UKRPG
UK Renal Pharmacy Group

Welcome to the August Q&A!

Trusts represented today include: Cambridge, East and North Herts, Guy's and St Thomas', North Bristol, Cork, Glasgow, Bristol, Dundee, Devon and Exeter, Limerick, Lancashire, Northampton, Merseyside and the Wirral

Q+A monthly meeting new format

- First presentations in June/July met with success…. 😁

- 10-15 minute bite site presentation/update from an RPG member
  - Themes that regularly come up in the Whatsapp group (anticoagulation on HD)
  - Case presentations – opportunity for portfolio entry
  - Other updates from UKKA

- June Q+A
  - Robert Brown to present the UKKA presentation on Roxadustat
- July Q+A
  - Natasha Moore presenting the ERA/UKKW overview
- Aug Q+A
  - Louise Condon/Robert Brown presenting the two sides of the denosumab story
- Sept Q+A
  - ?BK talk from Leeds consultant

Any feedback/requests gratefully received ☺
New members to clinical sub-group welcome ☺

Updates

- **RPG conference 2024 11th/12th October** - Registration currently open ☺
  - Birmingham Arden Hotel, £250 for full programme
  - Programme circulated via whatsapp
  - Abstract submissions open until 1st September

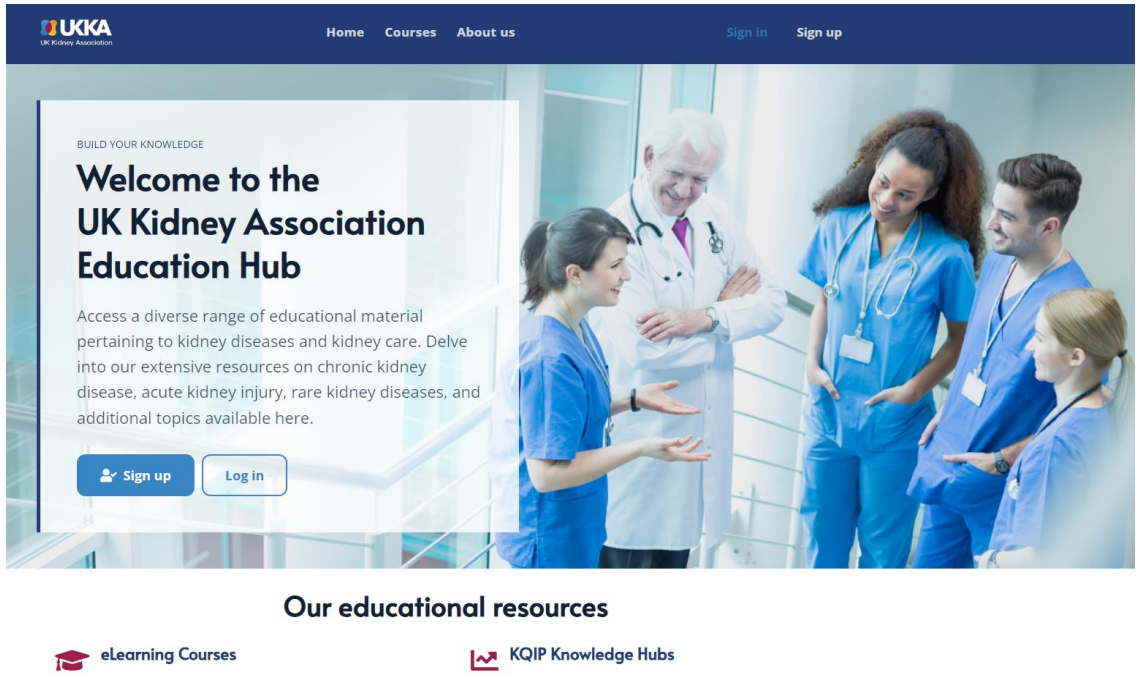
- **UKKA guideline – living with frailty and CKD**
  - See link in the chat shared by Clare – great for portfolios ☺

