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Case Report

A CASE REPORT ON SUPERIOR MESENTERIC ARTERY SYNDROME (SMA)

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Case Report:-

Mr. XXX 40 yrs old resident of Gopalapuram was referred from medical ward as an acute abdomen with complaints of pain , vomiting and marked distension of abdomen on 27-1-20O9. Pain in the upper abdomen since 2 months aggravated by taking solid foods on and off and relieved by vomitus which was bilious in nature. Distension of upper abdomen extending up to the suprapubic region was marked since 3 days.

He suffered from similar complaints on and off since 10 yrs and had treatment at various hospitals. He lost weight of 10 kg in 2 months. His father had a similar complaint who was operated twice with no available details.

The patient is an occasional smoker is of thin built, asthenic, cachexic with moderate dehydration. Abdomen is grossly distended with visible peristalsis of the stomach. On introduction of Ryles tube 1200cc of bile stained fluid came out and distension relieved. No lump or organomegaly or free fluid found in the abdomen.

USG showed distended stomach and duodenum up to 3rd part. Barium meal follows through showed dilated stomach without any filling defects. The duodenum up to mid part of the 3rd segment is dilated in caliber with an abrupt linear cut off of the barium column in mid 3rd part of the duodenum (supine position) with subtle to and fro motion in the proximal duodenum. Contrast passed freely in left lateral decubitus position into the distal part of the intestine. Features S/O extrinsic impression of SMA over the mid part of a 3rd segment of the duodenum. Routine investigations are within normal limits.

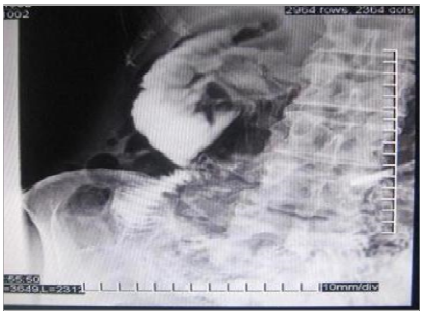

Fig 1:- pre-op x-ray barium meal shows linear cut off of contrast at 3rd part of duodenum

Treatment :-Under general anesthesia Roux-En-Y Retrocolic Jejuno-Duodenostomy And Jejuno-Jejunostomy done after mobilization of the duodenum by division of Teitz's ligament and Kocherization. Per and post-op recovery was uneventful.

