



## Surgery

## SMA SYNDROME: A RARE CASE REPORT IN POST CHEMOTHERAPY PATIENT.

<b>Ankit gupta</b>	Senior Resident, Department Of General Surgery, King George's Medical University, Kgm, Lucknow.
<b>Abhishek Kumar*</b>	Senior Resident, , Department Of General Surgery, King George's Medical University, Kgm, Lucknow. *Corresponding Author
<b>Ganesh Chandra yadav</b>	Senior Resident, Department of General Surgery, King George's Medical University, KGMU, Lucknow
<b>Pankaj kumar kannaujya</b>	Senior Resident, Department of General Surgery, King George's Medical University, KGMU, Lucknow

## KEYWORDS :

## INTRODUCTION

Superior mesenteric artery is principle artery providing life to structures derived from midgut. Sometime it bends more toward its mother; abdominal aorta that can give rise to a rare syndrome - Superior Mesenteric Artery syndrome also termed as cast syndrome or wilkie syndrome. Superior mesenteric artery syndrome is Compression of duodenum between aorta and the superior mesenteric artery As the duodenum sandwiched, it causes chronic, intermittent, or acute complete or partial duodenal obstruction of the duodenal lumen.<sup>1</sup>

Symptoms of this syndrome include intermittent abdominal pain, which can be postprandial and associated with nausea and vomiting; causing anorexia and weight loss<sup>2, 3</sup>. After upper gastrointestinal barium study in general population incidence is 0.013-0.3% while its prevalence reported more after scoliosis, around 0.5-4.7%<sup>4,5</sup>. Some studies report the incidence of superior mesenteric artery syndrome to be 0.1-0.3%<sup>6</sup>. It occurs more commonly in females over males with a ratio of 3:2.

## Case-

A 35-year-old female presented to Trauma center, General surgery Department with complaints of acute intestinal obstruction. On explorative laparotomy there was sigmoid growth for which left hemicolectomy with transversecolonrectal anastomosis and covering loop ileostomy given 1½ ft proximal to ileocaecal junction. On 10<sup>th</sup> post op day patient was discharged with fully orally allowed. On follow up biopsy report was Adenocarcinoma stage pT2N1. Patient was referred for chemotherapy. After 2 cycle of FOLFOX regime patient again presented to surgery emergency with complaints of recurrent vomiting and upper abdominal pain from last 2 days. It was thought because of chemotherapy induced vomiting. Patient GC and BP were normal, pulse rate was 136/min. Abdomen was scaphoid, and soft, nontender and bowel sound was present. Intravenous fluid; intravenous ondansetron and intravenous pantoprazole and analgesics given with nasogastric tube (NG) insertion and patient planned for upper GI endoscopy if vomiting won't stop. On 5<sup>th</sup> day NG tube was removed but patient again complaints of 10 episodes of vomiting. Upper GI endoscopy was done and it shows dilated 2<sup>nd</sup> and 3<sup>rd</sup> part of duodenum with no evidence of gastric/duodenal ulceration or any mass. After this finding on endoscopy patient was planned for contrast enhanced CECT abdomen i/v and oral route. CT scan shows gross proximal distention of stomach, 1<sup>st</sup> and 2<sup>nd</sup> part of duodenum with compressed 3<sup>rd</sup> part of duodenum between Superior mesenteric artery and aorta; still reported ? SMAS (superior mesenteric artery syndrome). On barium study it is clearly depicted as superior mesenteric artery syndrome (fig 1). We manage patient on conservative medical management with removal of NG on 11<sup>th</sup> day with increased oral diet gradually and advised to lie in left lateral position and prone position. On 15<sup>th</sup> day patient again having similar complaints so we planned for nasojejunal tube insertion as patient did not give consent for surgery. Patient was improved and discharged on 29<sup>th</sup> day with nasojejunal tube.

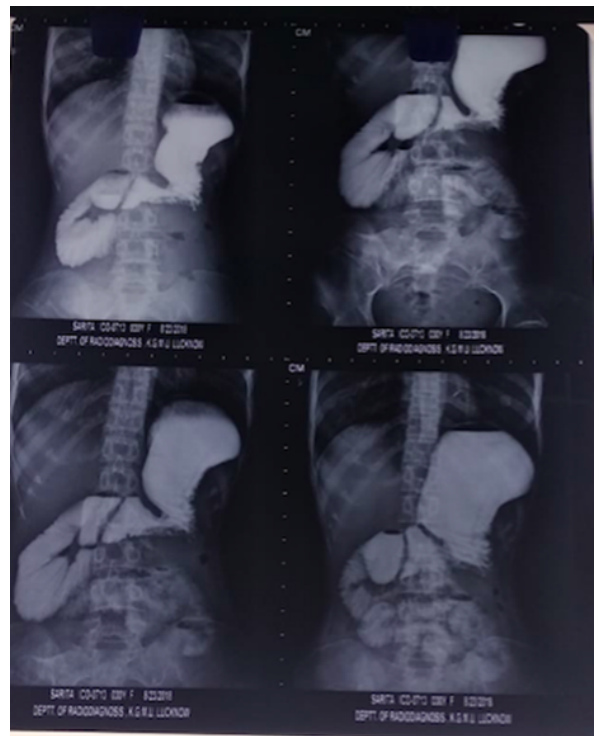


FIG 1 barium study showing dilated 1<sup>st</sup> and 2<sup>nd</sup> part of duodenum.

