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A CASE OF STOMAL SITE MALIGNANCY POST GASTROJEJUNOSTOMY

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INTRODUCTION

- Stomal site malignancy in gastric remnants ranges from 2-3% after loop Gastrojejunostomy performed for benign ulcer disease, which occurs after 15 years

- Causative factors supposed to be alkaline duodeno gastric reflux and increased n-nitroso compounds secondary to bacterial overgrowth.

- Curative treatment is complete (R0) resection Including removal of all lymph nodes. (D1, D2)

- We present this case of stoma site malignancy developed after 30 years of Gastrojejunostomy done for benign duodenal ulcer.

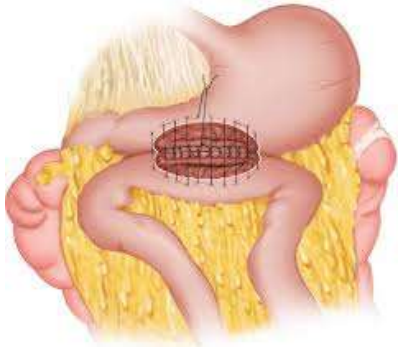
CASE HISTORY

63 year old male presented with complaints of –

- Pain in upper abdomen for 2 months
- Vomiting immediately after food intake for 2 months.
- Decreased appetite and weight loss approx 20kg in 2 months

Patient had history of loop gastrojejunostomy with vagatomy for duodenal ulcer disease 30 years back

GENERAL PHYSICAL EXAMINATION



- Patient was conscious, vitally stable and afebrile
- Pallor present
- Signs of chronic dehydration present
- No evidence of icterus, cyanosis, clubbing, oedema or generalized lymphadenopathy.

PER ABDOMEN EXAMINATION

- Soft, non tender, no palpable lump, no organomegaly, bowel sounds heard.

PER RECTAL EXAMIONATION

Normal

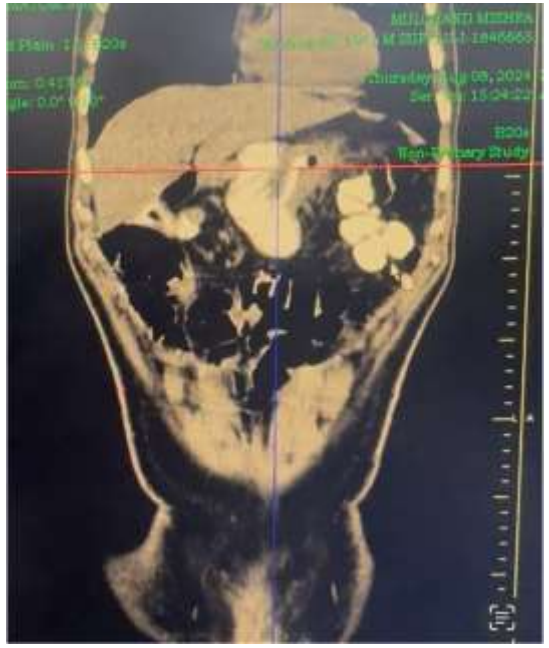
INVESTIGATIONS

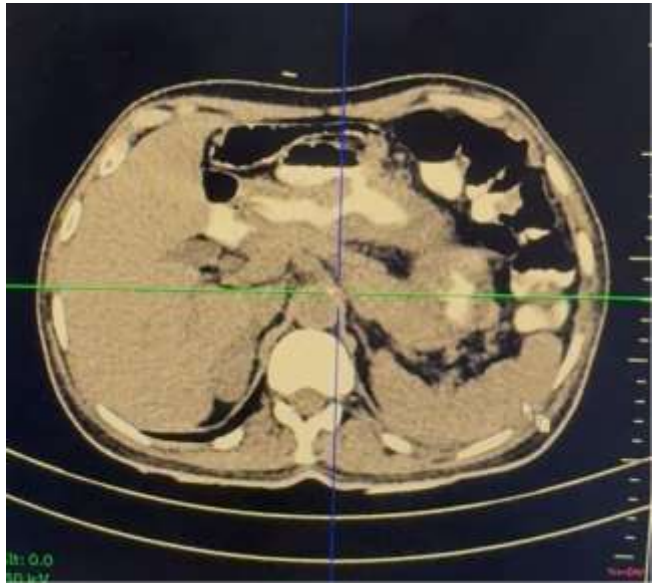
- **HB- 4.7g/dL**
- WBC- 4200 /mcgL
- PLATELETS- 237000 /mcgL
- LFT-
  - TOTAL BILIRUBIN- 0.39 mg/dL
  - CONJUGATED – 0.20 mg/dL
  - UNCONJUGATED – 0.19 mg/dL
  - ALP- 83 U/L
- Sr. Creatinine – 0.99 mmol/L
- Sr. Urea- 31 mmol/L

- HIV - NON REACTIVE
- HCV – NON REACTIVE
- HBsAG – NON REACTIVE

- **PT- 16.8 seconds**
- **INR – 1.41**
- **Total Protein - 5.7**
- **Albumin - 2.4**