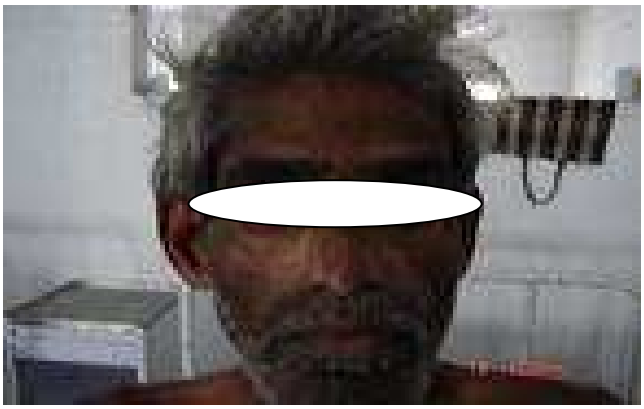

Fig 2 :- preop patient face shows features of dehydration

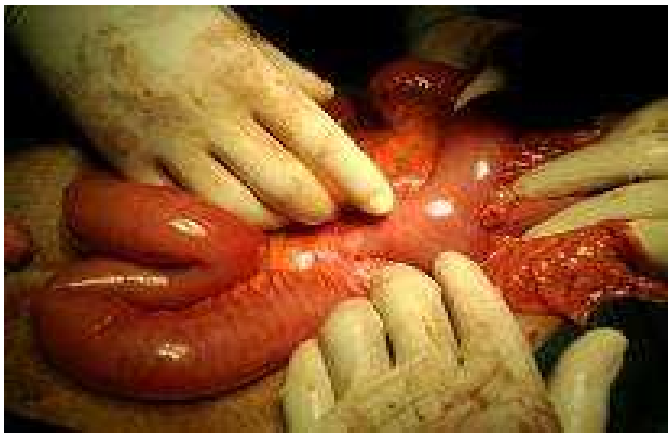

Fig 3:- second part of duodenum & kocherization

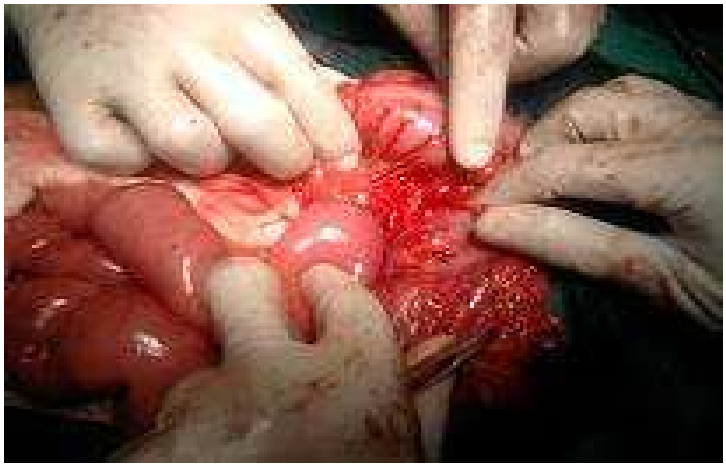

Fig 4:- transmesentric approach

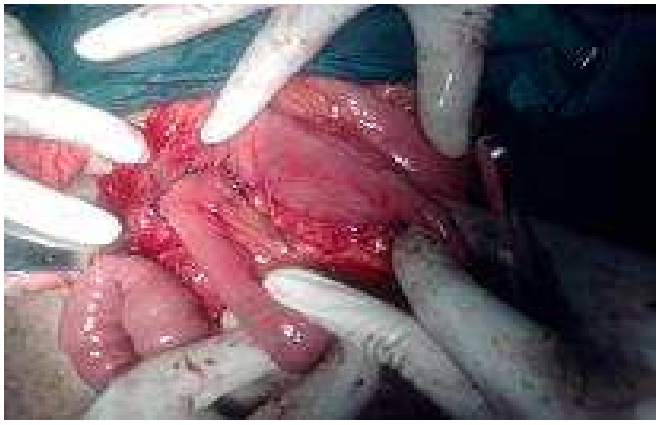

Fig 5:- end to side jejunojejunostom

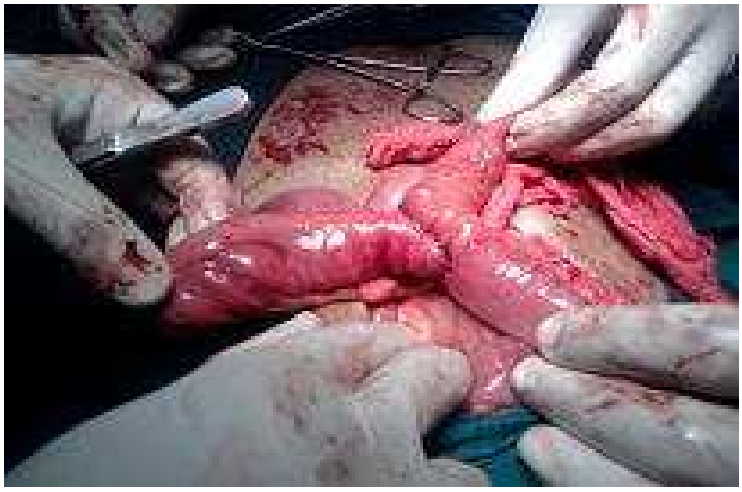

Fig 6 :- end to side duodenojejunostomy

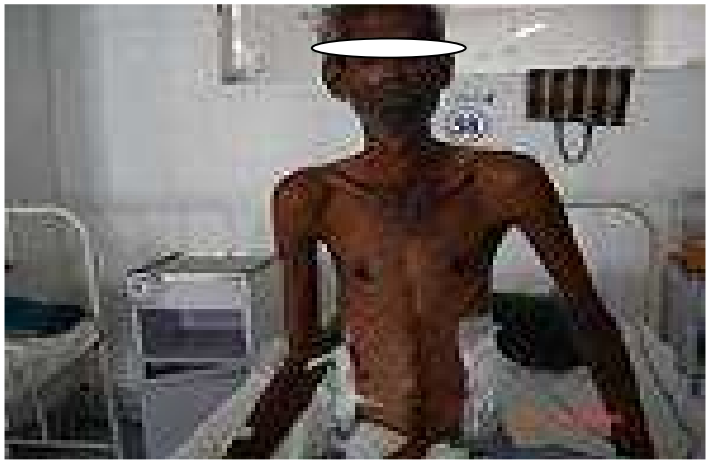

Fig 7 :-postoperative status (10^{th} day)

Discussion:

SMA syndrome was first described as a clinical problem in 1842 by ROKITANSKY. Incidence varies from 0.2% to 0.3% in upper GI series, and 0.002% to 0.1% in hospital records. It carried many names like wilke syndrome, cast syndrome (dorph), nutcracker syndrome, arterio-mesenteric duodenal obstruction, arterio mesenteric duodenal compression, chronic intermittent arterio-mesenteric occlusion of the duodenum, chronic duodenal ileus[11,14,15,] gastromesentric ileus. however, the term vascular compression of duodenum[1,3] is the most accurate term for this syndrome because the middle colic or superior mesenteric artery or both are the cause of duodenal obstruction. For many years the very existence of condition was questioned. In 1907 Bloodgood proposed bypassing obstruction with duodenojejunostomy, first performed by Stavely in 1908. In 1927 Wilkie reported 75 patients of SMA Syndrome[12]. There was a lack of diagnostic criteria with variable results. In 1960 Burner & Sherman reviewed the case reports and the literature. Later on, diagnosis is confirmed by upper GI series, hypotonic duodenography, and CT angiography with 3-dimensional reconstruction

Anatomical factors:

