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Case Report

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A Rare Cause of Abdominal Pain: Wilkie Syndrome

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ABSTRACT

The rare pathological condition known as superior mesenteric artery (SMA) (Wilkie) syndrome arises when the third part of the duodenum experiences constriction due to compression between the aorta and the proximal segment of the SMA. The main complaints are nausea, vomiting, epigastric pain, and bloating with significant weight loss. Reported cases of this syndrome have been observed in patients who have scoliosis, suffered burns, led sedentary lifestyles, or experienced unexplained weight loss. In cases where there is unexplained rapid weight loss and recurrent obstructive findings that deviate from common causes, clinicians should include SMA syndrome in their differential diagnosis. This article presents a case of SMA syndrome, which has long affected the patient's quality of life due to diagnostic difficulties, and discusses the disease's diagnosis and management.

Keywords: Acute abdomen, superior mesenteric artery syndrome, wilkie syndrome

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INTRODUCTION

Superior mesenteric artery (SMA) syndrome commonly known as Wilkie's syndrome due to its identification by Wilkie in 1927 as chronic duodenal ileus is a condition where the duodenum's second or third section experiences compression between the aorta and the upper region of the SMA.[1] When we look at the gender distribution, it is more common in women.[2] The etiology of this syndrome may include the lower position of the SMA, malrotation of the duodenum, cancer, burns, previous surgery or psychiatric disorder and associated loss of mesenteric adipose tissue, and anorexia nervosa.[3] Clinically, patients complain of abdominal pain, early satiety, vomiting, and reflux.[4] Developments in computed tomography (CT) and magnetic resonance imaging have aimed to clearly define the angle between the aorta and the SMA and facilitate diagnosis.[3] A conservative approach is used in acute cases. The aim is to provide the patient with nutritional support, help the patient to gain weight and restore the loss of adipose cushioning, which is thought to cause the narrowing of the aorta-mesenteric angle. Surgical treatment should be reserved for patients whose symptoms persist for a long time and do not respond to conservative treatment. The most commonly preferred surgical technique is the side-to-side duodenojejunostomy.[5] This article aims to focus on a patient who sought medical attention due to abdominal pain and was ultimately diagnosed with SMA syndrome.

CASE REPORT

A 35-year-old woman with no previous gastrointestinal symptoms presented to the family medicine outpatient clinic with postprandial epigastric pain, anorexia, nausea, and weight loss for the last 2 years. There were no significant findings in the medical history and fam-

ily history of the patient. There was no history of regular medication. The patient had previously received symptomatic treatment for the same complaints, but the same complaints had recurred. On physical examination, the patient was thin and pale. The body mass index of the patient was calculated to be 20.3 kg/m^2. The patient reported losing 5 kg in the past 3 months. Laboratory tests of the patient at the time of admission are summarized in Table 1. After being referred to general surgery, the patient underwent an abdominal CT scan, which provided definitive evidence of SMA syndrome as shown in Figure 1. On confirmation of Wilkie's syndrome diagnosis, the patient was promptly admitted to the general surgery ward, and a nasogastric catheter was placed, from which he was discharged after intravenous feeding and antiemetic treatment. The patient was followed in the ward for 3 days and was discharged with a prescription for a laxative and a list of dietary recommendations. Three months later, the patient attended the outpatient clinic, and her symptoms were completely resolved.

DISCUSSION

SMA syndrome is a medical condition where the duodenum's second or third section is compressed between the aorta and the upper region of the SMA.[6] This compression can lead to acute or chronic presentations of the syndrome. The etiology of the condition is not well understood, but rapid weight loss is thought to cause compression of the duodenum due to the loss of mesenteric adipose tissue.[7] Patients usually present to the hospital with complaints of bloating, postprandial abdominal pain, vomiting, and reflux.[5] Our patient was admitted to our outpatient clinic complaining of abdominal pain, nausea, and weight loss. The patient's weight loss of 5 kg in the past 3 months was thought to be related to this disease.

Table 1. Laboratory tests of the patient at the time of admission

	Result	Normal range
Sodium (mEq/L)	139	136–146
Potassium (mEq/L)	4.7	3.5–5.1
Chlorine (mEq/L)	107	101–109
Fasting glucose (mg/dL)	82	70–100
Creatinine (mg/dL)	0.7	0.51–0.95
Urea nitrogen (mg/dL)	21	6–20
Ferritin (µg/L)	24	11–307
Hemoglobin (gr/dL)	10.2	11.7–15.5
Hematocrite (%)	30.3	34.5–46.3
Leukocyte (10^3/µL)	9.5	4.1–11.2
Platelet (10^3/µL)	349	159–388
MCV (fL)	49	73–101
Iron (µM)	35	50–150

MCV: Mean corpuscular volume.