CECT --TRIPHASIC (ABDOMEN & PELVIS)-

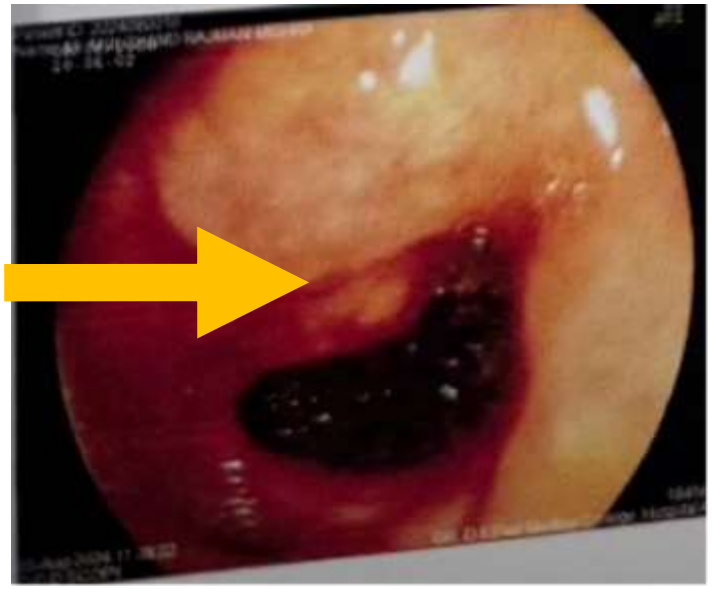




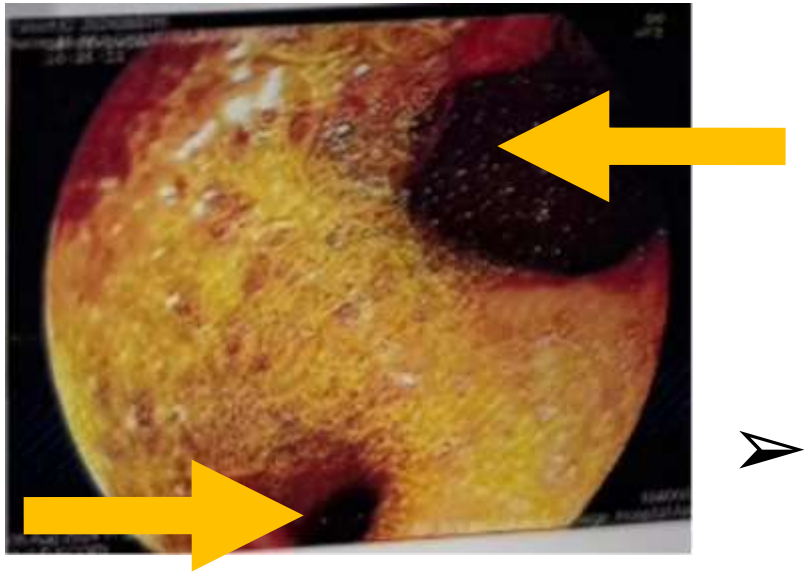
- Post gastro-jejunostomy status
- Asymmetrical circumferential wall thickening of 11 mm and length of 9.5 cm in body, antrum and pylorus enhancement, luminal narrowing- neoplastic etiology.

Gastrojejunostomy site shows wall thickening (4 mm). Homogeneously enhancing perigastric lymph nodes.

OGD Scopy



- Mucosal irregularities with ulceration at the site of Gastrojejunostomy.
- Possibility of stomal malignancy.
- Multiple mucosal biopsies taken from the Gastrojejunostomy stoma.



➢ **HPE of Biopsy from ulceration at Stomal site s/o Poorly differentiated carcinoma**

PET CT

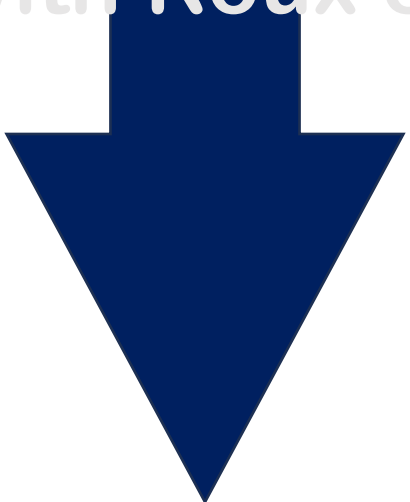
- High grade metabolic activity seen at site of anastomosis with suspicious thickening which persist in the delayed images.
- Perigastric lymph nodes with metabolic activity seen.
- Metabolically active thoracic nodes seen - likely inflammatory.
- No metabolically active lesion seen in liver and pancreas
- No other significant abnormality or metabolically active relevant disease is seen elsewhere in the body.

PLAN OF MANAGEMENT

- Considering the imaging, histopathology report of the site and the physical performance of the patient -
  - As the patient had stomal obstruction. Patient needs gastricbypass.
  - As imaging was suggestive of no metastatic disease.
- Plan to go ahead with exploratory laparotomy with radical gastrectomy or bypass.

Correction of anaemia, hypoalbuminemia and INR done

On basis of History, clinical findings, OGDscopy, biopsy report and the patient was planned for Exploratory Laparotomy, Subtotal Gastrectomy And lymphadenectomy with Roux en Y Reconstruction.



INTRAOPERATIVE FINDINGS

- No ascites, liver normal, no peritoneal nodules.
- Mass felt in the body of stomach approximately 8 x 9 cm at previous stoma site.
- Stomach mobilised, both efferent and afferent limbs isolated of previous Loop Gastrojejunostomy along with mass.
- Subtotal gastrectomy with D1(Perigastric) lymphadenectomy done.
- Gastrointestinal continuity achieved by Roux en Y Gastrojejunostomy and Jejunojejunostomy.
- Patient tolerated the procedure well.

SURGICAL RESECTION

- Subtotal Gastrectomy leaving behind fundal gastric pouch of approximately 5 cm along with omentectomy along with afferent and efferent loop
- D1 Lymph node clearance
- Duodenal stump closed with linear stapler