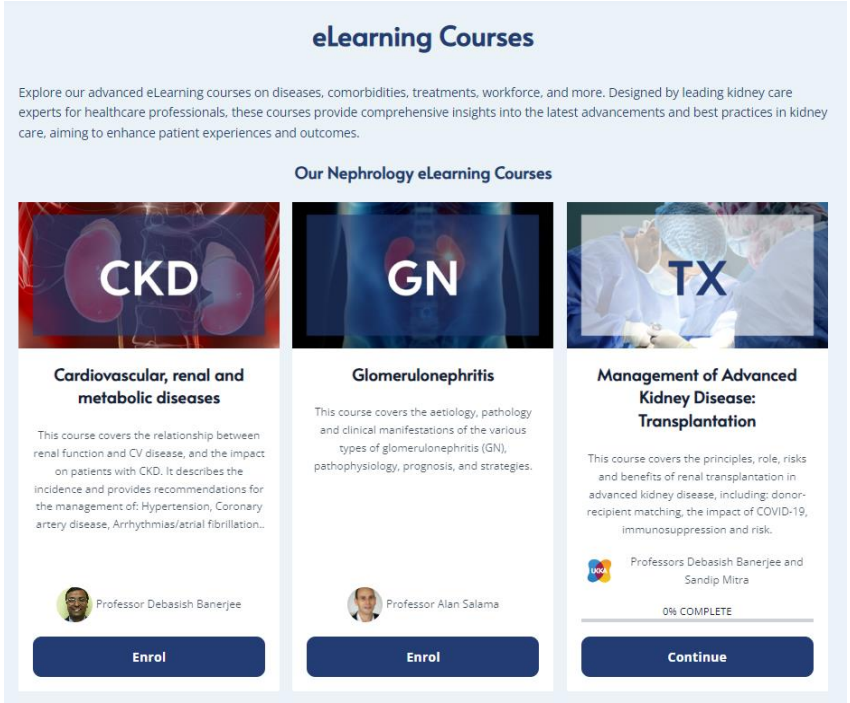
- **Monthly teams chat for advanced/consultant portfolios**
  - Email cathy.pogson@porthosp.nhs.uk if you would like to join
  - Members have been linked up into smaller groups to work together and then link back into the bigger group in time
  - Monthly meetings to suspend until over summer

- **Reminder to check your RPG membership is up to date**
  - Large number of lapsed memberships, currently being checked against the Q&A whatsapp group list
  - If you are not receiving the emails from UKKA, email the secretarial team (Caitlin Sewell)

Updates

- KRUK have opened applications for research grants 🤩
  - Pharmacy-led research and research into nephrotoxicity grants
    - Speak to Kathrine Parker, Dane Howard or Cathy Pogson for more information
- UKKA guidance on measles
- UKKA Education and Training Hub is now live
  - UKKA Learning Hub (ukkidney.org)
  - Resources on CKD, Glomerulonephritis and Transplantation
  - Other resources and links to follow





Guy's and St Thomas' NHS
NHS Foundation Trust

NHS
North Bristol
NHS Trust

Denosumab in CKD 4/5

Doable or disaster?

Louise Condon, Guys and St Thomas' NHS Foundation Trust
Robert Brown, North Bristol NHS Trust

Overview

Guy's and St Thomas' NHS
NHS Foundation Trust

- Challenging area of care
- Most anti-fracture treatments contra-indicated in GFR<30ml/min
- FREEDOM trial (Denosumab) shows a significant reduction in vertebral, nonvertebral and hip fractures in post-menopausal osteoporosis
- No clear recommendations / guidance for the use of Denosumab in fracture prevention in CKD stage 4 + 5
- In CKD stage 4 + 5 denosumab can cause pronounced hypocalcaemia and increased PTH within 15 days
- Close monitoring required +/- calcium supplementation +/- vitamin D receptor agonists

