RESOLUTION OF ANAEMIA AFTER CURATIVE PARATHYROIDECTOMY IN A PATIENT WITH PRIMARY HYPERPARATHYROIDISM

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Introduction

Despite the coexistence of secondary hyperparathyroidism with anaemia, hematological manifestations of primary hyperparathyroidism (PHPT) are rare.

Case report

At admission:

A 67-year-old Caucasian female was admitted to the Department of Internal Medicine due to normocytic anemia and hypercalcemia, diagnosed on occasion of muscle weakness and fatigability for 3 months.

Medical history and physical examination:

Her medication included: alendronate 70 mg/week, alphacalcidol 1μg/day, valsartan 160 mg, hydrochlorothiazide 12.5mg/day, oxcarbazepine 900mg/day and simvastatin 40mg/day. Her family history was negative for diseases affecting bone metabolism. No remarkable signs were revealed from clinical examination.

Laboratory findings:

Initial laboratory assessment showed: hematocrit (Ht): 28.6%, hemoglobin (Hb): 9.3 g/dl, white cell count: 6,760/μl, platelets: 281,000/μl, urea: 13 mg/dl, creatinine: 1.35mg/dl, estimated glomerular filtration rate (eGFR): 44 ml/min/1,73m2, serum total calcium (Ca): 14.3 mg/dl (normal: 8.8-10.6), serum phosphorus (P): 4.9 mg/dl (normal: 2.5-4.5), parathyroid hormone (PTH): 350 pg/ml (normal: 10-53), 25-hydroxyvitamin- D: 7.9 ng/ml (normal: >30 ng/ml), 24h urinary Ca: 300 mg/24h (normal: 0-250).

Imaging findings:

Neck ultrasound revealed a hypoechoic lesion 21x5.4mm suggestive of adenoma of the right lower parathyroid gland, confirmed by Tc99m-sestamibi scan. Plain radiographs of skull, pelvis and long bones did not reveal any findings suggestive of PHPT. Lumbar DXA values 1 year ago were: T-score -3.9 SD.

Investigation for anemia:

Regarding anaemia, comprehensive laboratory, endoscopic and imaging investigation was negative. Bone marrow biopsy and myelogramm showed normal cellularity without fibrosis.

Management and patient's clinical course:

The patient was initially managed with fluid resuscitation, i.v. furosemide and cinacalcet, after alphacalcidol and hydrochlorothiazide discontinuation, which resulted in gradual restoration of renal function and improvement of Ca (10.9 mg/dl).

The patient underwent a successful parathyroidectomy, with postoperative PTH: 31.8 pg/ml, Ca: 9.8 mg/dl and P: 3.4 mg/dl.

Surprisingly, Ht and Hb returned to normal postoperatively. In particular, 3 months later, Ht was 34.5% and Hb: 11.5 g/dl, while after 12 months, Ht: 39.8% and Hb: 13.4 g/dl.

Conclusions

Successful parathyroidectomy resulted in resolution of anaemia.
The etiology of anaemia is not fully elucidated.
Proposed mechanisms are the development of marrow fibrosis and the inhibitory effect of PTH on erythropoiesis.

References

JCEM 2012;97:1420-1422
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