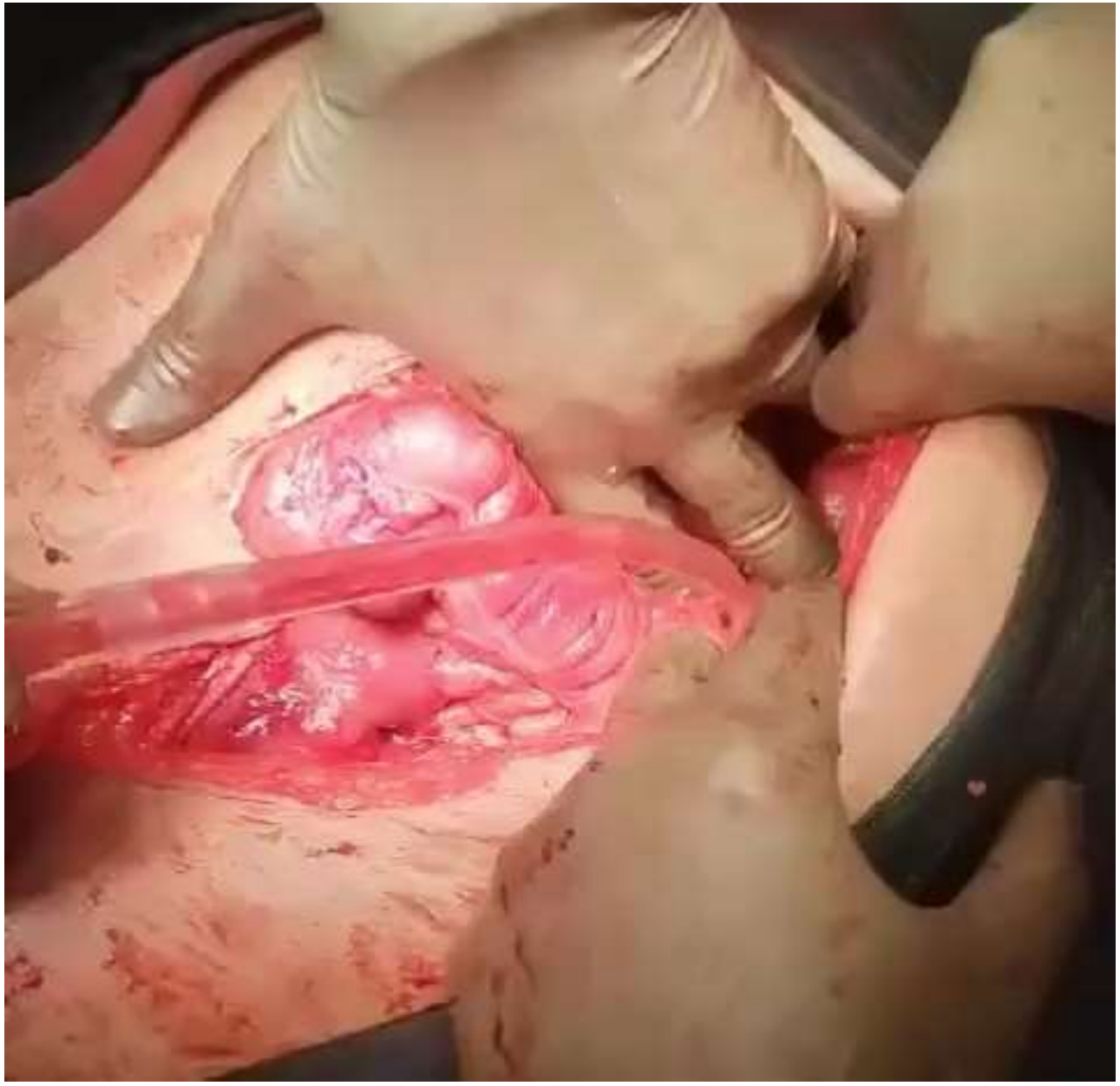
INTRAOP IMAGES

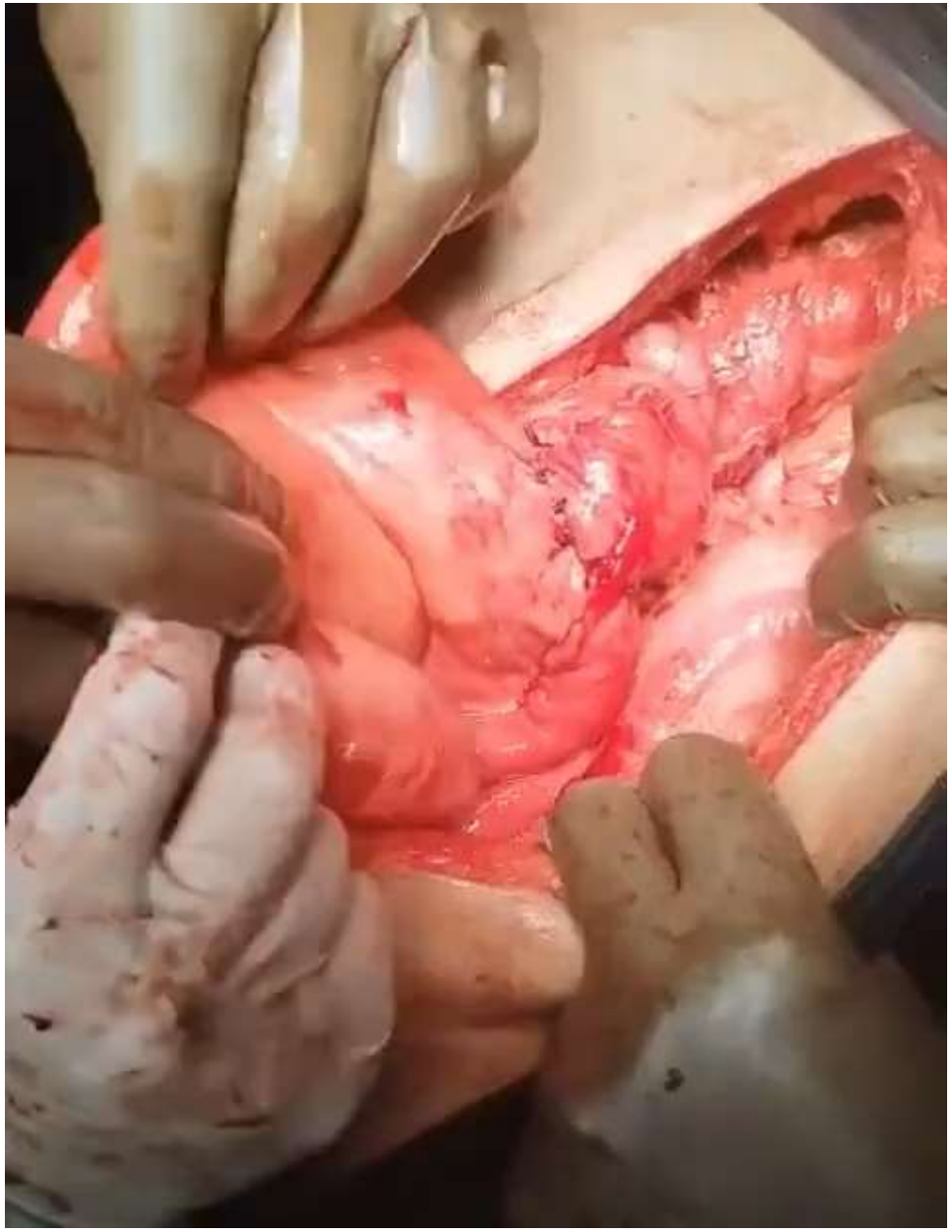
RECONSTRUCTION

Gastrointestinal continuity achieved by