Denosumab and hypocalcaemia – Case 1

North Bristol NHS Trust

- 83 yr female

admitted to hospital with severe hypocalcaemia. Preceded by one day history of some confusion with a UTI. Lab phoned adj Ca^{2+} 1.7

- Retired, lives with husband

- Hx:
  - ESKD secondary to Wegner's granulomatosis
  - DBD kidney transplant 1993
  - Anti-cardiolipin antibody positive – on anticoag. Hx VTE
  - Osteoporosis on denosumab – since approx. 2015
  - Parastomal hernia
  - Hartmann’s 2017

Denosumab and hypocalcaemia – Case 1

North Bristol NHS Trust

- Osteoporosis:
  - DEXA 2007 osteoporosis
  - DEXA 2009 osteopenia hip, osteoporosis R and L femoral neck
  - DEXA 2013 osteoporosis # T8, T11, T12
  - Intolerant to bisphosphonates

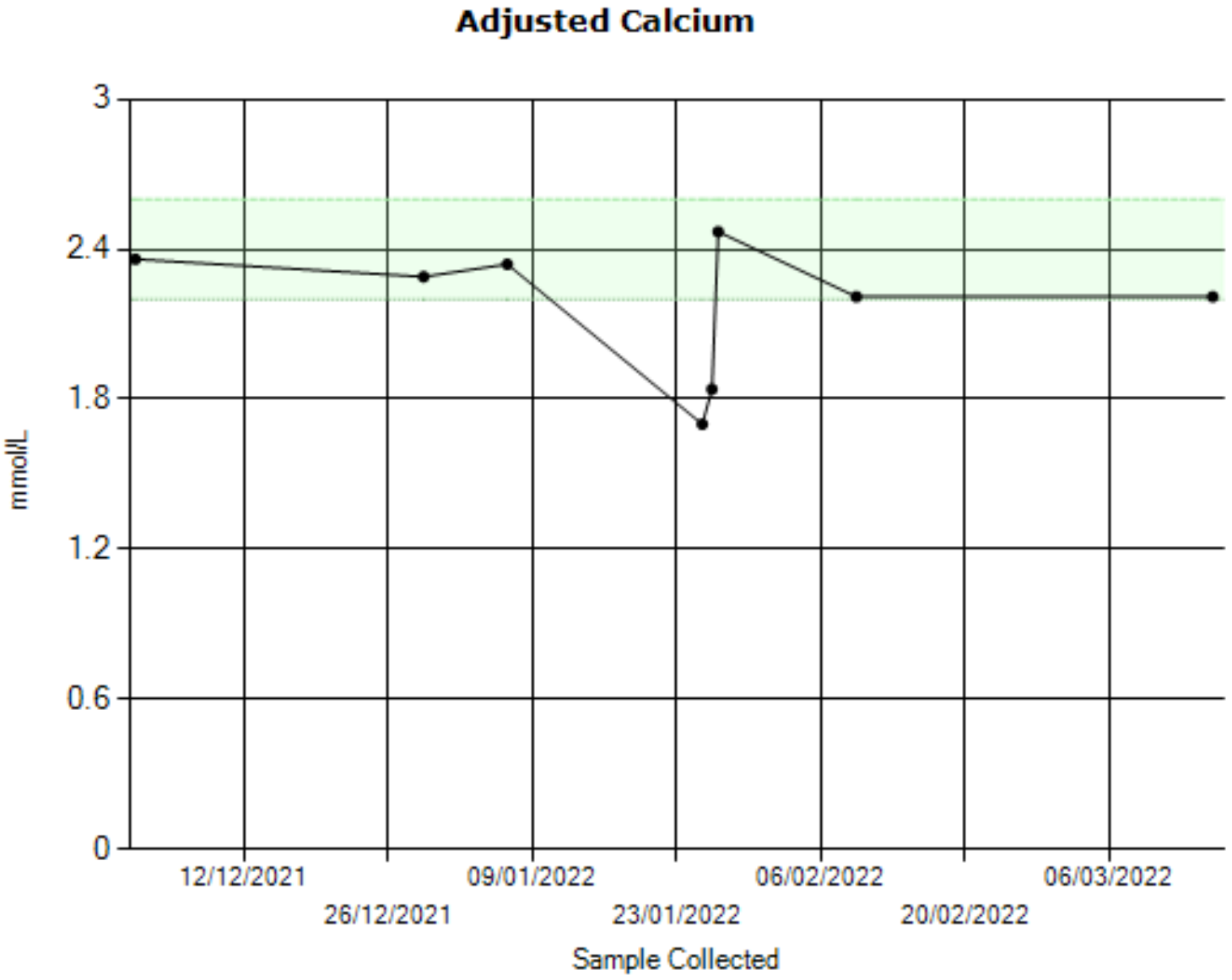
  - **started denosumab approx. 2015**

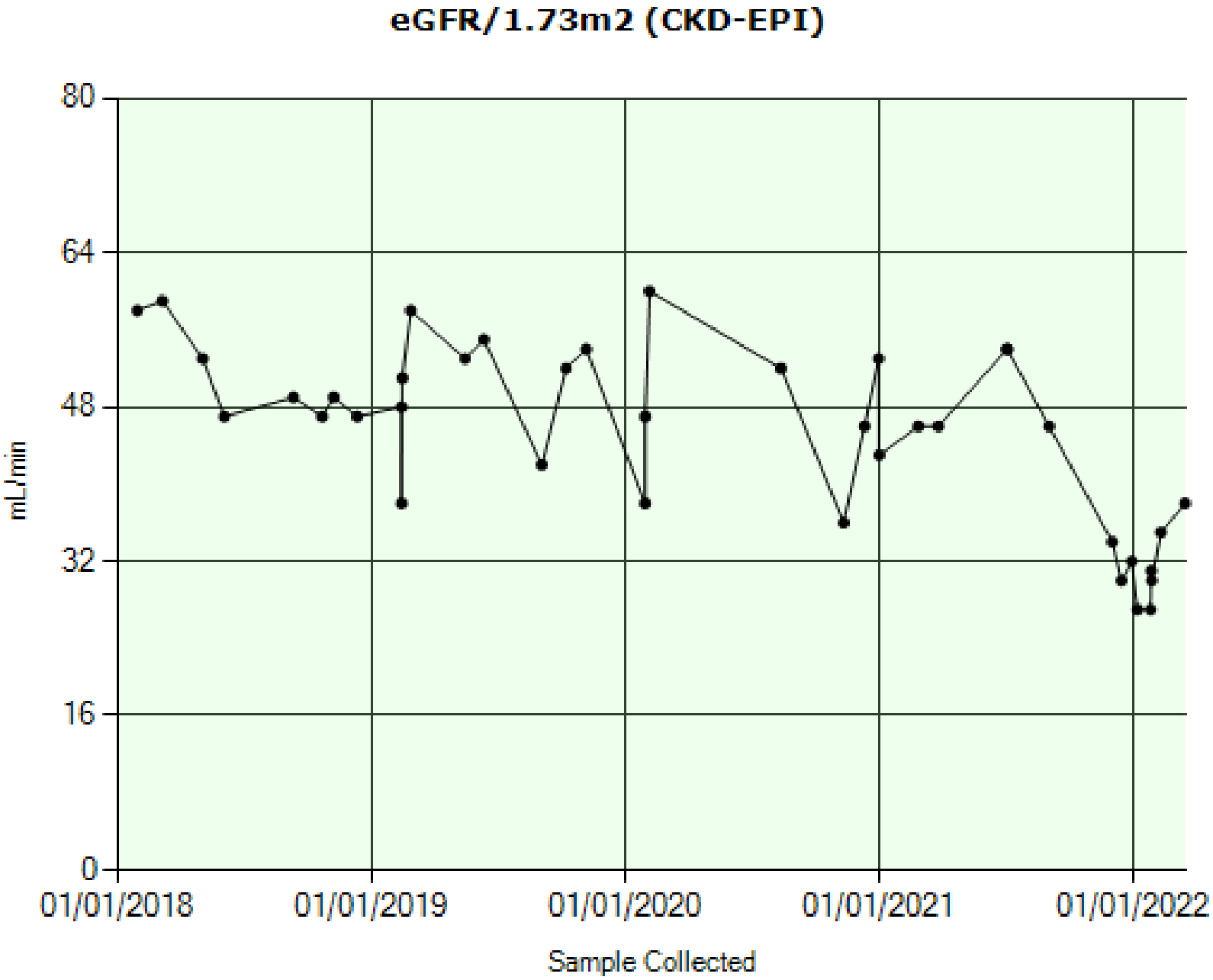
Denosumab and hypocalcaemia – Case 1

North Bristol NHS Trust

- DHx

18.03.22	DARBEPOETIN ALFA 30micg Monthly SC
16.03.22	CO-CARELDOPA 125mg 4 x daily Oral
02.03.22	ENSURE PLUS ACBS 220ml 1 x daily Oral
27.01.22	ALLOPURINOL 200mg 1 x daily
27.01.22	**CALCEOS 1.00 Tab 2 x daily Oral**
17.01.22	**DENOSUMAB 60mg Every 6 month SC**
14.07.21	STEROID WARNING CARD
24.10.18	VANQUORAL 25mg 2 x daily Oral
21.03.17	GABAPENTIN 100mg 3 x daily Oral
21.03.17	BUPRENORPHINE 20micg 1 x week Topic
21.09.16	APIXABAN 2.5mg 2 x daily Oral
13.05.15	MYCOPHENOLATE MOFETIL 500mg 2 x daily Oral
24.05.94	PREDNISOLONE 5mg 1 x daily


Adjusted Calcium
3
2.4
1.8
1.2
0.6
0
mmol/L
12/12/2021
26/12/2021
09/01/2022
23/01/2022
06/02/2022
20/02/2022
06/03/2022
Sample Collected



NHS
North Bristol
NHS Trust

Denosumab and hypocalcaemia – Case 2

- 74 yr female

admitted to hospital with severe hypocalcaemia. HD bloods lab phoned adj Ca^{2+} 1.7

1 of many admission from April to July 2021 with hypocalcaemia

- Hx:
  - ESKD secondary to diabetic nephropathy
  - HD commenced Dec 2018
  - Type 1 diabetes with recurrent diabetic ketoacidosis
  - AKI 2001 recurring acute HD secondary to anti-TB med (Px – TB contact)
  - Hypothyroidism
  - Coeliac disease 2016
  - *C. diff.* Oct 2018
  - Osteoporosis on DEXA scan, following a fractured pubic rami Sep 2019

