Bone and Mineral Metabolism

BONE AND MINERAL CASE REPORT

Isolated Hepatic Sarcoidosis Presenting With Severe Hypercalcemia

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Introduction: Sarcoidosis is an inflammatory disorder of unknown etiology that can affect various organs. Lungs, intra thoracic lymph nodes and skin are the most commonly affected organs. The prevalence of hepatic sarcoidosis ranges between 5 to 30%. However, isolated hepatic sarcoidosis is rare. Hypercalcemia in sarcoidosis varies considerably due to the varying disease course and is reported to occur between 2 to 63% cases. We report a unique care of isolated liver sarcoidosis that presented with severe parathyroid hormone (PTH) independent hypercalcemia.
Case: A 58 years old woman of Asian ethnicity with a past medical history of type 1 diabetes, hypothyroidism and chronic kidney disease presented to emergency department with headaches and altered mental status. The headaches were present since 4 weeks and was associated with polyuria and polydipsia. Non contrast CT scan of brain was negative for acute intracranial process. Physical examination revealed unremarkable vital signs and physical findings except for the altered mental status on neurological exam (orientation to self only). Initial laboratory testing revealed high corrected serum calcium 12.2 (8.0- 10.1 mg/dl), acute renal failure with high serum creatinine 2.90 (0.57–1.0 mg/dl), abnormal liver panel with elevated AST 84 (5-32U/L), ALT 85 (5–33 U/L), Alkaline Phosphatase 151 (35-104U/L). Repeat corrected serum calcium was still high at 12.4 mg/dl which prompted further evaluation to search for the etiology of hypercalcemia and testing revealed 1, 25 dihydroxy vitamin D (1, 25 vit D) mediated hypercalcemia. Labs showed low PTH 14.6 (15–65 pg/ml), normal serum protein electrophoresis, low PTH-related peptide <2.0 pmol/L, low 25 hydroxy vitamin D 20 (30–100 ng/ml) and high 1, 25 vit D 96.5 (19.9–79.3 pg/ml). Imaging evaluation revealed multiple hypodense nodules in both lobes of the liver seen on ultrasound, and CT scan of chest, abdomen and pelvis was unremarkable except for the similar liver findings. Biopsy of the liver lesion revealed non-caseating granulomas with no evidence for lymphoma and negative for acid fast bacteria and fungal organisms. Patient was treated with intravenous fluids, zoledronic acid and initiated on a course on oral prednisone that was tapered over a period of 6 months. There was a tremendous improvement in overall clinical condition. Serum calcium and 1, 25 vit D levels normalized. CT scan performed 3 months later showed complete resolution of all liver lesions.
Conclusion: While most cases of hepatic sarcoidosis are asymptomatic and are incidentally found due to abnormal liver function tests or imaging done for other causes, we present a case of isolated hepatic sarcoidosis diagnosed due to symptomatic severe PTH independent hypercalcemia. Even though rare, extra-pulmonary sarcoidosis should be in differentials for 1, 25 vit D mediated hypercalcemia even if thoracic imaging are unremarkable.

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Late-Onset Neonatal Hypocalcemia Due to Transient Hypoparathyroidism in Infant of Mother With COVID-19 at Delivery

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Introduction: Neonatal hypocalcemia is an uncommon condition but clinical presentation can include severe manifestations such as neuromuscular irritability, tetany, seizure or cardiac conduction abnormalities that require prompt intervention to normalize calcium levels. To our knowledge there have been no reports of neonatal hypocalcemia following maternal SARS-CoV2 infection at the time of birth. Here we report a case of transient late-onset neonatal hypocalcemia complicated by maternal SARS-CoV-2 infection at the time of delivery.
Clinical Case: A 13-day old full-term appropriate for gestational age female was born to an asymptomatic mother who tested positive for SARS-CoV2 at the time of delivery. Caretakers noticed minor twitching movements in the first few days of life that were progressively worsening. Initial ionized calcium was 0.6 mmol/L, and labs at time of transfer to our hospital were notable for total calcium of 5.5mg/dL(n 8.9–9.9), and ionized calcium of 0.67mmol/L (n 1.12–1.37 mmol/L). Calcium levels improved after she received IV calcium boluses and was started on continuous IV calcium infusion. Initial phosphorus was 8.3 mg/dL (n 3.2–7.4 mg/dL) and magnesium was 1.2 mg/dL (n 1.5–2.2 mg/dL), while intact PTH was inappropriately low at 12.2 pg/mL (n 10–65 pg/mL), and urine calcium to urine creatinine ratio was below the limits of assay detection (n <0.86), consistent with a diagnosis of neonatal hypoparathyroidism. The 25-hydroxy vitamin D was 11.1 ng/mL (n 30–100 ng/mL), which may have also been a contributing factor. She had no dysmorphic features on examination concerning for 22q deletion syndrome, and tested negative for SARS-CoV2. Chromosomal microarray did not reveal clinically relevant copy number alterations or areas of homozygosity. Calcium stabilized on enteral calcium carbonate, calcitriol, and cholecalciferol, and she was weaned off of all supplementation. Prior to discharge PTH recovered to 36.9 pg/ml with a calcium of 9.9 mg/dL, phosphorus 7.7 mg/dL, normal magnesium and 25-hydroxy vitamin D (31.3 ng/ml). She was discharged on Similac PM 60/40 formula to reduce her dietary phosphorus content, and 400 IU of cholecalciferol.
Conclusions: Hypocalcemia in patients with severe COVID-19 is being increasingly reported. There is minimal data on the effect of perinatal SARS-CoV2 infections on neonatal health. While this report does not establish causation, expanding awareness of neonatal abnormalities following maternal SARS-CoV2 infection at delivery will help to recognize causal associations and improve patient care.

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Low Bone Mineral Density and Recurrent Fractures During and After Pregnancy: Dilemma of an Overlooked Diagnosis