A Rare Case of Median Arcuate Ligament Syndrome

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Learning Objectives:
1.Recognize signs and symptoms of Median Arcuate Ligament Syndrome
2.Understand the pathophysiology of Median Arcuate Ligament Syndrome
3.Understand diagnostic and therapeutic options for Median Arcuate Ligament Syndrome

Case Summary:
33-year-old female with a past medical history of Chron's disease status post hemicolectomy, lumbar disc protrusions with radicular pain, asthma and migraines who presented to the emergency department complaining of left upper quadrant pain. Patient described the pain as a burning sensation below the ribs on the left side radiating around to her back. Patient was having recurrent visits to the emergency room for the same pain and was previously attributed to her colitis. She took antibiotics which did not relieve her pain. A week prior to this admission she called her primary care doctor complaining of epigastric discomfort and a strong pulse in that region which she had never experienced before. She had an ultrasound of the abdomen done at that time which did not reveal an abdominal aortic aneurysm. Patient was following up with her gastroenterologist outpatient and just recently had a colonoscopy done which was unremarkable with benign findings. Her vital signs in the emergency room were as follows: blood pressure 140/57 mmHg, pulse 73 beats per minute, respiratory rate 18 breaths per minute, saturating 95% on room air, temperature 98.6 degrees Fahrenheit. Physical exam was significant for tenderness to palpation in the left upper quadrant. LABS: BUN 7 mg/dL (5-25), creatinine 0.57 mg/dL (0.61-1.24), total bilirubin 0.7 mg/dL (0.2-1.3), lipase 41 U/L (20-55), WBC count 7.4 k/uL (4.5-11), neutrophil percent 89.3% (50-70). IMAGING: CT of the abdomen showed No acute intra-abdominal disease. Chest x-ray was negative for acute infiltrates. Upon further evaluation, the patient described pain with eating with a decreased appetite and weight loss. A CT angiogram of the of the abdomen was ordered, and it was reported that there is mild inferior displacement of the origin of the celiac axis which may represent mild median arcuate ligament syndrome. The report also mentioned that there is probable 33% stenosis at the origin of the celiac axis with mild post stenotic dilatation. Patient was informed of her diagnosis and was instructed to follow up with her surgeon and gastroenterologist outpatient for the next steps in treatment.

Conclusions:
Celiac artery compression syndrome is defined as chronic, recurrent abdominal pain related to compression of the celiac artery by the median arcuate ligament. It is an uncommon disorder that is characterized clinically by the triad of postprandial abdominal pain, weight loss, and sometimes an abdominal bruit. The etiology and pathophysiology of celiac artery compression syndrome are incompletely understood but may be related to both ischemic and neuropathic mechanisms. While both lab work and imaging are helpful in the diagnosis, a confirmatory diagnosis is made with a celiac nerve block. The standard treatment of celiac artery compression syndrome is surgical release of the celiac artery from compression with simultaneous removal of the nerves that are being compressed as well.