Images in Clinical Medicine

Acute Retrograde Jejunogastric Intussusception

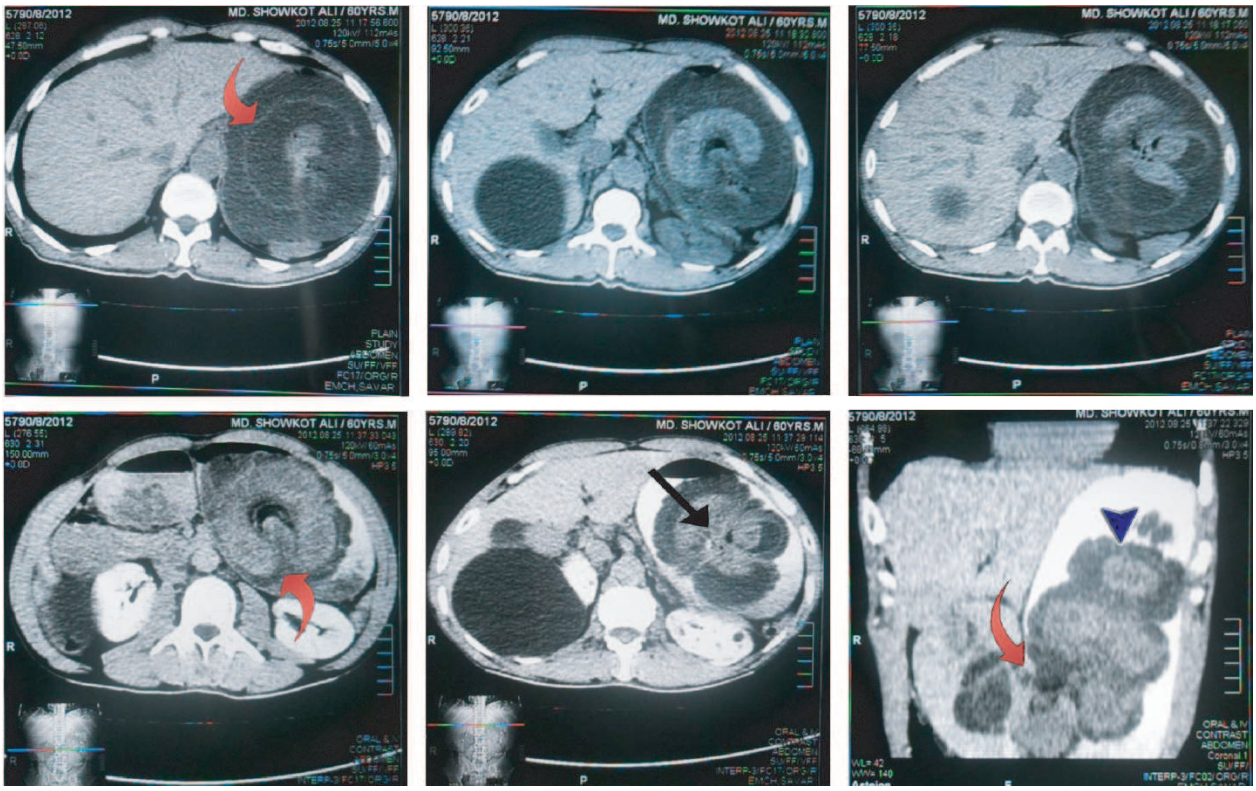

Fig 1. Pre- and post-contrast CT scan of abdomen with positive enteral contrast. Axial and coronal images showing retrograde invagination of mesentery and jejunal loops through the gastrojejunostomy stoma into the dilated stomach

A 65-year-old male was admitted into Enam Medical College Hospital through emergency unit with severe upper abdominal colicky pain, paroxysms of haematemesis and constipation for one day. He had undergone gastric surgery 20 years back and was symptom-free prior to this recent hospitalisation. On admission, he was restless with mild dehydration and anaemia. His pulse rate was 100/minute and BP 100/80 mm Hg. The abdomen was tender and a globular, mobile, firm to hard mass was present in the left upper and central abdomen. Laboratory investigations showed haemoglobin 11.2 gm/dL, white cell count 14,000/µL, with 88.0% neutrophils, ESR 13 mm in 1st hour and prothrombin time 12.9 second (INR 100.7%).

Radiography of abdomen was normal. A CT scan of abdomen (pre- and post-contrast images) revealed post-gastrojejunostomy status with invagination of efferent jejunal loops and mesentery into a dilated stomach, best seen in coronal section (Fig 1). The diagnosis of post-gastrojejunostomy retrograde jejunogastric intussusception (JGI) was entertained. Endoscopy showed a posterior gastrojejunostomy stoma with congested loops of jejunum migrating and almost occupying the whole stomach. Oozing of blood was seen from the congested mucosa of the jejunum and stomach (Fig 2). During emergency laparotomy, intragstric invaginated efferent jejunal loops (intussusceptum) were reduced with primary resection of the gangrenous segment and end-to-end anastomosis of the jejunal segment was performed. The gastro-jejunostomy was reinforced. The patient had an uneventful recovery.