Denosumab and hypocalcaemia – Case 2

North Bristol NHS Trust

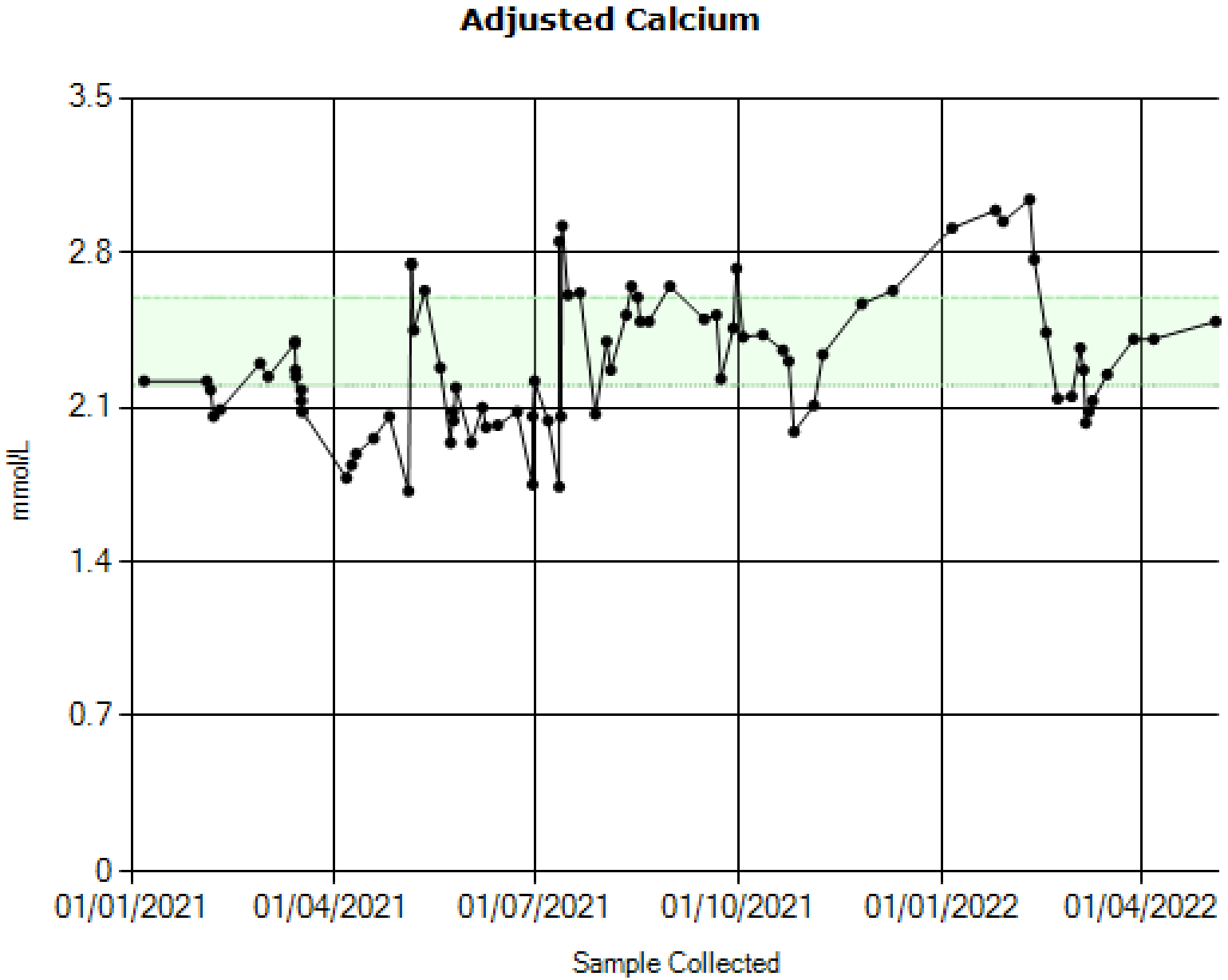
- Osteoporosis:
  - DEXA Jan 2020 osteoporosis
  - fractured pubic rami in Sep 2019
  - Denosumab started March 2021

Denosumab and hypocalcaemia – Case 2

North Bristol NHS Trust

- DHx

17.03.22 DARBEPOETIN ALFA 30micg 1 x week IV
03.03.22 ALFACALCIDOL 500nang 1 x daily Oral
11.02.22 DOXAZOSIN 4mg 1 x daily Oral
12.07.21 ↑A ALFACALCIDOL 1.25 micg 1 x daily Oral STOP 21.01.22
12.07.21 ↑N CALCICHEW (SUPPLEMENT) 2 Tab 3 x daily STOP 04.10.21
01.04.21 Denosumab 60 mg s/c 6 monthly STOP 12.05.22
16.03.20 FOLIC ACID 5mg 1 x daily Oral
06.02.20 FELODIPINE 10mg 1 x daily Oral
10.07.19 EZETIMIBE 10mg 1 x daily Oral
08.04.19 GLANDOSANE LEMON 1 Dose PRN other Oral
14.03.19 ABASAGLAR 100iu/ml 3ml 2 x daily SC
07.12.18 VENOFER (PER-PROTOCOL) PER PROTOCOL IV
21.06.18 LEVOTHYROXINE SODIUM 225micg 1 x daily Oral
10.05.18 NOVORAPID 100iu/ml VAR unit 3 x daily SC