Angle between SMA & Aorta, Retroperitoneal fat in the angle, Duodenal position with ligament of Treitz, Degree of lordosis of lumbar spine, Tight girdle or body cast or Harrington frames[2], Post-op procto-colectomy or ileoanal pouch, Aorto-mesenteric distance, short ligament of Treitz , Middle colic artery, Severe burns (1% of cases), Familial[6,10].

Clinical Features:

Clinical presentation of SMA syndrome can be acute or chronic form. The clinical presentation is that of epigastric fullness, distension, discomfort aggravated by eating with early satiety, anorexia and relieved by vomiting or left lateral or prone, or knee-chest position associated with loss of weight. This intermittent symptoms with the asthenic patient usually take 7 to 10 years on an average for establishing the diagnosis.

Investigations:

Barium meal series, Fluoroscopy, Hayes manoeuvre, Hypotonic duodenography, SMA arteriography, CT angiography[5], Helical CT scanning with multiplanar[13] or 3-dimensional reconstruction can measure the angle. Intra-operative gastroduodenal air insufflation via nasogastric tube.

Management:

Depends on the causative factors like body cast, hip spica, burns, nutritional support and naso-jejunal tube with PPI.

Surgical treatment comprises of the division of the suspensory ligament of Treitz (83% success), and by-passing of the obstructive segment(98%). Other procedures include reimplantation of the left renal vein into IVC (Nutcracker syndrome)[4], vein graft, nephropexy, vein stenting and renal auto-transplantation.

Conclusion:

This case is presented because of rarity and difficulty and delay in diagnosis. Patient with repeated presentation of duodenal obstruction[8] with bilious vomiting should be investigated for SMA SYNDROME [7,9]

(Vascular obstruction of the duodenum in relevant cases.) Accordingly, bypass procedures will relieve the patient.

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