

MINERAL METABOLISM STATUS OF INCIDENT ESRD PATIENTS IN AN INNER CITY HEMODIALYSIS UNIT

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Chronic Kidney Disease (CKD) predisposes to derangement in mineral metabolism (MM), a well known risk factor for increased mortality in ESRD patients. Since Medical Evidence form 2728 by Centers for Medicare and Medicaid Services (CMS) for incident ESRD patients does not require documentation of MM markers, status on incident patients remains unknown. Hence we conducted an observational, retrospective study to determine the MM status of incident ESRD patients.

We studied all incident ESRD patients between January 2000 and September 2008. Patients followed up for < 3 months were excluded. Laboratory data from preceding 15 days of initiation of dialysis was collected. Calcium level was corrected for serum albumin. Target values for CKD stage 5 were defined as per K/DOQI guidelines* 2003.

Total of 174 patients were studied with mean age of 53.7 ± 16.1 years, mean Body Mass Index of 26.67 ± 5.98 Kg/m² and mean estimated GFR of 6.7 ± 4.03 mL/min/1.73m². Mean Lab values with 1 standard deviation were as follows: corrected calcium (Ca) 8.5 ± 1.3 mg/dL, serum albumin (Bromcresol Green method) 3.05 ± 0.77 gm/dL, phosphorus (P) 5.5 ± 2.2 mg/dL, intact parathyroid hormone (PTH) 440.9 ± 397.8 pg/mL and Ca x P product 46.7 ± 18.5 mg²/dL². Target values for Ca, P, PTH and Ca x P were met in 34%, 42%, 31% and 72% of patients respectively while only 6% met all four target values.

Ca (mg/dL) (%)	P (mg/dL) (%)	PTH (pg/mL) (%)	Ca x P (mg ² /dL ²) (%)
<8.4 (45)	<3.5 (16)	<150 (17)	<55* (72)
8.4-9.5*(34)	3.5-5.5* (42)	151-300* (31)	>55 (28)
9.6-10.2(16)	>5.5 (42)	301-600 (28)	
>10.2 (5)		>600 (24)	

MM abnormalities are widely prevalent in incident dialysis patients at initiation of therapy. MM management continues to be a challenge and warrants early recognition and aggressive therapy in CKD patients. Inclusion of MM indicators in CMS Medical Evidence form will assist in ascertaining the magnitude of MM derangement in ESRD.