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Denosumab in CKD 4

Guy's and St Thomas' NHS
NHS Foundation Trust

Pre-initiation: CrCl 15-30 ml/min

- Assess for contra-indications: recurrent UTIs, LRTI or soft tissue infection, on concurrent immunosuppressants; consider risedronate (lower dose 35 mg every 2 weeks)
- Measure serum corrected calcium (optimize intake), phosphate, PTH (<100ng/L), 25(OH)vit D
- If 25(OH) < 50 nmol/L; replete with colecalciferol D3) to concentrations > 50 nmol/L
- Aim for PTH <100ng/L (consider addition of active vitamin D (alfacalcidol), optimization of calcium and phosphate)
- If PTH < 40 ng/L: consider reducing or stopping alfacalcidol

Post dose monitoring

- Repeat serum corrected calcium within 2 weeks, if low, increase calcium supplementation or if taking active vitamin D (one-alfa calcidol), increase dose
- Further follow up in 6 weeks for repeat calcium/PTH
- ?Role of MDT / GP follow up?

Denosumab in CKD 5

Guy's and St Thomas' NHS
NHS Foundation Trust

Pre-initiation: CrCl <15ml/min or dialysis dependent

- Assess risk: recurrent UTIs, LRTI or soft tissue infection, on concurrent immunosuppressants
- Measure serum corrected calcium (optimize intake), phosphate, PTH, 25(OH)vit D
- If 25(OH) < 50 nmol/L; replete with colecalciferol D3) to concentrations > 50 nmol/L
- Aim for PTH <300ng/L (consider addition of active vitamin D (alfacalcidol), cinacalcet, optimization of calcium and phosphate)
- If PTH < 100 ng/L: consider reducing or stopping alfacalcidol

Post dose monitoring

- **CKD 5:** repeat serum corrected calcium within 2 weeks, if low, increase calcium supplementation or if taking active vitamin D (one-alfa calcidol), increase dose. Further follow up in 6 weeks for repeat calcium/PTH.
- **CKD 5D:** repeat corrected calcium **weekly**. If low, increase calcium supplementation (oral +/- dialysate) and/or active vitamin D (alfacalcidol)
- ?Role of MDT / Dialysis unit

Communication is key

Guy's and St Thomas' NHS
NHS Foundation Trust

- Dear Dr X,
- I hope you are well.
- I'm one of the rheumatology pharmacists at Guy's and I'm emailing to just flag that your patient X had her denosumab dose on 16th August. We conducted the first post-dose calcium check yesterday on dialysis and her corrected calcium has dropped to 2.06mmol/l just one week after the dose.
- Ordinarily, the calcium tends to dip up to 2 weeks post dose then recover but I wanted to flag to you in case you recommend any change to her supplementation or dialysate?
- We will continue to monitor weekly for the next 3 weeks and update you if anything else happens.
- Thank you for your help in advance,
- Kind Regards
- Separate comms to dialysis unit nurses, bloods ordered in advance

References

Cummings SR, Martin JS, Mc Clung MR et al Denosumab for prevention of fractures in post menopausal women with osteoporosis. N Engl J Med 2009; 361: 756-765

Jamal SA, Ljunggren O, Stehman-Breen C et al Effects of Denosumab on fracture and bone mineral density by level of kidney function. J Bone Miner Res 2011; 26: 1829-1835.

Sprague SM, Bellorin-Font E, Jorgetti V, Carvalho AB, Malluche HH, Ferreira A, et al. .: Diagnostic accuracy of bone turnover markers and bone histology in patients with CKD treated by dialysis. Am J Kidney Dis 2016; 67: 559–566.

Miller PD, Roux C, Boonen S, et al. Safety and efficacy of risedronate in patients with age-related reduced renal function as estimated by the Cockcroft and Gault method: a pooled analysis of nine clinical trials. J Bone Miner Res. 2005;20:2105-2115.

