

IMPROVING PHOSPHATE MANAGEMENT IN PATIENTS APPROACHING END STAGE RENAL DISEASE

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INTRODUCTION Phosphate management in patients approaching end stage renal disease (ESRD) is a challenge for members of the multi-disciplinary (MDT) team. Inadequate control of serum PO₄ may lead to short term complications of itch, red eyes, and long term complications with raised calcium x phosphate product leading to soft tissue calcification, increasing the risk of morbidity and mortality. Management of PO₄ involves careful dietary modification with the prevention of malnutrition, and the introduction of PO₄ binders.

AIM An audit of serum phosphate (PO₄), intact parathyroid hormone (iPTH), corrected calcium (CCa), and calcium x phosphate (Ca x P) product was undertaken in a group of nephrology outpatients approaching ESRF. Results were compared with Renal Association standards and audit measures with a view to making recommendations for future management.

DESIGN Serum levels of iPTH, PO₄, CCa and Ca x P product in 308 nephrology outpatients approaching ESRF with creatinine clearance (cr cl) < 30ml/min attending two centres were audited in June 2003. Data was collected on all patients who had attended the nephrology clinic within the past 18 months. Patients on conservative management were excluded. Data was downloaded from a networked computer system, sorted and analysed using excel spreadsheets. Results were collated and presented to the renal unit audit group for discussion.

RESULTS Data from 308 patients was analysed, according to two groups, cr clearance of < 15ml/min and 16 – 30 ml/min.

Data:

	Cr clearance <15ml/min	Cr clearance <16-30ml/min
Patient numbers	88	220
No iPTH recorded	44%	62%
iPTH > 4x upper limit of normal	33%	15%
Ser PO ₄ >1.9mmol/l	14%	3%
Ser PO ₄ > upper end normal (1.36mmol/l)	61%	29%
Ca X P product > 4.44	11%	4%
Ser CCa > upper end normal (2.63mmol/l)	4%	2%
Serum CCa < lower end of normal (2.2mmol/l)	12%	7%

CONCLUSION Results indicate that PO₄ management could be improved, data was presented at a renal unit audit meeting, and a number of recommendations made, these include monthly PO₄ management meetings with consultant nephrologists, dietitian, liaison nurse and pharmacist; evidence based PO₄ management guidelines to be written and circulated within the department; PO₄ management workshops for members of the MDT; discussion of future competence based prescribing of PO₄ binders by dietitian, and re auditing of data in 12 months.

DISCUSSION Results of this audit highlighted a number of areas for improvement in the management of PO₄ in this group of patients. It is hoped that with a pro-active, cohesive approach, improved outcomes will be demonstrated.