SMA syndrome can be diagnosed by radiological and angiographic methods.[8,9] Standing direct abdominal radiography shows only dilatation of the stomach and duodenum. The definitive diagnosis is CT angiography, which also allows measurement of the aortomesenteric angle. In this patient, gas images were first seen on radiography. Subsequently, duodenal dilatation was observed on abdominal CT and the definitive diagnosis was made by measuring the aortomesenteric angle. Conservative methods should be tried first in the treatment of SMA syndrome. First, NG is used to relieve the stomach and duodenum. Then the patient should be started on oral or intravenous nutrition, anti-nausea drugs, appetite stimulants, and bowel regulators that the patient can tolerate. The aim is to increase the patient's mesenteric fat and relieve pressure on the duodenum. The majority of patients are treated conservatively, but surgical procedures should be performed in patients who do not improve.[8]

CONCLUSION

SMA syndrome should be considered in the differential diagnosis of patients with nausea, vomiting, and weight loss of unknown cause, as well as those who are presumed to exhibit an obstruction at an upper level of the gastrointestinal tract. A family physician should take a comprehensive approach to the patient, continuously monitor the patient's complaints and underlying problems, and conduct a more detailed assessment when symptoms do not improve.

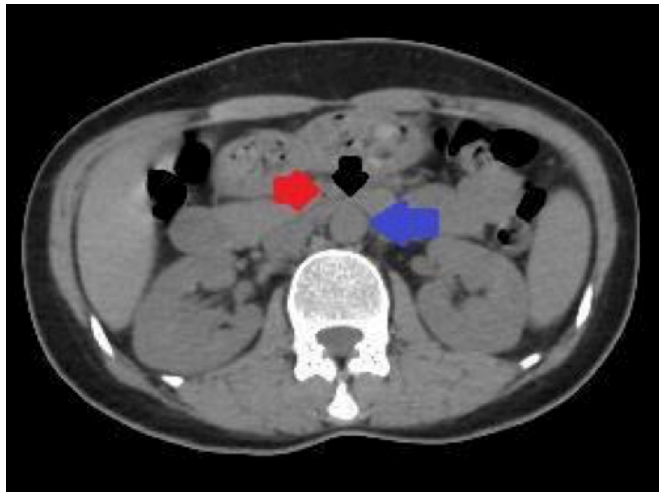

Figure 1. A computed tomography section of the patient.
Black arrow: Duodenum; Blue arrow: Aorta; Red arrow: Superior mesenteric artery.

Disclosures

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REFERENCES

1. Wilkie DPD. Chronic duodenal ileus. Am J Med Sci 1927;173:643–9.
2. Voleti SPR, Sridhar J. Superior mesenteric artery syndrome after kyphosis correction - a case report. J Orthop Case Rep 2017;7(5):67–70.
3. Unal B, Aktaş A, Kemal G, Bilgili Y, Güliter S, Daphan C, et al. Superior mesenteric artery syndrome: CT and ultrasonography findings. Diagn Interv Radiol 2005;11(2):90–5.
4. Singaporewalla RM, Lomato D, Ki TK. Laparoscopic duodenojejunostomy for superior mesenteric artery syndrome. JSLS 2009;13:450–4.
5. Zaraket V, Deeb L. Wilkie's syndrome or superior mesenteric artery syndrome: Fact or fantasy? Case Rep Gastroenterol 2015;9:194–9.
6. Welsch T, Büchler MW, Kienle P. Recalling superior mesenteric artery syndrome. Dig Surg 2007;24:149–56.
7. Osegueda de Rodríguez EJ, Hernández-Villegas AC, Serralde-Zúñiga AE, Reyes-Ramírez ALDC. The two sides of superior mesenteric artery syndrome treatment: Conservative or surgical management? Nutr Hosp 2017;34(4):997–1000.
8. Makary MS, Rajan A, Aquino AM, Chamarthi SK. Clinical and radiologic considerations for ıdiopathic superior mesenteric artery syndrome. Cureus 2017;5;9.
9. Kumar R, Jaiswal G, Bhargava A, Kundu J. superior mesenteric artery syndrome: diagnosis and management. Kathmandu Univ Med J 2016;14(55):288–91.