

HYPERCALCEMIA AND ACUTE KIDNEY INJURY DUE TO VITAMIN D TOXICITY IN YOUNG FEMALE WITH SUSPECTED SARCOIDOSIS

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BACKGROUND

Exogenous vitamin D toxicity is predominantly connected with active vitamin D analogues, used to treat hypocalcemic disorders, including hypoparathyroidism, osteomalacia and end-stage renal failure. But this is rare in otherwise healthy people taking vitamin D supplements. We present a clinical case of marked hypercalcemia and acute kidney injury in a young female with suspected sarcoidosis.

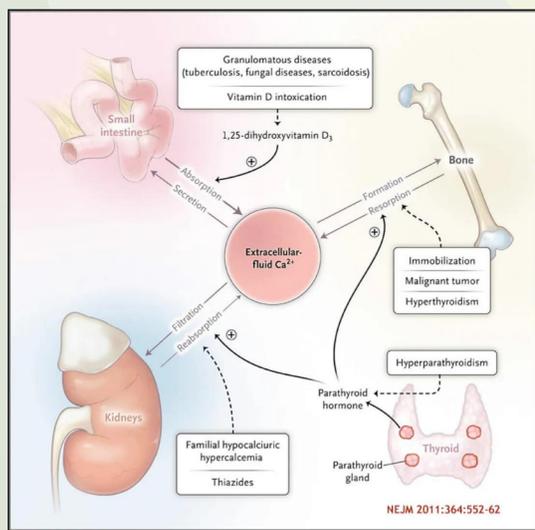


Figure 1: Calcium Homeostasis and Selected Causes of Hypercalcemia

RESULTS

Vitamin D supplement was immediately stopped. The patient was treated with saline infusion intensively. Laboratory results at the discharge showed normal serum calcium level of 2.36 mmol/L and serum creatinine concentration decreased to 100 μ mol/L. Within a week after the discharge, the restoration of kidney function was complete.

REFERENCES

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METHODS

We present a case of a 37-year old female patient, referred to nephrology outpatient clinic urgently due to acute renal failure. Her blood check up at general health care practitioner showed a raised creatinine level of 157 μ mol/L. Her laboratory tests later showed markedly elevated calcium 2.96 mmol/L, while iPTH was utterly suppressed to less than 3 pg/ml. A history of suspected sarcoidosis due to elevated ACE and chitotriosidase raised suspicion of endogenous vitamin D toxicity. The serum concentration of free 25 hydroxyvitamin D was 162 nmol/L. Then she admitted taking vitamin D supplements in a dosage approx. 10.000 IU/day. A therapy was self indicated, no such recommendation was found in previous medical documentation.

CONCLUSIONS

Our case report showed that vitamin D toxicity caused by excess vitamin D activity can lead to serious health consequences. In past decade vitamin D has been increasingly recognised to have several beneficial effects and is now easy accessible in pharmacies and stores. Generally, vitamin D supplementation is considered safe even when self prescribing. But there is a risk group of people with potentially serious complications, such are patients with abnormal vitamin D metabolism, including granuloma-forming disorders and lymphomas. Health care practitioner and pharmacists should therefore be aware of the differences between various vitamin D supplements, their variability, safety profile and associated risks, that they would be able to apply appropriate recommendations, especially in patients who are at risk for hypercalcemia.