## DISCUSSION-

Superior mesenteric artery syndrome is a rare diagnosis usually found between 10-30 year age group. In Normal individuals, the fat and lymphatic tissues surrounding the SMA provide a protective layer to the duodenum and thus no compression. This layer of fat is diminished in a patient who is cachectic or having rapid weight loss either due to organic lesion like chronic infections and malignancy or psychiatric resulting in angulation and the distance between the aorta and the SMA is reduced<sup>7,8,9</sup>. Other causes are spinal deformity, post scoliosis surgery, abdominal aortic aneurysm, anatomical defects in ligament of treitz, familial, traumatic aneurysm of SMA or idiopathic<sup>10,11,12,13,14</sup>.

Given patient having wt- 35 kg and ht- 165 cm, thus BMI= 12.9kg/m<sup>2</sup>.

When patient first presented to our side she was having weight of 55 kg, which was ideal weight according to patient's height. But in due course of time loss of weight was significant.

Whenever a patient of malignancy, on chemotherapy presented to emergency with complaints of recurrent vomiting and pain abdomen,

our first differential diagnosis are chemotherapy induced vomiting, Gastritis or recurrence or advancement of upper GI malignancy compressing the lumen. With this case we want to highlight the fact that if patient presented with such a case with history of rapid weight loss superior mesenteric artery syndrome should be a differential diagnosis.

## REFERENCES

1. Gerasimidis T, George F. Superior Mesenteric Artery Syndrome. *Wilkie Syndrome*. *Dig Surg*. 2009 May 20. 26(3):213-214.
2. FJ Bohanon, O Nunez Lopez, BM Graham, LW Griffin, and RS Radhakrishnan. A Case Series of Laparoscopic Duodenojejunostomy for the Treatment of Pediatric Superior Mesenteric Artery Syndrome. *Int J Surg Res*. April, 2016;
3. Scovell S & Hamdan A. Superior Mesenteric Artery Syndrome. *UpToDate*. Waltham, MA: UpToDate; March 6, 2017;
4. Ylinen P, Kinnunen J, Hockerstedt K. Superior mesenteric artery syndrome. *J Clin Gastroenterol*. 1989. 11:386-91
5. Tsirikos AI, Jeans LA Superior Mesentric artery syndrome in children and adolescents with spine deformities undergoing corrective surgery. *J Spinal Discord Tec*. 2005. 18:263-271.
6. Shiu JR, Chao HC, Luo CC, et al. Clinical and nutritional outcomes in children with idiopathic superior mesenteric artery syndrome. *J Pediatr Gastroenterol Nutr*. 2010 Aug. 51(2): 177-82.
7. Singal R., Sahu P.K., Goyal S.L. Superior mesenteric artery syndrome: a case report. *North Am J Med Sci*. 2010;2:392-394.
8. Roy A., Gisel J.J., Roy V., Bouras E.P. Superior mesenteric artery (Wilkie's) syndrome as a result of cardiac cachexia. *J Gen Intern Med*. 2005;20:3-4.
9. Abdu R.A., Garritano D., Culver O. Acute gastric necrosis in anorexia nervosa and bulimia. Two case reports. *Arch Surg*. 1987;122:830-832.
10. Ha CD, Alvear DT, Leber DC. Duodenal derotation as an effective treatment of superior mesenteric artery syndrome: a thirty-three year experience. *Am Surg*. 2008 Jul. 74(7):644-53.
11. Welsch T, Büchler MW, Kienle P. Recalling superior mesenteric artery syndrome. *Dig Surg*. 2007. 24(3):149-56.
12. Saraya T, Kurai D, Ariga M, Nakamoto K, Koide T, Tamura M. Superior mesenteric artery syndrome caused by huge mycotic abdominal aortic aneurysm. *Intern Med*. 2009. 48(12):1065-8.
13. Mosalli R, El-Bizre B, Farooqui M, Paes B. Superior mesenteric artery syndrome: a rare cause of complete intestinal obstruction in neonates. *J Pediatr Surg*. 2011 Dec. 46(12):e29-31.
14. Reynolds EW, Kinnard TB, Kriss VM, Perman JA. Superior mesenteric artery syndrome: an uncommon cause of feeding intolerance in infancy. *J Pediatr Gastroenterol Nutr*. 2008 Jan. 46(1):92-5.