic). Also, the 1-84 PTH/7-84 PTH ratio may be predictive of bone turnover in that patients with adynamic low bone turnover have low ratio values and patients with high bone turnover have high ratio values. The ratio has been shown to decrease when serum Ca is raised and the ratio increases when serum ca is lowered. We studied 79 patients (pts) on Renagel (average dose 7.07 g/d), 21 pts on Phoslo (average dose 5.27 g/d), 2 pts on supplemental calcium, 3 pts on Tums (average dose 7.78 tabs/d) and 8 pts not receiving any of the above. We measured and compared all of the PTH parameters which are summarized below:

	Total PTH	1-84 PTH (CAP™)	7-84 PTH (CIP™)	1-84 PTH/7-84 PTH (CAP™/CIP™)	Calcium	Phosphorus
Renagel	351	240	126	2.09	10.6	6.02
Phoslo	289	272	113	2.06	9.29	5.72
Calcium	80	46	34	1.3	9.75	5.00
Tums	201	144	57	2.67	9.00	4.52
None	226	181	45	3.25	9.41	5.02

According to more recent reports, the ratio value of 1.3 for the Ca group would predict adynamic low bone turnover disease. The ratio from the Ca group was significantly different from the ratio from the group not receiving any of the above agents. This is in accordance with expectations from previous studies. It is noteworthy that with this limited study that no differences were observed in the ratio with some differences in serum phosphorus and ca for the pts receiving either Renagel or Phoslo. This effect of Renagel and Phoslo on the ratio needs further investigation. It is interesting that there was a small difference in the ratio between the group receiving no agents and the group receiving Tums (Ca carbonate), however, there was a significantly lower ratio value in the group receiving Calcium compared to the group receiving Tums.

Mere, Dr. Fehmi, Dr. Llach. "The Effect on the 1-84 PTH/7-84 PTH Ratio by Renagel, Phoslo, Calcium, Tums". *J Amer Soc Nephrol* 2003(Nov); 14:586.