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A COMPARATIVE STUDY BETWEEN HANDSEWN AND STAPLED GASTROJEJUNOSTOMY

General Surgery

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ABSTRACT

Gastrojejunostomy procedure done to bypass gastic outlet obstruction,. Procedure used to be done by handsewn anastomosis and stapled anastomosis.both the procedures has there side effects, complications.present study is to compare hand sewn anastomosis with stapled anastomosis,there complication and uses.

KEYWORDS

INTRODUCTION

Gastrojejunostomy is indicated for patients having gastric outletobstruction and part major surgeries like whipples procedure, billroth 2.

It is an anastomosis between stomach and jejunum loop to bypass the obstruction present in distal stomach or duodenum.

GJ can be done retrocolic or anticolic.

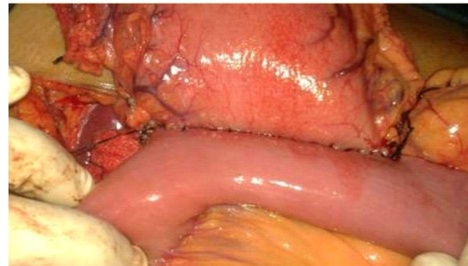
Anastomosis between stomach and jejunum can be done hand sewn and stapled.

HAND SEWN ANASTOMOSIS:

- Posterior wall of stomach brought to retrocolic position in infracolic compartment through mesocolon left to middle colic vessels.
- Jejunum, 10-15 cm from duodenojejunal flexure resected and brought up to retrocolic position.
- Proximal end of roux limb closed.
- Antimesenteric edge of jejunal roux limb 2cm from blind end and posterior stomach wall close to greater curvature are kept in apposition by taking two seromuscular stay sutures.
- Posterior seromuscular (Lambert) stitches taken from the antimesenteric border of jejunum to gastric wall with 2-0 silk in continuous interlocking manner.
- Gastrotomy approx 5 cm long made.
- Jejunum opened in a similar fashion.
- Gastrojejunostomy done in standard 2 layer technique:
- Posterior layer with vicryl 2-0 in continuous interlocking manner.
- with vicyl 2-0 in continuous Connell manner.
- Anterior wall seromuscular sutures taken with silk 2-0 simple interrupted sutures
- Stomach fixed to mesocolon with silk 2-0 interrupted sutures.
- Y limb is anastomosed with jejunum 40 cm from gastrojejunostomy in end to side fashion in standard 2 layer technique.

STAPLED ANATOMOSIS:

- Approx 1-2 cm enterotomy made in anterior stomach wall and antimesenteric edge of jejunum with electrocautery.
- Branches of linear cutting stapler, which have two rows of staples and a blade between them, are placed through openings.
- Care should be taken to ensure that mesentery is not caught between branches of stapler.
- Linear cutting Stapler (75mm golden color cartridge) fired and held for 30 seconds to complete anastomosis.
- Through enterotomy, stapled line visually inspected for evidence of any bleeding. If present, bleeding should be controlled with hemostatic stitches.
- Enterotomy closed in two layers with 2-0 vicryl in continuous connell and 2-0 silk in simple interrupted manner.
- Y limb anastomosed with jejunum 40 cm from gastrojejunostomy in end to side fashion in standard 2 layers as mentioned in Handsewn method.
- Seromuscular (Lembert) stitches taken with 2-0 silk in continuous interlocking manner.



MATERIAL AND METHOD

60 patients from July 2017 to June 2019, were admitted with gastric outlet obstruction in the Department of General Surgery at Civil Hospital, Ahmedabad.The patients were divided into two groups A and group B

GROUP A: Gastricoutlet obstruction pt underwent handsewn gastrojejunostomy

GROUP B: gastric outlet obstruction pt underwent stapled gastrojejunostomy

INCLUSION CRITERIA:

1. Between 18 to 80 years of age
2. Elective gastrojejunal anastomosis.
3. pre pyloric scarring/stenosis.
4. corrosive injury to stomach without esophageal stricture.
5. chronic duodenal ulcer.

