



# Oral vs intravenous (IV) pulsed alfacalcidol for the treatment of secondary hyperparathyroidism (SHPT) in haemodialysis patients; an audit of efficacy and cost

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## Introduction:

- Activated vitamin D remains the mainstay treatment for SHPT in haemodialysis (HD) patients
- The optimal route of administration has been researched in recent years, however, there is no consensus at present
- The aim of our audit was to compare the efficacy of pulsed oral vs IV alfacalcidol in SHPT control, through monitoring of bone profiles
- We hypothesize that pulsed oral alfacalcidol could be as effective as the IV route for SHPT control

## The Audit:

- Sample: Eleven chronic HD patients receiving IV alfacalcidol three times a week
- All switched to the same dose of oral alfacalcidol in the second week of October, 2018
- Calcium and Phosphate levels were measured prior to the switch, and monthly for 3 months after, plus a mean value at 6 months
- PTH was measured at 3 and 6 months post switch

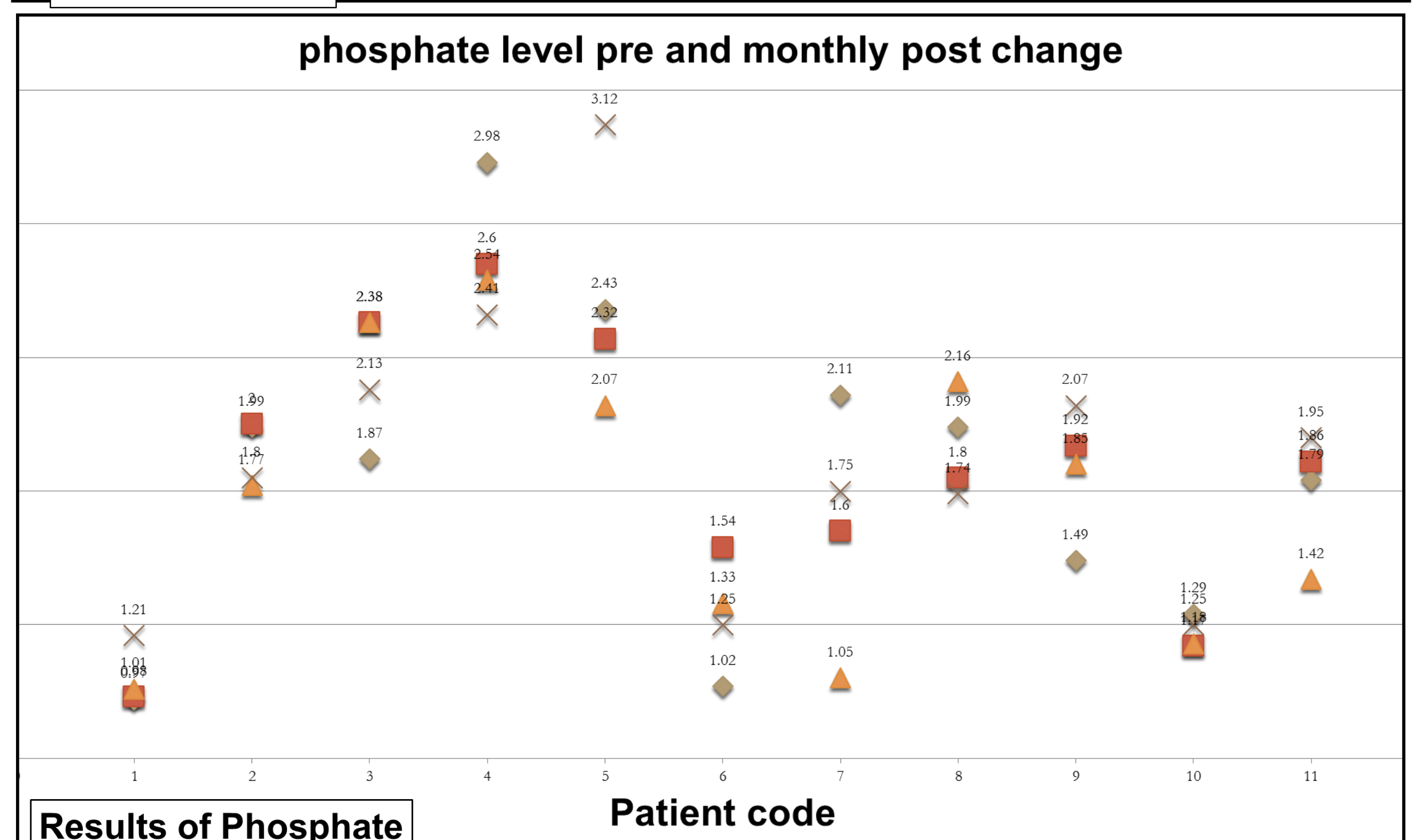
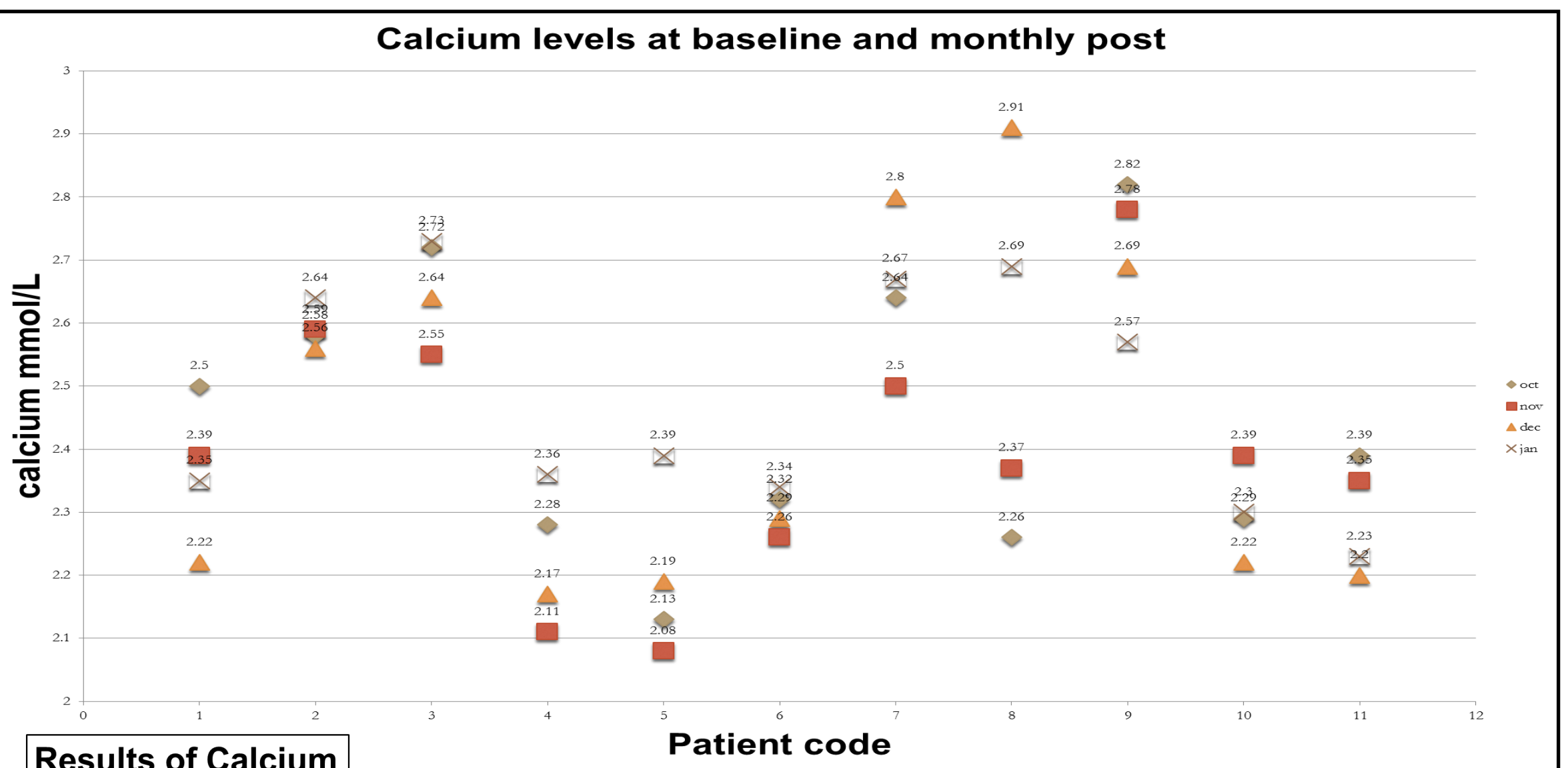
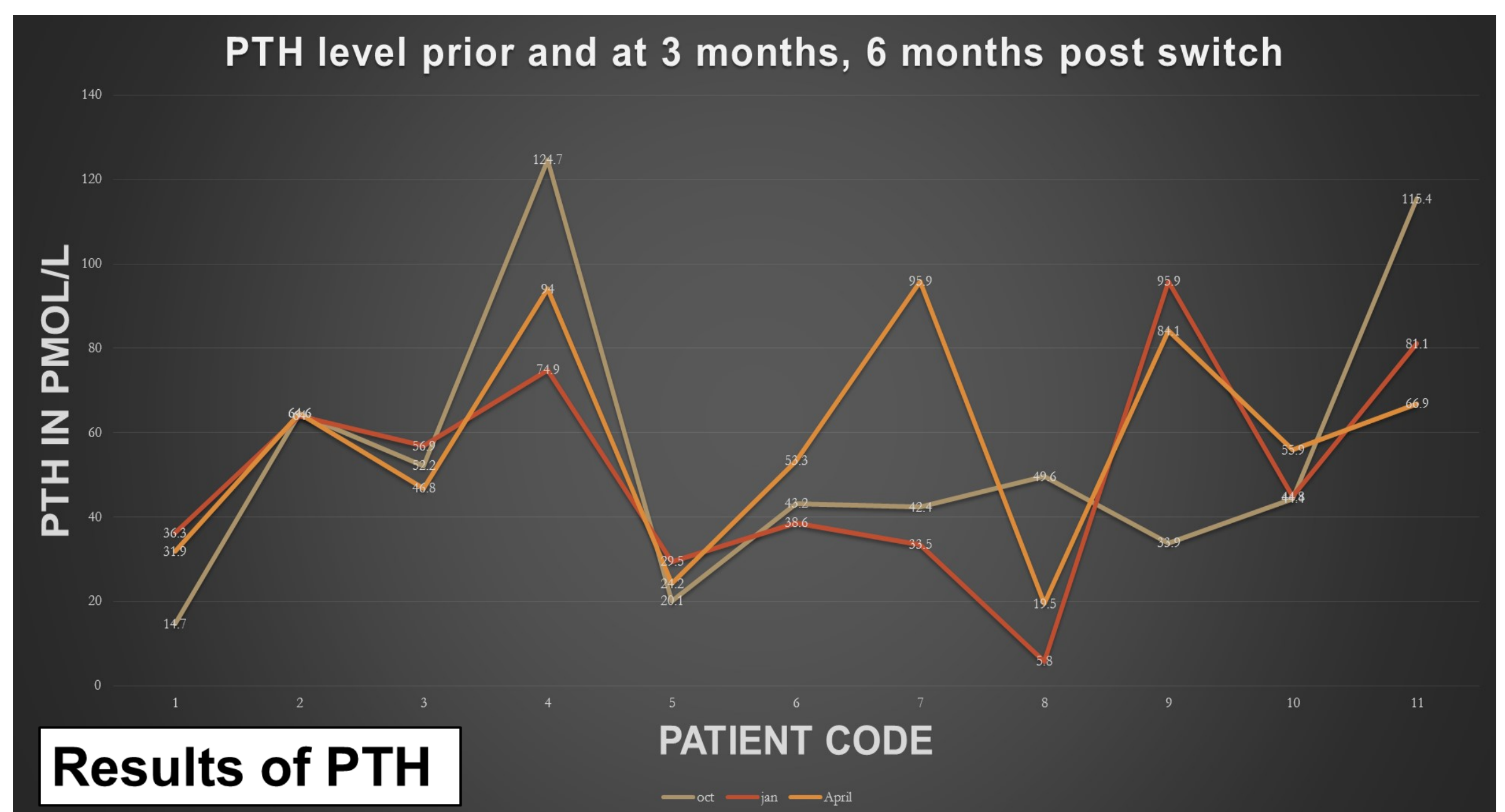
## Discussion

