

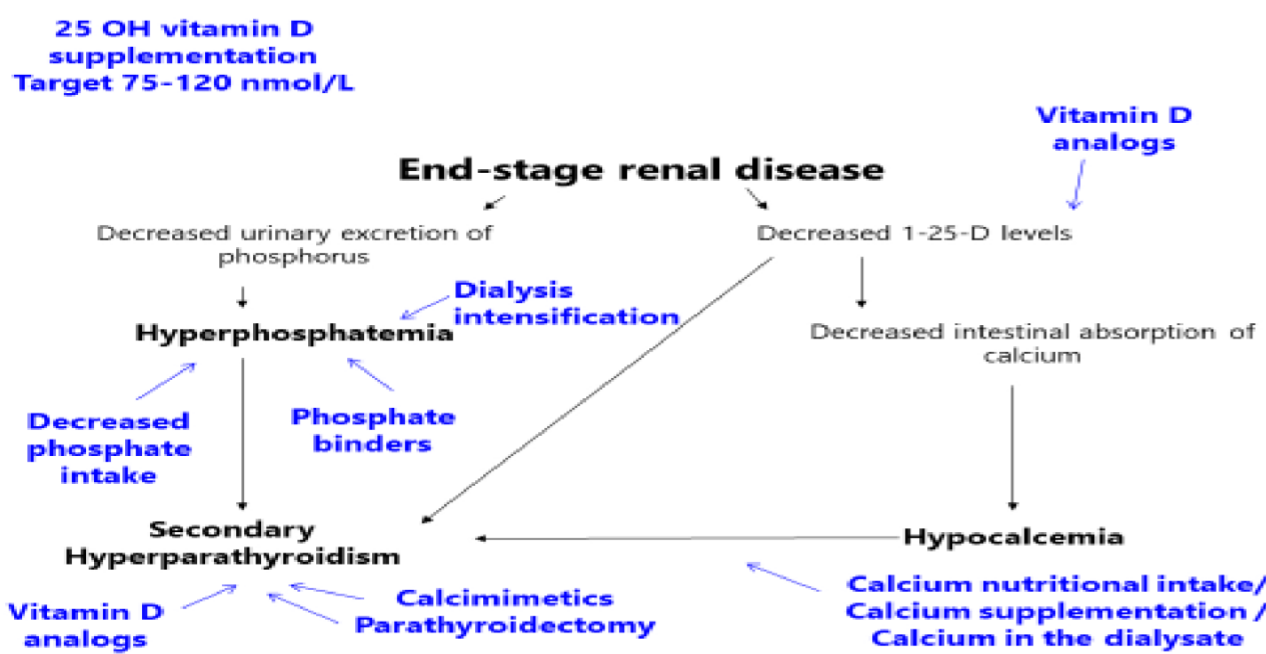
## Introduction

Calciphylaxis is a rare painful disorder related to high morbidity and complex aetiology. Found usually in the Chronic Dialysis population Calciphylaxis requires a multidisciplinary response to assist in symptom and wound management. With modern medication improvements, can we anticipate better outcomes for these patients in the future?

## The Pathology of Calciphylaxis

Calciphylaxis is described as obliterative vasculopathy. It presents as ulcerated lesions with a black eschar usually present in the skin but has also been reported to be found in the lungs, brain, muscle and intestines. Histologically it is characterised by mixed inflammatory infiltrate and subcutaneous calcium deposits and adipose tissue necrosis. Calcium Deposits can be highlighted using the Von Kossa Stain. Affecting women 2:1. Confirmation of diagnosis is by Biopsy.

## Calcium Phosphate Management



Hyperphosphatemia and Chronic Kidney Disease (Bacchetta)

- **Sevelamer (Renagel)** aims to treat Hyper-phosphatemia, it reduces serum Phosphate concentration by binding with phosphate in the gut. Previously these patients may have used Calcium Carbonate.
- **Lamthanum** is a rare earth element which binds with free phosphate to form lanthanum phosphate which is an insoluble compound and is then excreted via the digestive system.
- **Cinacalcet (Sensipar)** will reduce plasma intact parathyroid hormone and result in reduced plasma calcium. Cinacalcet is best taken with food to improve its bioavailability
- **Dialysis Optimisation** Dialysis should always be optimised to at least meet the K/D<sub>tom</sub>OQI guidelines
- **Parathyroidectomy** is associated with greater survival rates for Dialysis patients and an improvement to quality of life. Big gains in decreasing Hypercalcemia, hyperphosphatemia, tissue calcification and bone mineral density. Recommended to be performed in patients under 50yrs old
- **Sodium Thiosulphate (STS)** is an emerging treatment option as a reducing agent that forms water soluble complexes with many metals and minerals. Prescribed 25mgs in the last hr of treatment 3 times per week. It is unknown how long it is of benefit but 2 weeks should see an improvement in pain and is a predictor of long term response.

## Case Presentation

- 76 yr old woman.
- Past history of NIDDM, Primary Hyperparathyroidism 2007 resection of parathyroid adenoma, Renal Calculi, 2008 IgG lambda myeloma (presented with pathological fracture of femur). Continued Hyperthyroidism - normal calcium.
- Dialysis dependent previously. Remained off 2008-2021 with GFR of 14.
- Wound presentation April 2021. Large lateral section of left leg, black and scaly in look, extremely painful (Pic A).

## Treatment

- Surgical intervention. Long segment balloon angioplasty anterior tibial. At this point the wound was thought to be related to critical limb ischemia.
- Increase in Cinacalcet 90mgs daily from 60mgs.
- Sodium Thiosulphate 25mgs x3 per week for 3 months then weekly.
- Adequate Dialysis 3hrs x 3 per week.



A - presentation

B - 3 months

C - 9 months

## Outcome

Support of District Nurses to attend to wound dressings. Pt remains on Dialysis weekly, continues to receive Sodium thiosulphate weekly and remains on Cinacalcet.

## Key Messages

With a coordinated approach, the outcomes for some people with Calciphylaxis will be remarkable but we still have a lot to do to support Chronic Renal Failure patients to dialyse adequately and manage hyperphosphatemia and hyperparathyroidism.

There are challenges for all Dialysis nurses in this area and with the use of modern medications and knowledge, we should see improved outcomes for our Patients

## References

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