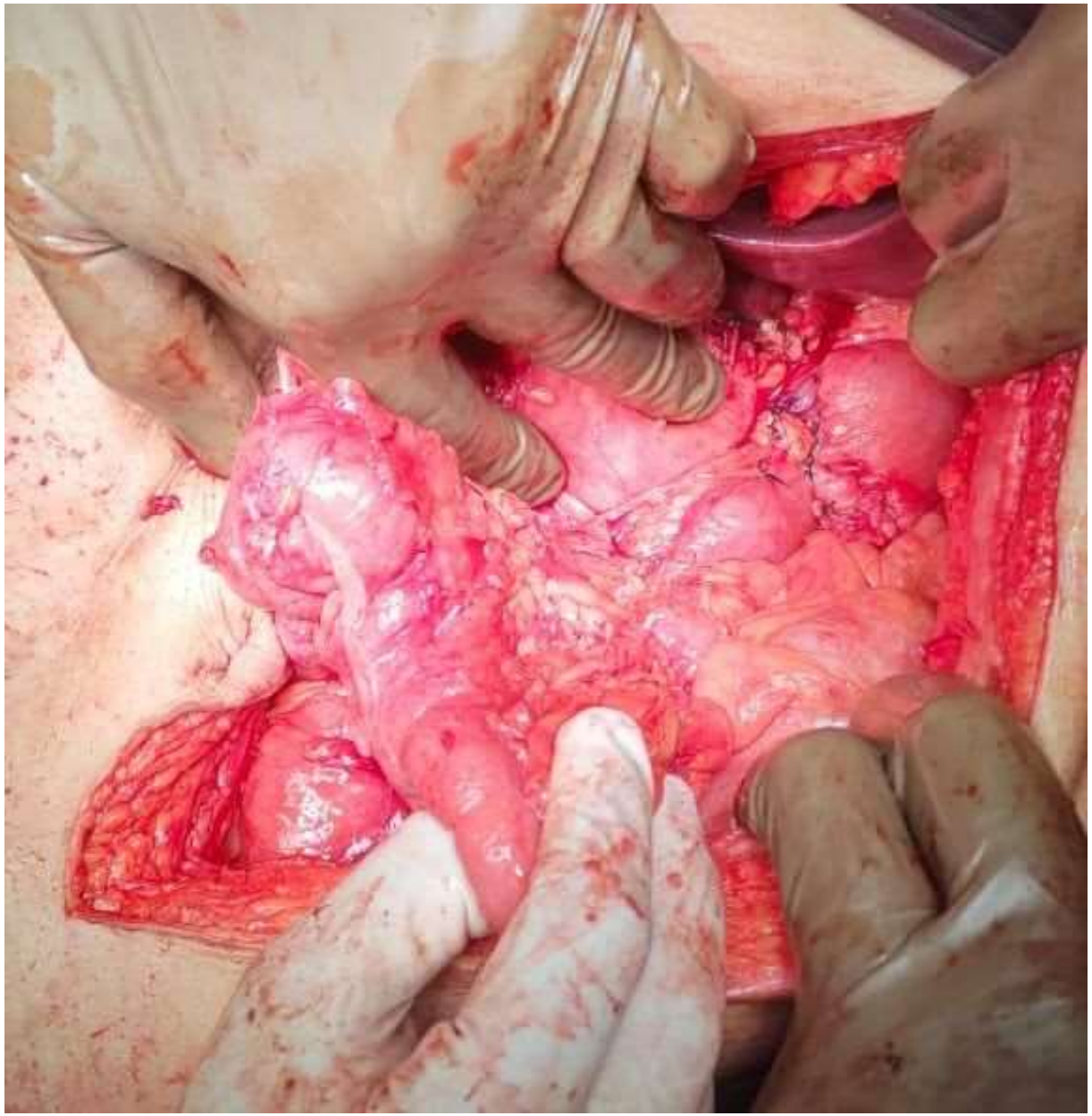
1. Retrocolic Roux en Y loop anastomosis
2. 40cm long end to side done with stomach.
3. End to side Jejunojenunostomy done.

