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TITLE: Selenium Deficiency causing Cardiomyopathy in a patient with Gastric Bypass surgery
AWARDS:
CURRENT CATEGORY: G. Clinical Vignettes/Case Reports
CURRENT SUB-CATEGORY: D. Small Intestine/Unclassified
PRESENTATION TYPE: Poster Only
AVERAGE SCORE: 4.25
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Purpose (Abstract Submission): Introduction: Selenium deficiency is an uncommon cause for cardiomyopathy in developed countries. Dietary selenium deficiency is associated with a cardiomyopathy which is endemic in rural parts of China due to local diets devoid in selenium. In the United States, there are sporadic cases reported, mostly in patients with chronic intestinal malabsorptive states and those receiving long term parenteral nutrition. However there are no reported cases in patients with gastric bypass surgery.
Case: A 39 y/o female with past history of gastric bypass surgery for obesity, 7 years ago, and chronic pain syndrome treated with multiple pain medications, presented to the emergency department for evaluation of change in mental status, generalized weakness and several days of poor oral intake. On initial evaluation patient was noted to be hypotensive and in mild respiratory distress. After 2 days of hospital admission, she developed respiratory and circulatory collapse requiring endotracheal intubation and mechanical ventilation. A 2D echocardiogram showed a left ventricular ejection fraction of less than 20%. A cardiac catheterization revealed non-obstructive coronary artery disease. A work up for non-ischemic causes of cardiomyopathy including viral myocarditis revealed negative viral studies (Coxsackie B1-B6 antibody titer < 1:8). Nutritional evaluation revealed decreased levels of Selenium (29 mcg/L ; Normal values: 63-160 mcg/L). After adequate supplementation with selenium, cardiac function improved. A repeat 2D echocardiogram demonstrated normalized ejection fraction of 55%.
Discussion: Selenium deficiency may occur in individuals with chronic malabsorptive states such as patient with history of gastric bypass, and long term selenium-deficient parenteral nutrition. Selenium is an essential trace element that plays an integral role in normal myocardial function. Thus, supplementation may be beneficial for individuals who are at risk of low absorption. This case emphasizes the role of considering selenium deficiency as a reversible cause of unexplained cardiomyopathy in patients with gastric bypass besides other impaired nutritional states.

Methods (Abstract Submission): N/A
Results (Abstract Submission): N/A
Conclusion (Abstract Submission): N/A
Commercial Products or Services: No
Financial Relationships: Not Applicable
Initiated Research: Investigator
FDA Approval: No
Designed Study: Investigator
Performed Analysis: Investigator
Investigator Contribution: Yes