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210 HYPERNATREMIA SECONDARY TO ENTRENBIN-INDUCED NEPHROGENIC DIABETES INSIPIDUS: Remy Fadel1, Jad Tabbara1, Anne Huml2, Georges Nakhour2, Ali Mehdi1. 1Cleveland Clinic Foundation Hypernatremia has been reported with the use of Tropomyosin Receptor Kinase Inhibitors (TRKI) but the pathophysiology is not clear. We hereby describe a 72-year-old male with metastatic papillary thyroid carcinoma presenting with hypernatremia after starting Entrenbin therapy. A 72-year-old male with metastatic papillary thyroid carcinoma was admitted to the hospital for failure to thrive and worsening mental status 6 weeks after starting Entrenbin therapy. He was found to have hypernatremia at 154 mmol/L. Serum and urine osmolalities were 320 and 293 mOsm/Kg, respectively. Notably polymorphonuclear cells were reported raising the suspicion for underlying diabetes insipidus (DI). 24 hour urine output was around 4.5 liters. A DDAVP challenge was performed with no change in hourly urine output and a trivial change in urine osmolality towards 339 mOsm/Kg consistent with a partial nephrogenic DI. Patient was treated with free water enteraly and parenterally while stopping Entrenbin therapy. One week later, a water deprivation test failed to elicit a hypernatremic response. Unfortunately, urine osmolality variations with water deprivation were not checked but urine volumes dropped significantly suggesting resolution of the nephrogenic DI.

We believe this is the first case to shed light into the mechanism of hypernatremia with Entrenbin. We demonstrated partial nephrogenic DI that appears to temporallycorrelate with initiation of therapy. Interestingly, this seemed to resolve one week following Entrenbin interruption possibly with drug clearance. Hypernatremia has been reported with Tyrosine Kinase Inhibitors but no pathophysiology has been proposed. This case suggests nephrogenic DI is one mechanism through which hypernatremia ensues with this therapy. This seems to be reversible with drug cessation.

In the growing use of targeted therapies in oncology and beyond, it seems prudent to better understand the unique water balance abnormalities that might occur so that patients can be counseled and managed appropriately.

211 KIDNEY FAILURE AND COMMON VARIABLE IMMUNODEFICIENCY: AN UNUSUAL PRESENTATION: Remy Fadel1, Aimen Liaqat1, Elias Bassil1, John Sedor1, Ali Mehdi1. 1Cleveland Clinic Foundation Hypercalcemia is a metabolic derangement that can lead to serious complications if left untreated. We hereby present a case of kidney failure secondary to nephrocalcinosis in the setting of chronic undiagnosed hypercalcemia. A 71-year-old female presented with failure to thrive and was found to have moderate hypercalcemia (13.6 mg/dL), kidney dysfunction (creatinine: 4.83 mg/dL, nl baseline 3 years prior), and anemia. Hypercalcemia workup showed suppressed PTH, normal 25-vitamin D, and a high 1,25 vitamin D. An M protein was identified in the urine and a bone marrow biopsy showed epitheloid granulomas along with low grade indolent monoclonal B-cell lymphoproliferative disorder (LPD). Notably, mild hypercalcemia was noted on blood work from 3 years prior, and a liver biopsy showed non-caseating granulomas. A kidney biopsy pursued revealed nephrocalcinosis with severe interstitial fibrosis, tubular atrophy and no paraproteinemias kidney pathology. Interestingly, she was also found to have chronic low immunoglobulin levels. She was diagnosed with primary combined variable immunodeficiency (CVID) and a related granulomatous reaction with liver and bone marrow involvement along with secondary hypercalcemia and kidney dysfunction. Treatment was initiated with prednisone 0.5mg/kg and hydroxychloroquine. Serum calcium normalized quickly and kidney function improved gradually down to 2.3mg/dL at the 7 month mark.

While hypogammaglobulinemia can be seen with indolent LPDs, the granulomatous reaction would not be expected. The chronically low IgG & IgA levels were more consistent with primary CVID and secondary systemic granulomatous reaction. Although granulomatous disease occurs in 8-22% of patients with CVID, kidney dysfunction is rarely reported. Granulomas associated elevated 1-alpha hydroxylase led to the observed elevated activated vitamin D and hypercalcemia with resultant nephrocalcinosis and kidney dysfunction.