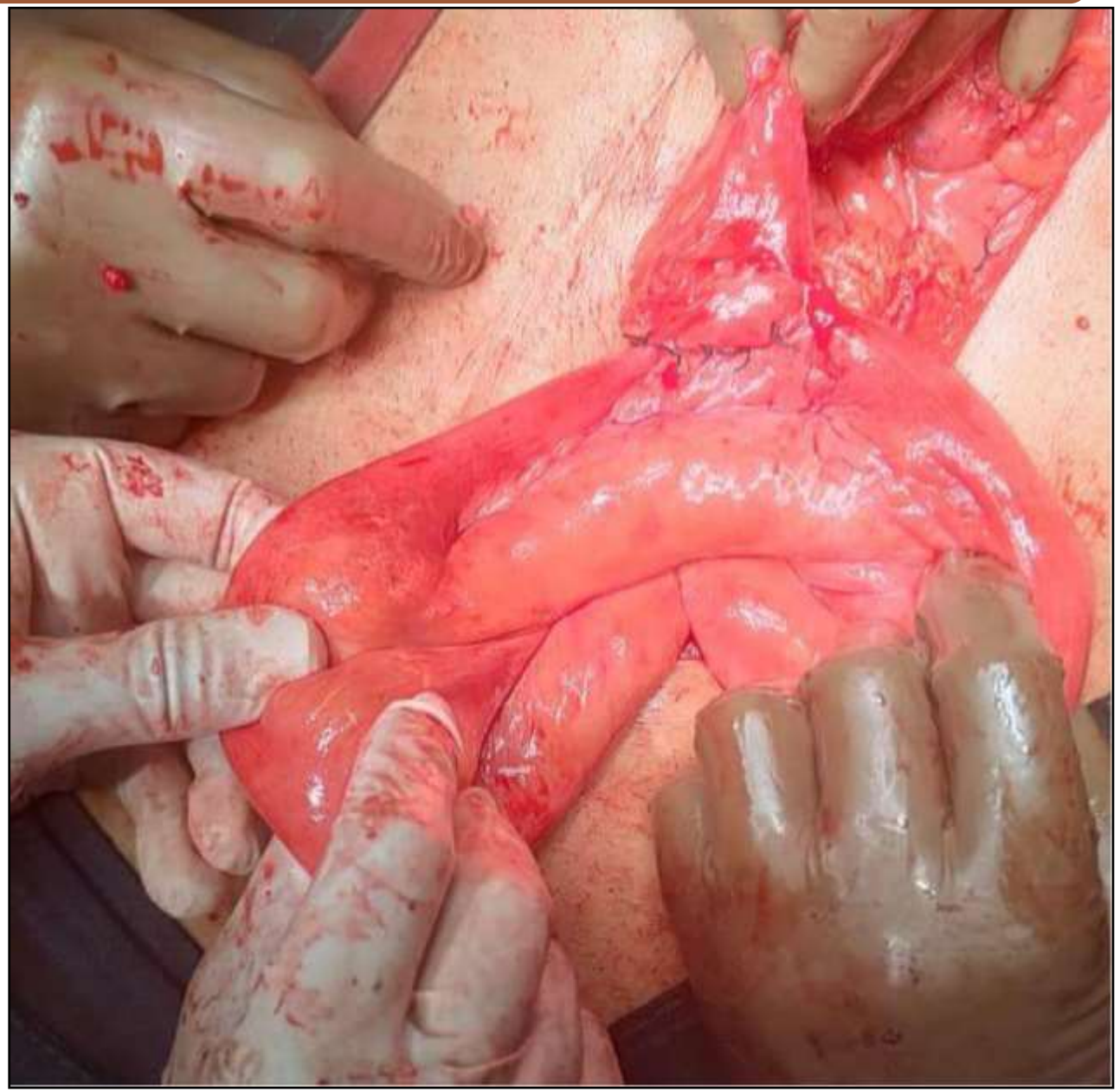
INTRAOP IMAGES



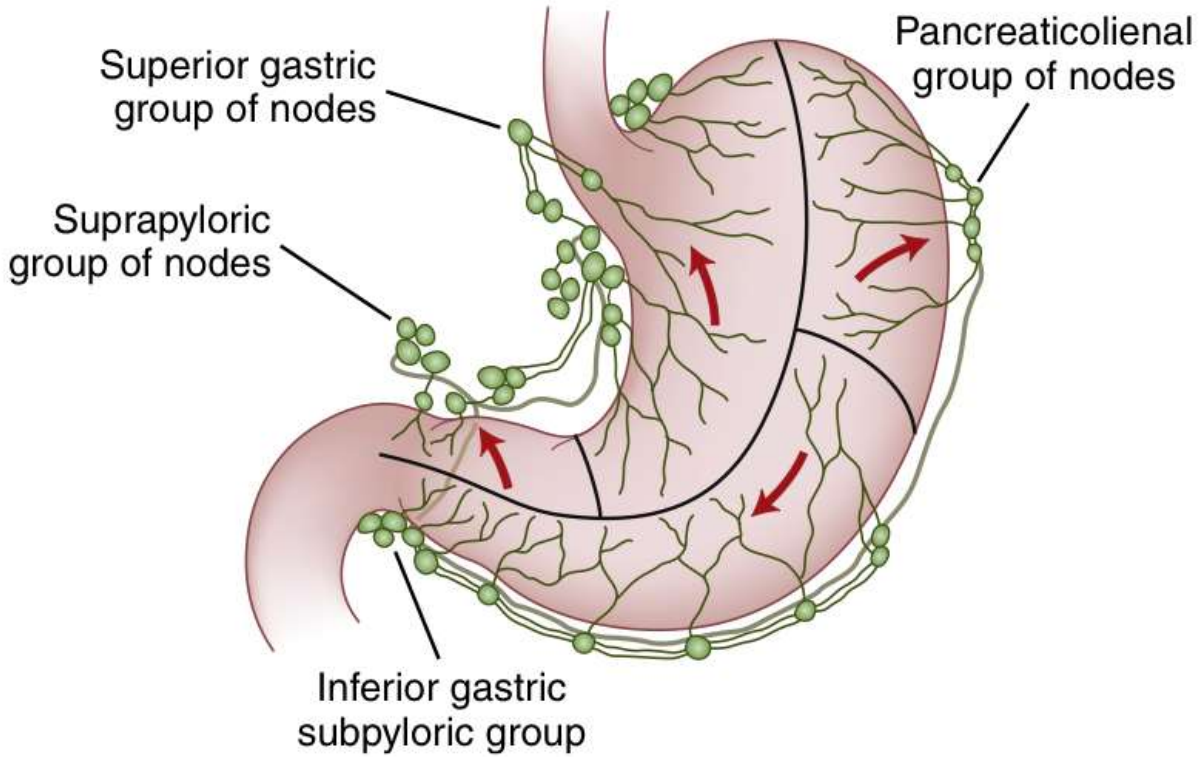


GASTROJENUSOSTOMY JEJUNOJEJUNOSTOMY

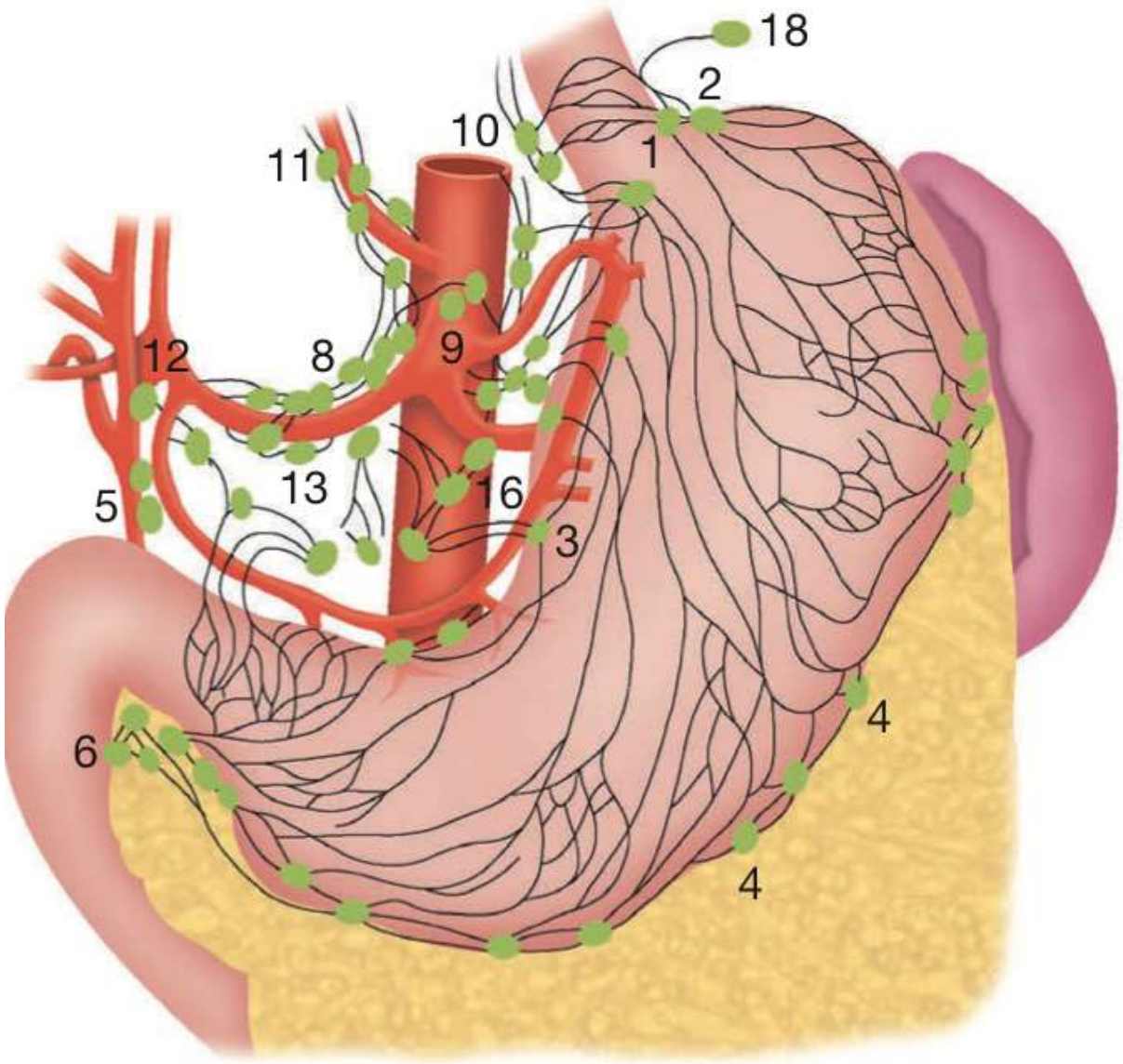




LYMPH NODE CLEARANCE



Perigastric Lyph node disection (D1)



