Royal Cornwall Hospitals NHS
NHS Trust

An Example of the Impact that Renal Registry Results can have on Dietetic Practice in the Management of Patient Bone Profiles

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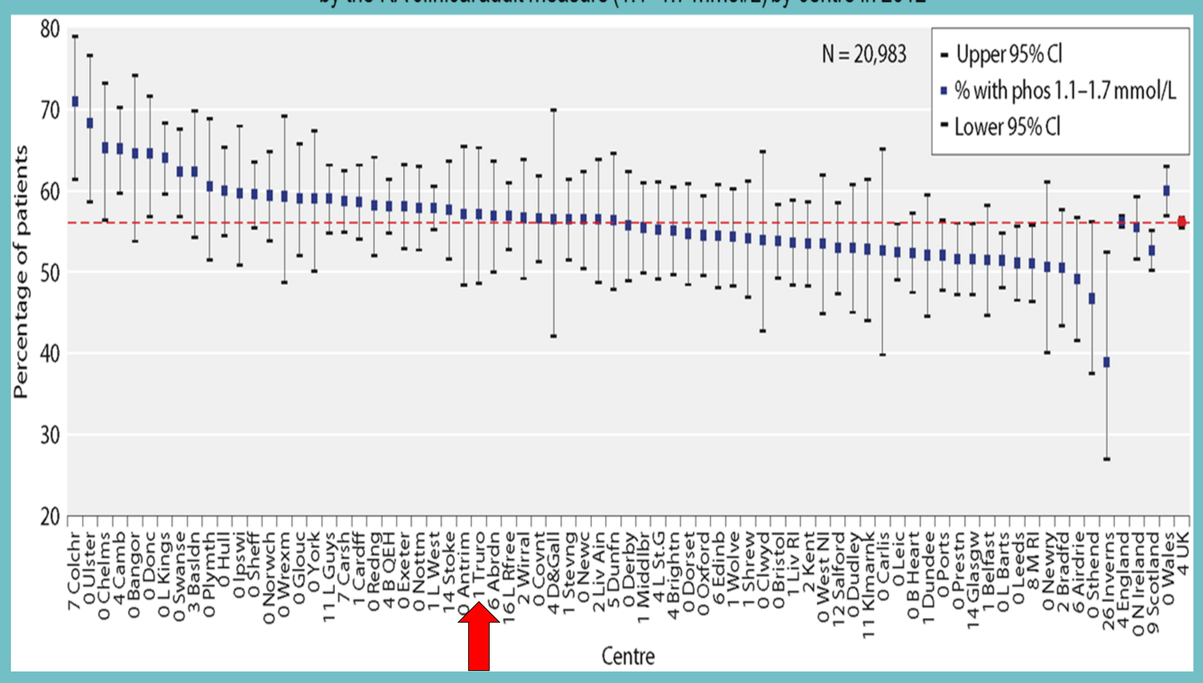
Introduction:
Dietitians have an important role to play in the management and treatment of renal bone disease in Haemodialysis (HD) patients. The optimisation of phosphate (Po4) control is vital due to the increased mortality risk and reduction in quality of life associated with both hyper- and hypophosphatemia. The current Renal Association (RA) target range for phosphate control in HD is 1.1 – 1.7 mmol/L. The 2013 Renal Registry (RR) Report showed that in Cornwall 73% of our HD population achieved a Po4 level <1.7 mmol/L but within this **16.5%** were under the lower target of 1.1mmol/L (national average **12.4%)**

Figure 12.1. Percentage of haemodialysis patients with phosphate within the range specified by the RA clinical audit measure (1.1–1.7 mmol/L) by centre in 2012



Purpose:
Considering the data from the RR Report, our aim was to identify patients with a low Po4, looking at factors that may be contributing to this. The intention was to enable better Po4 control with the associated benefits to quality of life and mortality risk, in line with Renal Association targets.

Design:
In April 2014 we undertook a retrospective audit of our HD population (n=134). We identified any patients with a Po4 <1.1 for ≥2 months out of the previous 6. In those patients we looked at BMI (kg/m^2), PTH (pmol/L), number of hospital admissions in the 6 month period, nutritional status using subjective global assessment (SGA) & use of Po4 binders.