Q&A – UKRPG Conference 11th/12th October 2024

- **40th Anniversary of RPG Conference!**
- Conference registration currently open
- £250 for both days (including dinner/celebrations and accommodation on Friday evening)
- Abstract submission opens until 1st September
- All posters/abstracts encouraged including if presented at UKKW
- Looking for more volunteers to join the conference committee
- Looking for abstract markers and facilitators for the conference
- Contact linda.ross@gstt.nhs.uk / poojamehta.gudka@nhs.net to get involved
- A number of bursaries may be available – further details to follow, however please do start exploring local funding options ASAP

Supply Problems

- Sando K/slow Na/sando phos
  - Supplies appear resolved
- Taurolock U/Alteplase
  - Taurolock U back?
  - Alteplase 2mg still OOS – options include ULM alteplase (cost pressure) or urokinase
- Mycophenolic acid 360mg
  - Generic issues ongoing, Sandoz are limiting supplies to instalments for homecare companies
- Ibandronate/Pamidronate
  - Unlicensed pamidronate being explored
  - Some centres looking into using zolendronic acid/denosumab depending in indication

Supply Problems

- Ganciclovir
  - Vials in stock, some supplies of pre made bags
- 5% HAS
  - Restrict supply, IVIG panels alerted to likely increase use due to the impact on plasma exchange
- Daliport 0.5 mg strength
  - Round up/down where target range allows. Switching to Advagraf/Envarsus an option
- Budesonide (kinpeygo)– no supply issue but issues getting accounts set up, now available through Phoenix.
- Basiliximab – transplant centres on monthly allocation, unlicensed supplies available but very £££

Q&A Themes - Guidelines

- Treatment of renal artery thrombosis – catheter-directed thrombosis
- UKKA version of the anaemia guideline
- IV heparin for ACS in HD patients

Q&A Themes - Renal

- Dartimumab for cresc IgA
- Tolvaptan on homecare
- Baricitinib for monogenic interferonopathies
- Oxycodone/fentanyl in ESRD
- Apixaban for AF in CKD5 pre-dialysis/monitoring
- Sparsentan through the managed access scheme
- Rituximab and high dose methylprednisolone for vasculitis
- Sodium thiosulfate IV to non-dialysis patient
- Molnupiravir in CrCl < 30 ml/min
- Switching between DOACs, dosing interval extended as per NICE
- Inadine dressings CI in renal impairment
- GLP 1RA in CKD patients
- Cyclophosphamide cumulative dose
- Tolvaptan – frequency of LFT monitoring

Q&A Themes - Dialysis

- Ciprofloxacin dosing for peritonitis
- Xylocaine 10 % spray in needle phobic dialysis patients
- Ivermectin – is it dialysed?
- IV heparin to treat ACS in HD patients
- Kitelock 4 % as line lock
- Lokelma for high potassium in dialysis patients
- Cyclophosphamide dosing on dialysis/filtration
- Etelcalcetide supply for home haemo patients
- Fondaparinux in dialysis patients
- DDAVP prior to tunnelled line insertion
- Vitamin a and e supplementation in dialysis patients with deficiency
- Rivaroxaban 2.5 mg BD and aspirin in dialysis patients – on as per COMPASS trial, now on HD
- Cefazolin dosing for endocarditis in HD (?4/4/6g)

Q&A Themes - Transplant

- ATG peripherally
- High dose MMF for acute rejection
- Polarspeed for transplant immunosupporession homecare supplier
- Switching from tacrolimus to sirolimus
- Roxadustat in transplant patients
- Campath for T cell mediated rejection in renal transplant
- IVIG in BK

June Q&A - Close

Thank you for attending!

Next Q&A: Wednesday 18th September

Keep in touch throughout the month on **WhatsApp Q&A Group**

- >100 participants throughout UK and Ireland
- Useful real time forum for clinical Q's
- Please consider joining!


UKRPG