EXCLUSION CRITERIA:

- Age group < 18 or >80 years.
- Emergency gastrojejunal anastomosis.
- Prior chemo-radiation.
- Unfit for anaesthesia or ASA IV.
- Cases of Ca stomach causing Gastric outlet obstruction.

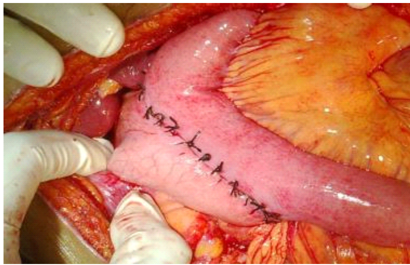
RELEVANT DATA WERE COLLECTED BY USING:

- Detailed history
- Blood investigations: Haemoglobin, Serum Proteins and Albumin, Blood Urea, Serum Electrolytes-Sodium and Potassium.
- Radiological investigations like X-Rays, USG and CT Scans when required.
- Upper GI Scopy after 6 months or whenever patient develops symptoms of gastritis or post-prandial vomiting.

Following parameters were compared between Handsewn and stapled gastrojejunostomy group:

- **Duration** of anastomosis.

- **Early postoperative complications**. (Anastomotic haemorrhage, anastomotic leak, wound infection)
- **Late postoperative complications**.(Anastomotic stricture, Marginal ulceration) assessed by follow up Upper GI Scopy after 6 months or when patient develops symptoms of gastritis or post prandial vomiting.
- **Oral feeding** starting day.
- **Hospital stay**.



RESULTS AND DISCUSSION

TABLE 1: ANASTOMOTIC HEMORRHAGE

TYPE OF GJ	HEAMORRHAGE	PERCENTAGE
HANDSEWN	0	0
STAPLED	2	6.67
TOTAL	2	6.67

In present study out of 60 patients 2patients had anastomoic hemorrhage. all patients had stapled anastomosis.handsewn anastomosis had no such complication in present study.

TABLE 2: ANASTOMATIC STRICTURE

TYPE OF GJ	STRICTURE	PERCENTAGE
HANDSEWN	1	3.33
STAPLED	2	6.67
TOTAL	3	10

In present study out of 60 patients 3patients had anastomoic stricture. out of total 3patients having stricture 2 patients underwent stapled anastomosis had anastomatic strictures.1 patient underwent handsewn anastomosis had anastomotic stricture.

TABLE 3: WOUND INFECTION

TYPEOF GJ	INFECTION	PERCENTAGE
HANDSEWN	3	10
STAPLED	2	6.67
TOTAL	5	16.67

In present study out of 60 patients 5 had wound infection. Among 5 patients 3 patients underwent handsewn anastomosis and 2 underwent stapled anastomosis. thus patient having handsewn anastomosis had more chances of wound infection.

TABLE 4: MARGINAL ULCERATION

TYPE OF GJ	MARGINAL ULCERATION	PERCENTAGE
HANDSEWN	1	3.33
STAPLED	0	0
TOTAL	1	3.33

In present study out of 60 patients 1patients had marginal ulceration.. 1 patients having stapled anastomosis had complication of marginal ulceration.stapled anastomosis and no such complication in present study.

Marginal ulceration occurs more commonly in handsewn anastomosis.

TABLE5: ORAL FEEDING

TYPE OF GJ	ORAL FEED STARTED ON DAY
HANDSEWN	5TH DAY
STAPLED	3TH DAY

TABLE 6: HOSPITAL STAY

TYPE OF GJ	HOSPITAL STAY
HANDSEWN	8DAYS
STAPLED	6DAYS

CONCLUSION

- All patients were compared and examined for anastomotic haemorrhage**,** anastomotic leak, anastomotic stricture, hospital stay suggesting that there is no significant difference in outcome of both techniques.
- But anastomosis with stapler can done_with lesser time as compared to Handsewn technique. But cost of stapled gastrojejunostomy is higher as compared to Handsewn gastrojejunostomy.
- So our study inferences that stapler gastrojejunostomy has no any added advantage over Hand sewn gastrojejunostomy when considered in view of early or late post-operative complications.

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