This case highlights an unusual CVID case presenting with severe kidney dysfunction secondary to long standing undiagnosed hypercalcemia. An elevated activated vitamin D level should prompt evaluation for an underlying lymphomatous or granulomatous disorder. Steroids, as opposed to bisphosphonates or biologics, are the mainstay of hypercalcemia treatment in this setting.

212 CHANGE IN FOOD PURCHASING PATTERNS AND INCREASED RELIANCE ON SUPPORT PROGRAMS DURING THE COVID-19 PANDEMIC IN INNER-CITY DIALYSIS PATIENTS: Caroline Canning1, Sasha Martinez-Machado1, Lulu Wei2, Judy Lee1, Paul Flynn1, Ariel Gibson3, Mariana Markell3. SUNY Downstate Health Sciences University

We investigated how food purchasing behavior changed in a cohort of inner-city dialysis patients during the COVID-19 pandemic. 33 dialysis patients were surveyed face-to-face about use of grocery stores, restaurants, take-out, and use of SNAP or other benefits over the past year. The survey also assessed patient attitudes and fear relating to COVID-19.

Mean age was 57±17.9 yrs, 20 (61%) men, 91% identified as Black. 9/20 pts (45%) reported yearly income under $20,000 with 70% less than $40,000. The number of pts using SNAP, WIC, or Greenmarket Bucks to buy groceries increased from 21% before the pandemic to 33% after (p=0.019). Age correlated negatively with feeling safe at a restaurant indoors (r=-0.47, p=0.008), or outdoors (r=0.58, p=0.001) and increased use of take-out since the start of the pandemic (r=-0.39, p=0.032). There was a significant difference in pts who purchased breakfast (45.9±4.0 vs 65.3±4.6, p<0.001), lunch (49.7±4.1 vs 65.3±4.0, p=0.006), and dinner compared to those who didn’t (48.5±4.9 vs 60.9±4.9, p<0.001). There was a positive correlation between income and frequency that pts purchased breakfast (r=0.45, p=0.048) and lunch (r=0.45, p=0.046). There was a negative correlation between age and the statement “I wish I could cook more meals at home” (r=-0.497, p=0.004) and a positive correlation with income (r=0.06, p=0.006). There was no association between age and income. Only 6% (2) pts were employed and both were <60 yrs old.

In our population of inner-city dialysis pts: 1. Use of food assistance programs increased since the start of the pandemic. 2. Older pts felt less safe eating at restaurants regardless of whether it was indoors or outdoors and were more likely to make meals at home. 3. Younger patients were more likely to eat take-out food and reported they wished they could cook more meals at home. 5. Increased use of food programs and association of younger age or lower income with eating out suggests that careful nutritional guidance should be emphasized as dietary habits have changed since the pandemic and eating out has been associated with worse adherence to sodium and other restrictions in pts on dialysis.

213 DE NOVO IGA NEPHROPATHY FOLLOWING MRNA COVID-19 VACCINE: Patricia Nogueira de Sa, MD1, Ana Molovic-Kokovic, MD,2 Rochester General Hospital - Internal Medicine Residency Program; 2Rochester General Hospital - Nephrology Department

In response to the COVID-19 pandemic, worldwide efforts contributed to the largest vaccination campaign in history. Thus far, 17 cases of IGA nephropathy (IGAN) following COVID-19 vaccine were reported in adults, all after mRNA vaccines. Most patients had gross hematuria (GH) and sub-nephrotic range proteinuria (SNRP) within 2 days after the second dose.

A 23-year-old White female with recent mild COVID-19 infection secondary to nephrotic range proteinuria (SNRP) 2 days after receiving the first and the second dose of Pfizer-BioNTech vaccine. Laboratory studies showed normal kidney function and serum albumin. Negative rheumatologic workup. Urinalysis revealed proteinuria, dysmorphic red blood cells, and rare granular casts. Urine protein-creatinine ratio (UP/Cr) was 4.42/g. Within 1 week the GH self-resolved, however, she continued to have persistent microscopic hematuria and subnephrotic proteinuria. Kidney
biopsy showed IgAN. The Oxford MEST-C score was 3. The patient was started on Lisinopril. Upr was 976mg/24h. Subsequently, 2 days after the booster vaccine she developed GH, Upr increased to 2063mg/24h and was started on Dapagliflozin.

This is the first reported case of de novo IgAN following each dose of COVID-19 vaccine and booster presenting with recurrent GH and SNRP. This case illustrates the need for pharmacovigilance and whether we should use non-mRNA or a different vaccine schedule in this vulnerable population.

