

# An Unusual Presentation of Abdominal Pain: Superior Mesenteric Artery Syndrome: A Case Report

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## ABSTRACT

Superior Mesenteric Artery Syndrome, often known as Wilkie's syndrome, is an uncommon condition characterized by intestinal blockage. Superior mesenteric artery syndrome refers to an acquired vascular compression disorder that can be deadly. It occurs when the superior mesenteric artery and the abdominal aorta constrict, squeezing the third segment of the duodenum. Duodenal compression due to retroperitoneal fat layer loss is one of the pathophysiological factors. In this case study, we describe how superior mesenteric artery syndrome causes vomiting, nausea and distension in the stomach. Your health may suffer and you may even die as a result of a delayed diagnosis. Preventing issues can therefore be aided by early identification and treatment.

**Keywords:** Wilkie's syndrome, Superior Mesenteric Artery, Abdominal Aorta, Retroperitoneal, Vascular compression.

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## INTRODUCTION

The superior mesenteric artery supplies blood to the duodenum, also known as the small intestine and the first segment of the colon, also known as the long intestine. Compression of the duodenum, mesenteric artery and aorta prevents food and liquids from passing through, a disease known as SMA. Not being able to acquire adequate nutrients leads to malnutrition and weight loss.<sup>1</sup> Various physical and psychological conditions might trigger the initial rapid weight loss, which narrows the aorto-mesenteric angle.<sup>2</sup> According to prior research, SMA affects 0.13 to 0.3% of the population. It primarily affects women. SMA is most commonly observed in adolescents and young adults, although it can also occur in babies and the elderly.<sup>3</sup> SMA is characterized mostly by nausea, vomiting and epigastric discomfort. SMA may be diagnosed using clinical symptoms, a patient history and various procedures such as abdominal X-rays, CT scans, MRIs, ultrasound endoscopies, doppler ultrasounds and more. SMA treatment options mostly include conservative therapy, gastro-jejunostomy, duodenojejunostomy (laparoscopic or open surgery) and additional treatments such as duodenal derotation and infrarenal transposition of SMA.<sup>1</sup>

## CASE PRESENTATION

A 61-year-old man was admitted to the gastrointestinal unit with the principal complaints of nausea, vomiting and distension brought on by meals. The patient has not lost weight or appetite recently. The patient had SOB in the past. The patient, who is 20 years old, used to drink and smoke. The physician initially suggested an abdominal ultrasonography scan, which revealed a dilated stomach, the first and second duodenal segments and the gastric contents in the third duodenal segment (perhaps obstructed) (SMS syndrome). A two-day history of productive cough and SOB led to the patient's referral to the pulmonology department-a pulmonology specialist prescribed X-rays and lung function tests. X-rays show bilateral hyperinflated emphysematous changes. The PFT shows restrictions on reversibility. The patient was diagnosed with SMA syndrome (superior mesenteric artery syndrome). Other lab investigations, such as a complete blood count, differential leucocyte count, liver function tests, electrolytes and renal function tests, were performed. The patient laboratory investigations were shown in Table 1. The dilated stomach and 1<sup>st</sup> and 2<sup>nd</sup> part of duodenam with to-fro movements of gastric contents probably obstruction at 3<sup>rd</sup> part of duodenam (SMA syndrome) were depicted in Figure 1.

## Treatment Advised

Numerous procedures can be used to treat SMA syndrome. The patient's treatment plan calls for a laparoscopic duodeno-jejunostomy; before surgery, the patient's cardiac risk was assessed and found to be minimal; two units of red blood cell transfusions were administered; and the patient was given



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**Figure 1:** Dilated stomach and 1<sup>st</sup> and 2<sup>nd</sup> part of duodenam with to-fro movements of gastric contents-probably obstruction at 3<sup>rd</sup> part of duodenam (SMA syndrome).

a Ryle's tube to feed and provide nutrition. After laparoscopic duodeno-jejunostomy surgery, the doctor ordered 500 ml of METROGYL IV TID, 1.5 g of ZOSTUM IV BD, 40 mL of PANTOP IV OD, 100 mL of NS TID, Ring lactate and dextrose normal saline and 1 g of PARACETAMOL IV TID as IV fluids

following surgery. The pulmonologist prescribed Nebulizer DUOLIN and BUDECORT TID, Nebulizer GLYCOHALE BD, Inj. HYDROCART 100 mg TID and CAP. ABIFLO 100 mg BD. Vital signs are monitored and spirometry is performed every