Lyph node disection (D2)

POST OPERATIVE PERIOD

- Post operative period was uneventful.

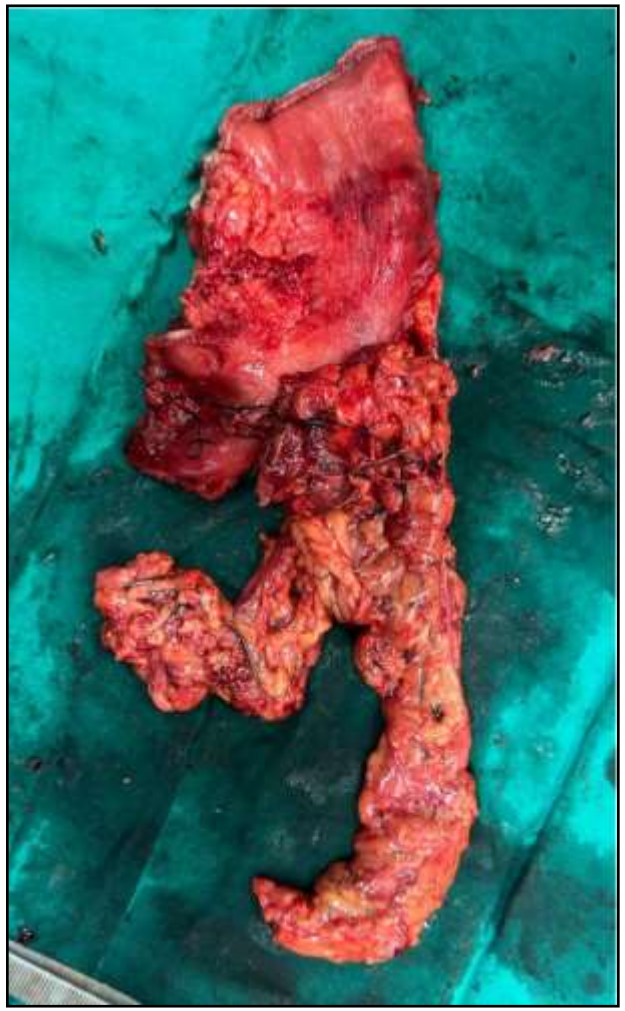
- Patient was discharged on POD 14.

- After 3 weeks of surgery chemotherapy was given
- Capecitabine and Oxaliplatin 4-6 Cycles