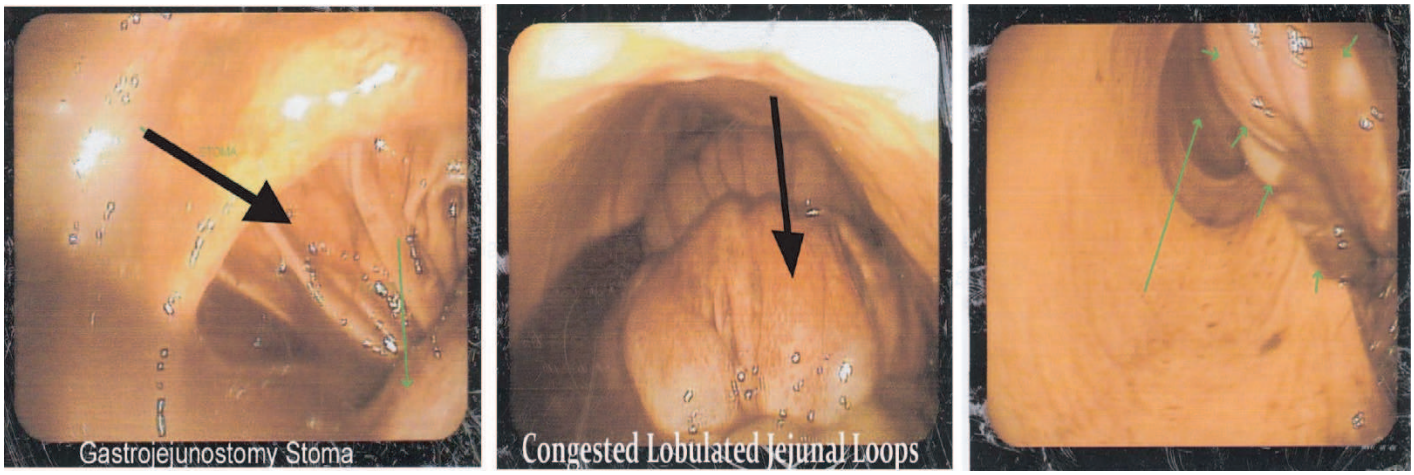

Fig 2. Endoscopy of upper GIT showing posterior gastrojejunostomy stoma with strangulated loops of jejunum

JGI is a rare life-threatening complication of gastric surgery with an incidence of three in 2000 gastroenterostomies (0.0015%).[1] It may complicate virtually all types of gastric surgery.[1] Since its first description by Bozzi[2] in 1914, around 200 cases have been described.[1-6] Three types have been recognised: i) afferent loop intussusception (antegrade, 10%), ii) efferent loop intussusception (retrograde, 76%) and iii) combined (16%).[3] Clinically it is of two types — acute fulminating form and chronic recurrent form. In the acute form, incarceration and strangulation of the intussuscepted loop generally occur whilst spontaneous reduction is usual in the chronic type.[3,4]A high intestinal obstruction, left hypochondriac mass and haematemesis constitute the diagnostic triad of acute fulminant jejuno-gastric intussusception and may have fatal results unless diagnosed early.[5]

Water soluble upper GI contrast study, ultrasonography or emergency endoscopy have established roles in the diagnosis of this entity.[1-8] Upper GI contrast study may reveal a "coiled spring" appearance within the stomach.[6] Findings of barium or a gastrografin study is doubtful, in which often one has to rely on the secondary signs of intussusception. In most cases, ultrasonography shows intragastric tubular images with peristalsis.[4] Upper GI endoscopy is often diagnostic and may visualise the jejunal segments as they go in and out of the stomach[6], but it is inconvenient for a sick patient. On the other hand, a number of reports described CT scan as a rapid and effective means of diagnosis.[3,7,8] CT will show intussusception of the jejunal loops into the stomach with invagination of the mesentery and vessels.[3] An important role of CT is to define the type of intussusception and assess the viability of the invaginated bowel loop.[8]

The multiplanar capability of CT and its ability to view a marked point on an image in multiple projections eliminate any dilemma in case of overlapping, thickened loops. Besides the advantage of cross-sectional imaging, the jejunum could be traced in serial images going retrograde into the stomach.[7]

When a patient with history of gastric surgery presents with upper abdominal pain, haematemesis and a mobile mass, one should suspect acute JGI first.[6] A CT scan is to be advocated for rapid and effective diagnosis. Prompt surgery is life-saving in acute JGI. Reduction, resection and revision of the anastomosis are the surgical options depending on the status of the intussusceptum during operation.

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