**Table 1: Lab Investigations Showing Abnormal Values.**

Complete blood picture	Abnormal range	Normal range
Hemoglobin	9.0 g/dL	13-18 g/dL
Differential Leucocyte Count		
Polymorphs	86%	50-70%
Lymphocytes	09%	25-40%
Platelet Count	5.56 lakh/cmm	1,50,000-4,00,000l/cmm
HCT	33%	37-45%
MCV	65%	77-91
MCH	19	24-30%

hour. The patient goes for regular walks. The patient was in a stable state at the time of discharge.

## DISCUSSION

The third segment of the duodenum is compressed in CAST syndrome, which is another term for SMA disease. Vascular compression of the abdomen known as Nutcracker syndrome occurs when the left renal vein is compressed by the aorta and superior mesenteric artery.<sup>4</sup> Patients with SMA syndrome display to-and-fro motions, dilatation of the first and second parts of the duodenum and compression of the third segment of the duodenum, as shown in our case. First, a nasogastric tube, sometimes referred to as a Ryle's tube, is used to feed the patient. In this patient, laparoscopic duodeno-jejunoscopy is performed, which helps to decrease postoperative stay.<sup>5</sup> An ADK drain (abdominal drainage kit) is placed, which is used for postoperative abdominal drainage. A 14FR Foley catheter is placed on the patient. To our knowledge, there were very few case reports of SMA syndrome in elderly patients. Early diagnosis of the disease is the primary measure to prevent complications or death due to SMA.

## CONCLUSION

The SMA syndrome is an unusual cause of potentially life-threatening high mechanical intestinal obstruction. In addition to symptom relief and a great improvement in quality of life, this case demonstrates the benefits of minimally invasive surgery, including minimal pain and a short hospital stay. To our knowledge, this study looked at the quality of life in patients undergoing laparoscopic duodenojejunoscopy for SMAS. The diagnosis is clinical and contrast scans that show duodenal blockage corroborate it. Nonoperative management should be included as part of the initial therapy. If this method fails, surgical intervention may be necessary. As of right now,

developments in minimal-access bariatric surgery have shown that laparoscopically generated intestinal anastomoses are safe and have low morbidity. Laparoscopic duodenojejunoscopy is a more advantageous approach than traditional open treatments because of its shorter hospital stay, minimal morbidity and high success rate. Laparoscopic duodenojejunoscopy should be considered a primary treatment modality for patients with SMA syndrome.

## ETHICAL APPROVAL AND CONSENT TO PARTICIPATE

The Santhiram medical college and general hospital provided IEC approval. The reference number is SRCP/IEC/PD-2024/024.

## PATIENT CONSENT

Patient provided his consent after informed the content.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## ABBREVIATIONS

**SMA:** Superior Mesenteric Artery Syndrome.

## REFERENCES

- <https://rarediseases.org/rare-diseases/superior-mesenteric-artery-syndrome/>
- Merrett ND, Wilson RB, Cosman P, Biankin AV. Superior mesenteric artery syndrome: diagnosis and treatment strategies. *Journal of Gastrointestinal Surgery*. 2009;13:287-92
- Pottorf BJ, Husain FA, Hollis HW Jr, Lin E. Laparoscopic management of duodenal obstruction resulting from superior mesenteric artery syndrome. *JAMA Surg*. 2014;149(12):1319-22. doi: 10.1001/jamasurg.2014.1409. PMID: 25353279
- Ren PL, Gupta A. Adolescent with superior mesenteric artery syndrome. *Journal of Radiology Case Reports*. 2020;14(3):14.
- Barkhatov L, Tyukina N, Fretland ÅA, Røsok BI, Kazaryan AM, Riis R, et al. Superior mesenteric artery syndrome: quality of life after laparoscopic duodenojejunoscopy. *Clinical Case Reports*. 2018;6(2):323.

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