

## PROSPECTIVE AND RETROSPECTIVE STUDY OF COLONIC INTERPOSITION IN BENIGN AND MALIGNANT ESOPHAGEAL LESION.

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### Abstract

The Retrospective and prospective study entitled "Prospective and Retrospective study of Colonic Interposition in Benign and Malignant Esophageal Lesion" will be conducted in the Department of Surgery of MGM Medical College and M.Y. Hospital, Indore over a period of 2 year.

The above table shows the distribution of patients according to presenting complains. 1 (3.3%) patient presented with liquid dysphagia, 23 (76.7%) patients presented with solid and liquid dysphagia and 6 (20.0%) patients presented with solid dysphagia. Majority of the patients had solid and liquid dysphagia. the distribution of patients according to diagnosis. 6 (20.0%) patients had carcinoma esophagus and 24 (80.0%) patients had esophageal strictures. Majority of the patients had esophageal strictures. Comparison of wound site infection. At 2 weeks, 2 (6.7%) patients had wound site infection, which was still present at 1 month and decreased to 1 (3.3%) at 3 months. After 3 months, none of the patients had wound site infection.

The colon interposition is an alternative option for esophageal reconstruction when the stomach is unavailable the quality of life after colonic transposition compared at postoperative 1 month and 2 year using specially designed QOL questionnaire for coloplasty patients. Our disease specific questionnaire performs well in relation to previously published study which was used same questionnaire asses the quality of life. in post coloplasty patients According to the selected colon graft (left or Right) route of reconstruction, direction of graft various surgical procedures can be considered for colonic reconstruction in present study left colic artery based left colonic graft is used. Regardless of the situation, blood supply of colon graft directly affect the outcome of the surgery.

**Keywords:** Colonic, Interposition, Esophageal & Lesion.

### Introduction:

Restoration of gastrointestinal tract continuity after destruction or removal of the esophagus may be accomplished by several methods, one of these being interposition of a segment of colon. Colon interposition for oesophageal replacement was first described almost a century ago[1,2].

The gastric graft, however become the first choice to reconstruct esophagus and gastric reconstruction constitutes the standard procedure because of its simplicity (easy to prepare its vascular supply is robust, and its length is adequate, even when brought up to the neck)[3]. When the stomach is not available, the colon is often the next choice for esophageal replacement. Challenges of using the colon for reconstruction include the need for three anastomosis, and the complexity of the blood supply that makes selection of the appropriate segment critical. Further, uncertainty about the long-term

function of the colon and the potential for redundancy requiring revision has limited its widespread use. Subsequently, with improvements in the surgical techniques, and in postoperative care, the mortality of Colonic reconstruction has been increasingly reduced.

Despite a slightly higher rate of morbidity, the colon was our preferred replacement organ for patients with potentially curable cancer and in patients with end-stage benign disease due to its reputation of functional longevity. Colonic reconstruction has become a safer and more applied surgical procedure to reconstruct the esophagus in both benign and malignant conditions with low mortality and acceptable morbidity.[4] Esophageal cancer and corrosive injury is a devastating effects on upper GI tract and respiratory system. It rates have been on the rise for the past three decades, and esophageal cancer is currently the eighth most common malignancy in the world[4,1]. However, most patients

have advanced disease at the time of diagnosis, and less than 50% are eligible for curative treatment[3]. The overall 5 year survival ranges from 15% to 25% and the best outcome associated with disease diagnosed in early stages.[4] Esophagectomy is currently the primary treatment for local and locally advanced cancer. its most commonly performed for the treatment of esophageal cancer, but other indications include treatment of benign diseases such as oesophageal strictures, oesophageal perforation, lye ingestion, Barrett esophagus, recurrent tracheoesophageal fistulas, and Achalasia. There are four main types of Esophagectomy transhital Esophagectomy, vagal-sparing Esophagectomy, en bloc or radical esophagectomy, minimally invasive esophagectomy and robotic-assisted Thoracoscopy esophagectomy.[5]

### Material & Method

The Retrospective and prospective study entitled "Prospective and Retrospective study of Colonic Interposition in Benign and Malignant Esophageal Lesion" will be conducted in the Department of Surgery of MGM Medical College and M.Y. Hospital, Indore over a period of 2 year.

### SOURCE OF DATA:

Study consist of clinical record and files of patients admitted in surgery ward of M.Y.H INDORE, who underwent colonic interposition for reconstruction of post-esophagectomy patients

**STUDY SITE:** M.G.M. Medical College and M.Y. Hospital, Indore.

**STUDY TYPE:** Retrospective and Prospective cohort study.

**DURATION OF STUDY:** Prospective Cases from august 2017 to august 2019 Retrospective Cases from July 2014 to July 2017

### SAMPLE SIZE:

- Minimum number of cases 30.

### Inclusion Criteria:

1. 18 to 70 years ago male and female.
2. All Proven case of esophageal strictures, benign lesion and malignancies (Stage T2NOMO) visiting Department of General Surgery M. Y. Hospital, Indore.
3. Patients who have written informed consent.

