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Mystery of the Calcium: A Case of Exclusive Cutaneous Sarcoidosis presenting with Symptomatic Hypercalcemia

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The skin is the second most involved organ after the lung in sarcoidosis. It could be an early manifestation that may progress to systemic disease later. Exclusive cutaneous disease is more frequently seen in females. Specific lesions include erythema nodosum, skin plaques, subcutaneous nodules, maculopapular rashes, lupus pernio, scar lesions, and psoriasiform lesions. Most with cutaneous sarcoidosis need no treatment unless there is associated cosmetic disfigurement. We present a unique case of cutaneous sarcoidosis presenting with symptomatic hypercalcemia without systemic disease. A 75-year-old African American female was admitted with generalized weakness. She had no other symptoms. On arrival, she was bradycardic with other normal vitals. Physical examination was normal. EKG showed sinus bradycardia with RBBB. She was found to have AKI with creatinine of 4.3 mg/dL (0.6-1.3 mg/dL) and a corrected calcium of 12.2 mg/dL (8.6-10.2 mg/dL). TSH was 4.64 uIU/mL (0.35-5.50 uIU/mL). Chest X-ray showed no abnormalities. Renal ultrasound revealed bilateral medical renal disease, with several non-obstructing calculi in the right kidney. The patient was managed with intravenous fluids. Her creatinine improved to 3.1 mg/dL; however, the calcium remained elevated at 11.8 mg/dL. PTH was 31 pg/mL (12-88 pg/mL) and urine 24-hr calcium was elevated at 470 mg (35-250 mg). 25-OH vitamin D level was 40 ng/mL (30-100 ng/mL). With no response to intravenous hydration, IV bisphosphonates were initiated. Despite that, her calcium remained at 11.9 mg/dL. On obtaining a more detailed history, it was revealed that a skin punch biopsy performed six years prior showed sarcoid granulomatous dermatitis. The 1, 25 dihydroxy vitamin D was 93 pg/mL (20-79 pg/mL). The ACE level was high at 64 U/L (8-52 U/L). CT chest showed no evidence of granulomatous disease, including the absence of hilar adenopathy. The patient was started on prednisone 20 mg/day. Her calcium trended down to 10.7 mg/dL over the next three days. Although cutaneous sarcoidosis may not be life-threatening, it may have substantial psychological and social impacts. Hypercalcemia is a high prevailing complication of systemic sarcoidosis. It occurs due to the uncontrolled synthesis of 1,25-OH D3 by macrophages in the sarcoid granulomata. As a result, there is increased calcium absorption in the intestine and calcium resorption in the bone. Glucocorticosteroids act by inhibiting the 1alpha-hydroxylase activity of macrophages. Prednisone 20 to 40 mg/day followed by a taper is the recommended dose. Other medications that may be used include antimalarials, thalidomide, methotrexate, and other immunomodulatory agents. Hypercalcemia in a patient with cutaneous sarcoidosis and no pulmonary involvement is a rare presentation. It is essential to recognize that long-term follow-up is advised for those with cutaneous sarcoidosis, as some may develop systemic involvement subsequently.

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