The new-onset and recurrence of GH shortly after the COVID-19 vaccines suggests a potential association with the development of IgAN and relapses. Further studies are needed to understand the pathophysiology of the vaccine-associated glomerular diseases, optimize vaccine strategies and guide optimal therapeutic management.

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KNOWLEDGE GAPS REGARDING CHRONIC KIDNEY DISEASE AND DIABETES IN A POPULATION OF INNER-CITY DIALYSIS PATIENTS:

Paul Flynn1, Brett Sherman1, Lulu Wei1, Lekha Patel1, Ariel Gidon1, Judy Lee1, Mariana Markell1. ‘SUNY Downstate Health Sciences University

Prevention of progression of kidney disease relies in part on educating our pts. We interviewed 15 randomly selected dialysis pts with diabetes (DM) were surveyed regarding knowledge about DM and kidney disease, including questions about the state of their knowledge at the time of DM diagnosis. Demographic information was also collected.

Mean age was 64.3+/-2.9yrs, 8 men (53%), 7 (47%) had less than a college education, 8/9 (86%) made <$40K/yr, mean time with diabetes 29.0+/-6.9yrs. 8/13 (62%) pts saw an endocrinologist, 4 (27%) reported no knowledge of what CKD was and 10/13 (77%) did not know that diabetes could cause kidney disease at the time of their DM diagnosis. There was no correlation between knowledge and age, education, length of time with diabetes, income or sex. Pts who were older were less likely to see an endocrinologist (r=0.64, p=0.019), checked their blood glucose less frequently (r=-0.71, p=0.006), and did not check after eating (r=-0.62, p=0.023). 13/14 (93%) pts stated that they knew what HBa1c was, 11/14 (79%) pts knew that insulin decreases blood glucose levels. 12/14 (86%) pts knew that a person with type 2 diabetes has increased blood glucose. 10/14 (71%) patients knew that the Hba1c should be checked every 3 months. 6/13 (46%) did not know what hemoglobin A1c is. 9/13 (69%) did not know how kidney function is measured.

In our population of inner-city dialysis pts with DM: 1. The majority were knowledgeable about diabetes although older pts were less likely to see an endocrinologist and check their blood sugar frequently or after eating. 2. The majority of pts had no knowledge of kidney disease and did not know that diabetes could cause kidney disease at the time of their diagnosis. 3. Almost half of pts currently did not know what a nephrologist was and did not know how kidney function is measured. 4. An early education program for our underserved population regarding the relationship between kidney disease and diabetes should be designed in the hopes of delaying progression to ESKD.

Calcific uremic arteriolopathy (CUA) or Calciphylaxis is a debilitating and life-threatening ischemic skin disease that primarily occurs in patients with end stage renal disease (ESRD).

We present the case of a 62 y/o female with a past medical history of ESRD on hemodialysis who presented to the hospital with right lower extremity (RLE) pain and a necrotic ulcer that rapidly increased in size over 2 months (figure1). Patient was on Calciumacet, sevelamer, and Hectol. Pertinent labs showed Ca of 7.8, Phos of 2.8, and iPTH >7000. X-Ray of the RLE showed calcified vessels. Both calcium acetate and hectorol were held on admission due to hypocalcemia and CUA respectively. Plan was to intensify dialysis, give sodium thiosulphate, and consult ENT for parathyroidectomy. Patient became hypotensive on dialysis and was transferred to ICU for continuous renal replacement therapy (CRRT). Empiric antibiotics were started. However, patient eventually required a below knee amputation. Pathology showed extensive tissue necrosis in the amputated specimen with calciphylaxis identified in small arteries and 90% luminal stenosis in both tibial and peroneal vessels. Patient’s hemodynamic status continued to decline, and she had a cardiac arrest on hospital day 6. Family opted for do not resuscitate and patient expired.

CUA presents as painful skin lesions which progress rapidly. It is caused by dysregulation of Ca and Phos leading to ectopic bone formation in the subcutaneous and dermal blood vessel walls and intraluminal thrombosis and occlusion. Sepsis is considered the most common cause of death. Diagnosis is usually based on clinical grounds alone. However, a skin biopsy may be needed. Prevention includes controlling risk factors, adequate dialysis, and maintaining normal Ca and Phos levels. If not recognized and managed early, as with our case, CUA is associated with mortality rates similar to those in patients with myocardial infarction.

CUA is a life-threatening ischemic skin disease that is caused by ESRD related mineral disorders. It is essential to identify this illness early to prevent poor outcomes.