4. All patients having functionally and anatomically normal colon .

### Exclusion Criteria:

1. Age 18 years and > 70 years
2. Patients who non-consenting.
3. Patients having Metastatic esophageal carcinoma
4. All patients who have normal gastric endothelium.
5. Who have undergone any chemoreduction treatment.
6. Adherent oesophagus on CECT to adjacent mediastinal structures stage 4b, discovered intraoperatively due to previous surgery or radiotherapy. Patients with T3 and T4 cancer stage.
7. Patients with associated cardiac and pulmonary co-morbidities.
8. Patients unfit for general anesthesia and not giving consent for surgery.

### Results

**Table 1:** Distribution of patients according to presenting complains.

Presenting Complains	Number	Percentage
Liquid dysphagia	1	3.3
Solid and liquid dysphagia	23	76.7
Solid dysphagia	6	20.0
Total	30	100.0

The above table shows the distribution of patients according to presenting complains. 1 (3.3%) patient presented with liquid dysphagia, 23 (76.7%) patients presented with solid and liquid dysphagia and 6 (20.0%) patients presented with solid dysphagia. Majority of the patients had solid and liquid dysphagia.

**Table 2:** Distribution of patients according to diagnosis.

Diagnosis	Number	Percentage
Carcinoma esophagus	6	20.0
Esophageal stricture	24	80.0
Total	30	100.0

The above table shows the distribution of patients according to diagnosis. 6 (20.0%) patients had carcinoma esophagus and 24 (80.0%) patients had esophageal strictures. Majority of the patients had esophageal strictures.

**Table 3:** Wound site infection on follow up.

Wound site	2	1	3	6	12	24
infection	weeks	month	months	months	months	months
No	28	28	29	30	30	30
	93.3%	93.3%	96.7%	100.0%	100.0%	100.0%
Yes	2	2	1	0	0	0
	6.7%	6.7%	3.3%	0.0%	0.0%	0.0%
<b>Total</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>30</b>
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

The above table shows comparison of wound site infection. At 2 weeks, 2 (6.7%) patients had wound site infection, which was still present at 1 month and decreased to 1 (3.3%) at 3 months. After 3 months, none of the patients had wound site infection.

### Discussion

The study was designed as a prospective and retrospective study of 30 patients who underwent colonic interposition after esophagectomy in department of surgery, MGM MEDICAL COLLEGE & M.Y HOSPITAL INDORE between July 2016 to July 2019. In the study 17 retrospective and 13 prospective cases were included. The present study had main goal to obtain an overview of complication, quality of life and post operative weight gain in the patients of colonic interposition over a period of 2 year.

The colon interposition for esophageal reconstruction has become an effective surgical procedure to replace or bypass the diseased esophagus[6]. The long-term functional results were satisfactory after colon interposition. However, the functional results and quality of patient-life can be affected by the occurrence of late complications including cervical anastomotic stricture, regurgitation and graft redundancy [7,8]. All patients underwent a posterior mediastinal left colon interposition the same performed by the same surgeon and in the same conditions. However, the study results revealed that patients underwent esophagectomy and colonic interposition in our study were male 19 (63.3%) showing a male preponderance. In which, Majority of the patients were in the age group 21-40 years out of 30 patients, most 24 (80%) had benign esophageal stricture. In our study 2 (6.7%) patients were in the age group 18-20 years, 18 (60.0%) patients were in the age group 21-40 years and 10 (33.3%) patients were in the age group 41-60 years.[9]

Majority of the patients were in the age group 21-40 years. In our study majority of patients were male 19 (63.3%) showing a male preponderance.

In present study patients who came to hospital with complaints of dysphagia in which, 23 (76.7%) patients presented with solid and liquid dysphagia and 6 (20.0%) patients presented with solid dysphagia and only 1(3.3%) cases had dysphagia for liquid colonic interposition in 129 patients. The indication for operation was benign disease in 94 patients (72.9%) and malignant disease in 35 patients (27.1%). Benign stricture was the most common presentation in the benign group (41 patients), and adenocarcinoma was the most common indication in the malignant group (19 patients). Bennet Duraisamy *et al* study had included 44 patients who underwent surgery for corrosive strictures of oesophagus, 32 underwent colonic interposition, there were 17 males and 15 females. The average age of those who underwent surgery was 25 years.

### Conclusion

The colon interposition is an alternative option for esophageal reconstruction when the stomach is unavailable. The quality of life after colonic transposition compared at postoperative 1 month and 2 year using specially designed QOL questionnaire for coloplasty patients. Our disease specific questionnaire performs well in relation to previously published study which was used same questionnaire assesses the quality of life. In post coloplasty patients. According to the selected colon graft (left or Right) route of reconstruction, direction of graft various surgical procedures can be considered for colonic reconstruction in present study left colic artery based left colonic graft is used. Regardless of the situation, blood supply of colon graft directly affect the outcome of the surgery.

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