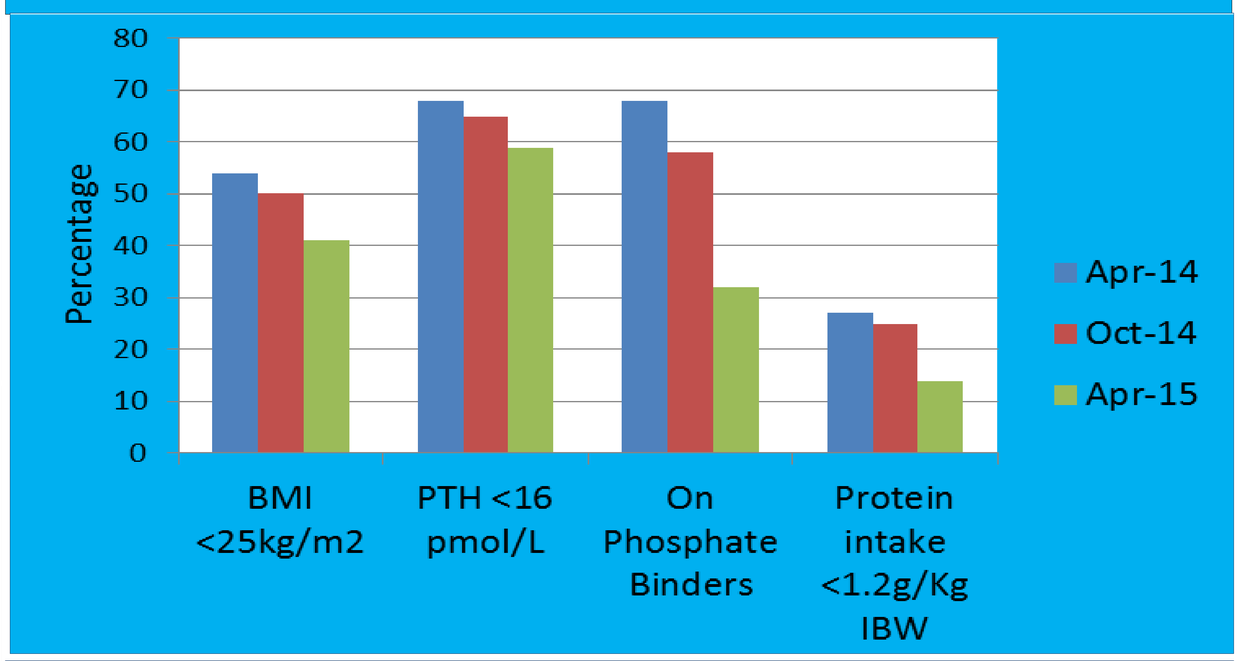
Findings:
22 patients (16%) had a Po4 <1.1. This was in line with the 2013 RR data. Of these, 12 had a BMI <25, 15 had a PTH <16 and 3 had had an acute hospital admission in the last 6 months. According to our nutritional assessment 6 had a protein intake lower than recommendations and 15 were on Po4 binders. 5 patients were on Home HD.

Dietetic Plan:
From the findings a stepwise plan of action was agreed with our consultants to:

- Address any acute medical concerns that may be impacting on nutritional status
- Increase Po4 intake using diet/oral nutritional supplements (ONS) as required
- Adjust/relax binder dose or discontinue binders if no improvement after 3-6 months

Follow up:
The 22 patients were followed up at least once within 6 months and again within the following 6 months to monitor progress, in keeping with RA and professional standards. We found that 4 patients had sadly passed away within the 12 month period. At 12 months the use of Po4 binders had reduced by 53%. In the same period 3 patients increased flesh weight to give a BMI >25 and significantly, only 8 patients now had a Po4 <1.1. 13 patients still had a PTH <16.

Associated factors in the 22 Hypophosphataemic pts at beginning and following Dietetic Intervention, at 6 & 12 months



Outcome:
We compared the data in the RR Report 2013 with that of the RR Report 2015. The table below shows the improvement in Po4 targets achieved in Cornwall. The improvement to **11.8%** achieving Po4 <1.1 can be favourably compared with the national average of **13.5%.**

Renal Registry Po4 Results for Royal Cornwall Hospitals Trust 2013-2015

RA Targets	2013	2014	2015	Change
1.1 – 1.7	57.1 %	58.3 %	66.9 %	+9.8 %
>1.7	26.4 %	23.7 %	21.3 %	-5.1 %
<1.1	16.5 %	18 %	11.8 %	-4.7 %

Conclusion:
Our findings suggest that factors such as low BMI and inadequate protein intake can contribute to hypophosphataemia in the HD population in Cornwall. We found that Po4 levels can be improved with tailored dietetic intervention to increase dietary protein in conjunction with adjustment or discontinuation of Po4 binders. We feel we have highlighted the benefits of combining local audit with Renal Registry data to decrease mortality risk and improve quality of life in our patients while making service and quality improvements.

Figure 9.1. Percentage of haemodialysis patients with phosphate within the range specified by the RA clinical audit measure (1.1–1.7 mmol/L) by centre in 2014