

ASSOCIATION OF HCO_3 AND PHOSPHATE WITH PTH LEVELS (iPTH, CAP, CIP and tPTH) IN A HEMODIALYSIS COHORT.
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Mineral metabolism and bone turnover are influenced by numerous factors including calcium, phosphorus and vitamin D levels and acid-base status. We investigated how these factors are associated with intact PTH and Scantibodies PTH measures (1-84CAP, 7-84CIP and total PTH) in hemodialysis patients. We collected cross sectional data on 56 patients on chronic hemodialysis at Harlem Hospital: (84% African American, 14% Hispanic, 2% Caucasian, 64% male with mean age of 54.6 ± 14.2 yrs) ionized calcium (iCa: 4.6 ± 0.4 mg/dL), phosphorus (P: 5.1 ± 1.5 mg/dL), 25 hydroxy vitamin D (25VD: 30.1 ± 15 ng/mL), bicarbonate (HCO_3 : 21.7 ± 2.1 mEq/L) intact PTH (iPTH: 535.6 ± 446.3 pg/mL), Scantibodies CAP 1-84 (275.3 ± 221.3 pg/mL), CIP 7-84 (216.2 ± 170.3 pg/mL), total PTH (tPTH: 491.8 ± 382.3 pg/mL). We were particularly interested in the HCO_3 results as there is evidence, not now conclusive, suggesting that metabolic acidosis is associated with increased PTH levels in dialysis patients. Univariate analysis revealed that all 4 PTH measures were strongly correlated (inversely) with HCO_3 . The phosphate concentration was also

		tPTH	1-84 (CAP)	7-84 (CIP)	iPTH
HCO_3	r	-0.508	-0.518	-0.475	-0.416
	(p)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
P	r	0.414	0.435	0.368	0.302
	(p)	(0.002)	(0.001)	(0.006)	(0.035)

significantly correlated with all 4 PTH measures, but less strongly.

Though causality cannot be demonstrated in this cross sectional analysis, these data lend support to current recommendations to correct acidosis and hyperphosphatemia. Further studies are needed to confirm these associations and to elucidate their biologic bases.