

A Case report: Hypoparathyroidism, nephrocalcinosis and replacement therapy

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Introduction

- The objectives of treatment in hypoparathyroidism are controlling symptoms and maintaining serum calcium in the low-normal range and serum phosphorus within a normal range without developing hypercalciuria and nephrocalcinosis.
- We present a case who has hypocalcemia and hyperphosphatemia and also nephrocalcinosis.

Case Report

Medical history

- A fifty-years old man was admitted to hospital for routine visit .
- At the age of 24, in Neurology department basal ganglion calcification was diagnosed caused by hypoparathyroidism.
- Medical treatment was included oral daily 1,25(OH)₂D 0.25 mcg, 1333 IU Vit D, and 2500 mg calcium carbonate and also 880 IU Vit D3.

Laboratory

Calcium	7.6 mg/dl
Phosphorus	5 mg/dl
Parathormon	4 pg/dl
Creatinine	1.3 mg/dl

Radiology

- Renal ultrasonography showed bilateral extensive medullary hyperdense images diagnosed as nephrocalcinosis.

Treatment

- Medical treatment was changed to daily 1,25(OH)₂D 0.25 mcg 2x1, 2500 mg calcium carbonate and also 880 IU Vit D3 .
- We followed serum calcium and phosphorus monthly, serum creatinine every 3 month and renal ultrasonography every 6 month.

Results of the 6th month

Calcium 8.8 mg/dl

Phosphorus 4.1 mg/dl

Creatinine 1.3 mg/dl

- Renal ultrasonography showed slightly increased hyper echogenicity of medullary more distinctive in the left renal images.



Right renal image



Left renal image

Conclusion

- In autosomal dominant hypoparathyroidism, heterozygous activating mutations of the CaR gene reset parathyroid and kidney causing hypocalcemia and hypercalciuria.
- Vitamin D treatment results in further hypercalciuria and nephrocalcinosis..
- Some literature suggests the use of injectable parathormon(1-34) when nephrocalcinosis developed in the treatment of hypoparathyroidism but some results showed no difference when compared with conventional therapy.
- In addition, parathormon is not approved by FDA for use in hypoparathyroidism in USA because of the unknown risk of osteosarcoma.
- In Turkey we can only use as a drug except of indication with the permission of Health Ministry.
- In this case: changing medical treatment to more potent calcitriol which has a rapid onset and offset rather than Vit D provided us to keep serum calcium level near the lower limit and also some degree of improvement in nephrocalcinosis.