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Rare Case of Primary Hyperparathyroidism Causing Hypercalcemic crisis in Systemic Lupus Erythematosus (SLE)

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Introduction: Hyperparathyroid crisis is a rare endocrine emergency with a high mortality. Primary hyperparathyroidism (PHP) can present as severe hypercalcemia. There are very few cases documented in literature of patients with concomitant SLE and PHP. We present a case of hypercalcemic crisis in a patient with untreated primary hyperparathyroidism with a history of SLE. Case description: A 46 year old woman was found to have hypercalcemia of 12.9 mg/dl on routine lab work. Her medical history is significant for SLE (diagnosed 9 years prior) and osteoarthritis. She had no physical complaints. Further workup confirmed primary hyperparathyroidism with PTH of 322.8 pg/ml and findings consistent with parathyroid adenoma on Sestamibi scintigraphy. Parathyroidectomy was strongly recommended however the patient refused. She was then offered medical management but did not show up for any follow up appointments. Two years later, she presented to the emergency department with altered mentation, lethargy, poor oral intake and abdominal pain for 2 days. She was found to have severe hypercalcemia with a serum calcium of > 24.8 mg/dl and was in acute renal failure. On admission, EKG changes suggestive of pseudoinfarct pattern from severe hypercalcemia were present. She was managed in the intensive care unit with intravenous hydration, calcitonin, zoledronic acid and hemodialysis. Shortly after initiation of hemodialysis, the patient succumbed to a cardiac arrest. Conclusion: Hyperparathyroid crisis when untreated has a 100% mortality rate. Early management with surgical intervention is the only confirmed cure for PHP. There are only 18 cases reported in literature of hypercalcemia in SLE. Mechanisms involved are believed to be stimulatory PTH antibodies, PTHrP and osteoclastic activity due to inflammatory cytokines. To our best knowledge this is the 6th case report of a patient with concomitant SLE and PHP. A prospective study by Norman et. al done in 10000 PHP patients demonstrated a Gaussian distribution with the average calcium concentration being 10.9 ± 0.6 mg/dL and the average parathyroid hormone concentration being 105.8 ± 48 pg/ml. Her baseline calcium at diagnosis was 13mg/dl and intact PTH was 322.8 pg/ml which is higher than seen in the normograms as per the study. In our patient, we believe SLE could have exacerbated the hypercalcemia caused by PHP. It is important to perform further studies to identify if any association exists between the two conditions. Physicians must recognize their concomitant occurrence as prompt management of hypercalcemia becomes even more crucial in these cases. References: 1) Norman J, Goodman A, Politz D. Calcium, parathyroid hormone, and vitamin D in patients with primary hyperparathyroidism: normograms developed from 10,000 cases. Endocr Pract. 2011 May-Jun;17(3): 384-94. doi: 10.4158/EP09346.OR. PMID: 21134884. Presentation: No date and time listed