

Superior mesenteric artery syndrome

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A 38-year-old woman with a past medical history of hemophilia A and multiple transient ischemic attacks presented to the emergency department with increasing left-sided abdominal pain for two days. The patient had chronic intermittent abdominal pain which increased with food intake for the past several months and had lost 15 pounds. The patient had multiple visits in the emergency department with similar presentations and was usually discharged home with pain medication. The abdominal pain was dull aching, radiated to periumbilical region, was associated with nausea and diarrhea, and had increased over the past two days. Her vital signs included a blood pressure of 87/59 mmHg, a heart rate of 64/minute, an oxygen saturation of 95% on room air, and a temperature of 98 °F. Computed tomography (CT) of the abdomen showed the aortomesenteric angle of 25 degree suggestive of superior mesenteric artery syndrome (Figure 1). Abdominal ultrasound showed that the aortomesenteric angle and the distance between the vessels were below normal reference values in agreement with her CT scan. Laboratory tests included hemoglobin 13.9 g/dL and a white blood cell count 4.88 k/ μ L. Her BUN, creatinine, electrolytes, and lactate level were within normal limits. Her urinalysis was normal. The surgery team recommended non-surgical management due to her comorbidities. The patient developed hypotension and was started on intravenous fluid, positional maneuvers in the left lateral decubitus position, and small meals. The patient's abdominal pain improved after supportive treatment for 2 days, and she was discharged home.

DISCUSSION

Superior mesenteric artery syndrome is a rare disease caused by compression of third part of duodenum between aorta and superior mesenteric artery. The

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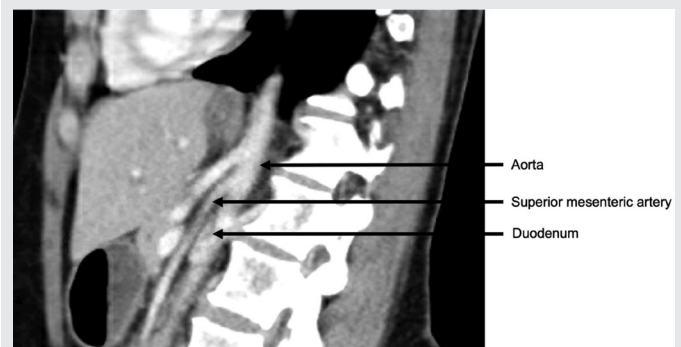


Figure 1. Computed tomography of the abdomen with contrast sagittal view showed narrowing of aortomesenteric angle compressing the third portion of the duodenum.

diagnosis is clinical, and measurement of aortomesenteric angle helps make this diagnosis. The normal aortomesenteric angle is between 38 to 65 degrees and has a distance of 10 to 28 mm. In a study which reviewed 8 cases of SMA syndrome, a reported aortomesenteric angle cutoff of 22 degrees had a 42.8% sensitivity and 100% specificity, and a distance between the vessels of ≤ 8 mm had a 100% sensitivity and specificity for this diagnosis (Figure 2).¹ Management in the

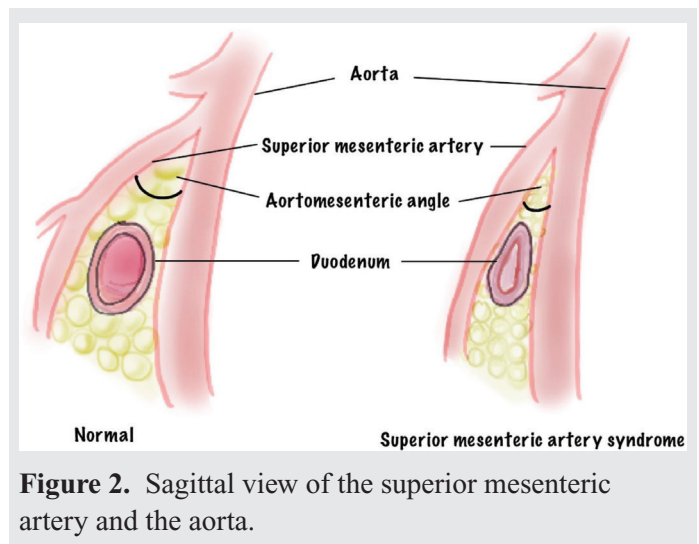


Figure 2. Sagittal view of the superior mesenteric artery and the aorta.

acute setting includes fluid resuscitation, electrolyte correction, total parenteral nutrition, and nasogastric tube insertion for gastric decompression. The diagnosis is challenging and should be based on clinical presentation. Conservative treatment is effective in many cases. However, failure of conservative management warrants surgical intervention.

Keywords: abdominal pain, superior mesenteric artery syndrome

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