- Our audit has showed that no significant change of serum calcium, phosphate and PTH post oral switch
- Previous studies by other researchers showed similar results to ours, and some showed increased efficacy of pulsed oral alfacalcidol in the control of PTH, and the oral route was proved to be much more cost-effective.
- Drug costs for IV alfacalcidol in our unit are around £1.28 per microgram, compared to £0.14 for the oral equivalent, and £12.40 per dose for paricalcitol which was a proposed alternative drug to use prior to our oral switch.
- Adding further savings from nursing time and use of consumables, for our single small satellite unit we estimate approximately £4000 savings per annum from drug and consumable in comparison to IV alfacalcidol, and more than £20,000 cheaper than IV paricalcitol.

## Conclusion

Our findings support the switch from IV to oral pulsed alfacalcidol for HD patients with SHPT, which is both clinically and economically effective.

| Mean value         | Pre-switch | Post switch at 3 Ms | Post switch at 6 Ms |
|--------------------|------------|---------------------|---------------------|
| Calcium (mmol/L)   | 2.44       | 2.44                | 2.38                |
| Phosphate (mmol/L) | 1.81       | 1.80                | 1.91                |
| PTH (pmol/L)       | 51.01      | 51.02               | 57.9                |
| Alfacalcidol (mcg) | 1.4 (IV)   | 1.36 (P.O.)         | 1.34 (P.O.)         |



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