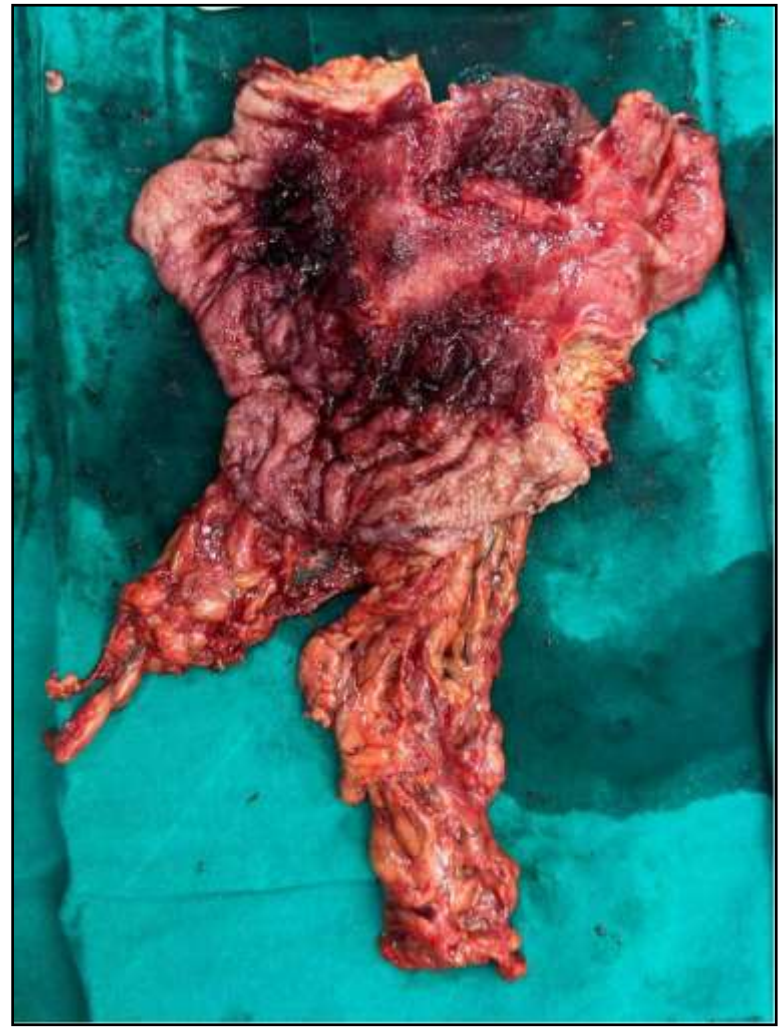
Follow up

- 3 monthly clinical follow up
- 6 monthly CECT AP
- 1 yearly OGDscopy

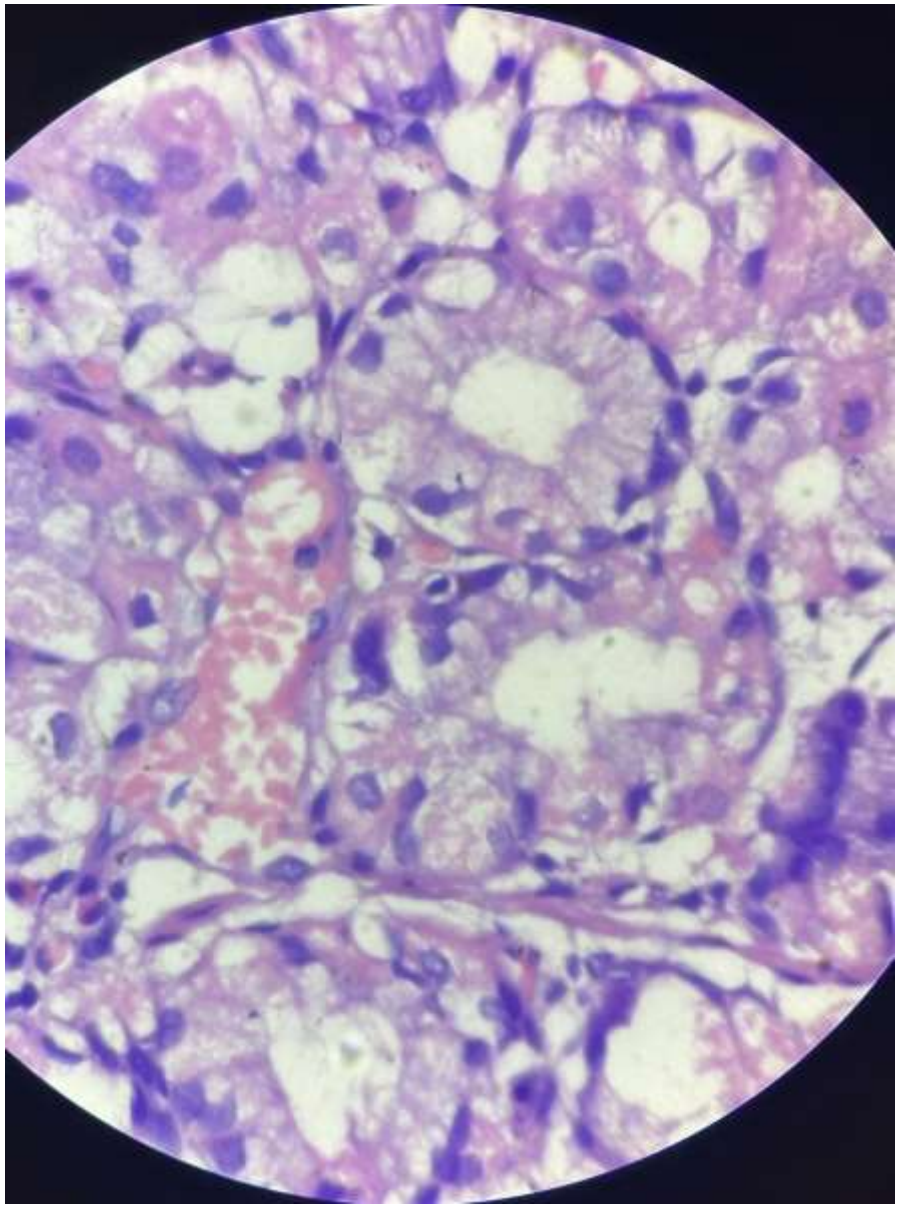
EXCISED SPECIMEN



Excised specimen of Subtotal



HISTOPATHOLOGIC EXAMINATION



- Signet Ring Cell - Poorly Differentiated Gastric Carcinoma
- All margins are free from tumour (Proximal stomach margin, distal pyloric margin, afferent loop of jejunum margin, efferent loop of jejunum margin). 10/10 lymph nodes (Perigastric) show tumour deposits.
- pTNM classification (AJCC 8th edition) - pT4a pN3a pMNA

DISCUSSION

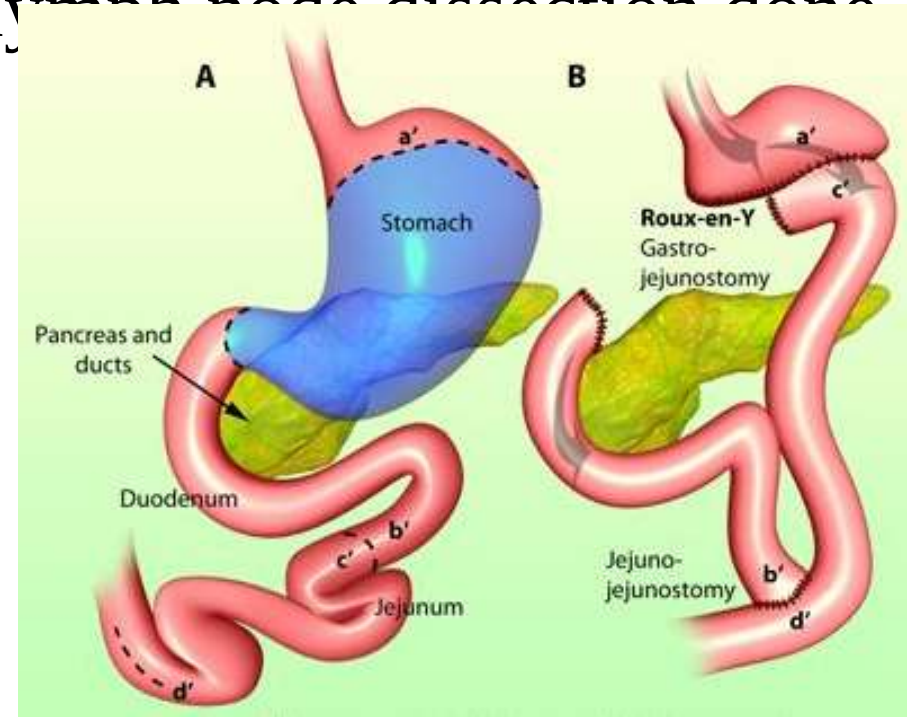
- The incidence of malignancy ranges from 2-3% in gastric remanants post gastric surgery for benign disease especially for ulcers.

- Biliary reflux in loop Gastrojejunostomy damages the gastric mucosa and disrupts the gastric mucosal barrier.

- Continuous biliary reflux leads to alkaline gastritis and intestinal metaplasia (precancerous).

DISCUSSION

- Roux-en-Y GJ has reduced the incidence of reflux and intestinal metaplasia compared to loop GJ.
- In operable disease curative surgery is main aim of treatment.
- In our case subtotal gastrectomy with D1 lymph node dissection done



DISCUSSION - SURGICAL TREATMENT

- The only curative treatment for gastric stoma carcinoma is complete resection (R0) with lymph node dissection of D1 and D2.

- The prognosis depends on the timing of diagnosis, the stage of the tumor, and the ability to achieve complete surgical resection.

- Regular surveillance and prompt treatment after surgery is important for improving the prognosis.

DISCUSSION - Role of Staging Laparoscopy

- Pre Operative Staging Laparoscopy directly inspects the peritoneal and visceral surfaces for detecting CT Occult small volume metastasis.
- Thus, Staging evaluation of patients of gastric cancer.
- It calculates Peritoneal Carcinoma Index (PCI)
- Decision for Cytoreductive surgery and intra operative Hyperthermic Chemotherapy (HIPEC) can be taken.

DISCUSSION - Role of Chemotherapy

Neoadjuvant Chemotherapy

- For unresectable locoregional disease,
  - Control cancer progression
  - Might make it amenable to surgery

Adjuvant Chemotherapy

- Aims to prevent recurrence and improve survival.
- Recommended in patients with Stoma Site Carcinoma after curative R0 resection with D1 or D2 lymph node dissection.

Palliative Chemotherapy

- Aim to prolong survival
- Improve quality of life

TAKE HOME MESSAGE

- Malignancy in stoma of loop gastrojejunostomy for benign diseases is extremely rare
- Biologically they are poorly differentiated carcinoma.
- CECT and Endoscopy and PET Scan play a important role in decision.
- Curative (R0) resection in such cases is the only hope of good outcomes.
- Pre operative Laparoscopy may detect peritoneal metastasis/ peritoneal cancer index to decide about Cytoreductive surgery or HIPEC.
- Role of Pre and Post operative radio therapy is doubtful.
- There is definite role of Neoadjuvant and Adjuvant Chemotheray to make the disease amenable for surgery and better quality of life.
- Strict follow up is needed to detect recurrence.

REFERENCES

1. Risk factors predisposing to cardia gastric adenocarcinoma: insights and new perspectives. Abdi E, Latifi-Navid S, Zahri S, Yazdanbod A, Pourfarzi F. Cancer Med. 2019;8:6114–6126. [PMC free article] [PubMed] [Google Scholar]
2. Gastric cancer occurring at anastomosis after gastrojejunostomy without gastrectomy. Matsushita M, Hajiro K, Okazaki K, Takakuwa H. Dig Dis Sci. 1998;43:898–900. [PubMed] [Google Scholar]
3. Complications related to gastric bypass performed with different gastrojejunal diameters. Sampaio-Neto J, Branco-Filho AJ, Nassif LS, Broska AC, Kamei DJ, Nassif AT. Arq Bras Cir Dig. 2016;29 Suppl 1:12–14. [PMC free article] [PubMed] [Google Scholar]
4. Gastric adenocarcinoma at the anastomotic site 50 years after gastrojejunostomy: a case report. Namikawa T, Kawanishi Y, Fujisawa K, et al. Mol Clin Oncol. 2017;7:249–251. [PMC free article][PubMed] [Google Scholar]
5. Treatment and outcome of patients with gastric remnant cancer after resection for peptic ulcer disease. Mezhir JJ, Gonen M, Ammori JB, Strong VE, Brennan MF, Coit DG. Ann Surg Oncol. 2011;18:670–676. [PubMed] [Google Scholar]
6. Gastric cancer arising from the remnant stomach after distal gastrectomy: a review. Takeno S, Hashimoto T, Maki K, et al. World J Gastroenterol. 2014;20:13734–13740. [PMC free article][PubMed] [Google Scholar]
7. Roux-en-Y reconstruction after distal gastrectomy to reduce enterogastric reflux and Helicobacter pylori infection. Chan DC, Fan YM, Lin CK, Chen CJ, Chen CY, Chao YC. J Gastrointest Surg. 2007;11:1732–1740. [PubMed] [Google Scholar]
8. Early gastric cancer following gastrojejunostomy without gastrectomy. Umezu T, Takeda J, Tanaka T, Koufuji K, Hashimoto K, Kakegawa T. Kurume Med J. 1991;38:187–190. [PubMed] [Google Scholar]
9. Roux-en-y jejunal loop and bile reflux. Collard JM, Romagnoli R. Am J Surg. 2000;179:298–303.[PubMed] [Google Scholar]
10. Prognostic factors in gastric stump carcinoma. Thorban S, Böttcher K, Etter M, Roder JD, Busch R, Siewert JR. Ann Surg. 2000;231:188–194. [PMC free article] [PubMed] [Google Scholar]
11. Early detection of gastric remnant carcinoma. The role of gastroscopic screening. Greene FL. Arch Surg. 1987;122:300–

THANK YOU