

Archives of Surgical Research | Case Report

Colonic Interposition For Concomitant Corrosive Esophageal And Gastric Esophageal Stricture

Jahangeer Ahmed; M. Hasham Ashraf; Talat Waseem

IMPORTANCE The stomach, jejunum, and colon (right, left, or transverse) have all been proposed as potential conduits as a replacement of the esophagus after esophagectomy. We report a case of concomitant esophageal and gastric stricture in which a part of the colon was used for this purpose.

CASE PRESENTATION A 26-year-old female with a history of corrosive intake presented with progressive dysphagia. On barium swallow and endoscopy, concomitant esophageal and gastric stricture was diagnosed. Transhiatal esophagectomy followed by right colonic interposition was performed successfully with excellent post-op outcomes.

DISCUSSION Considering the technical complexity of interpositional procedures, the published rates of morbidity and mortality are highly variable. In experienced hands, construction of colon and jejunal conduits can be performed with good short-term and long-term results.

KEYWORDS Esophageal stricture; Dysphagia; Corrosive Intake; Esophagectomy; Roux en Y Gastric Advancement; Esophagectomy; Gastric Stricture

HOW TO CITE Ahmed J, Waseem T, Ashraf MH. Colonic Interposition For Concomitant Esophageal And Gastric Esophageal Stricture. *Archives of Surgical Research*. 2021, 2 (4):53-55. <https://doi.org/10.48111/2021.04.10>.

Case Report

Author Affiliations: Author affiliations are listed at the end of this article.

Corresponding Author: Mr. Talat Waseem FRCS Eng, FACS, Consultant Surgeon Shalamar Medical & Dental College, Lahore twaseem@gmail.com
092-333-8078705
<https://doi.org/10.48111/2021.04.10>

Replacement of the native esophagus after esophagectomy is a problem that has challenged surgeons for over a century. Not only must the conduit be long enough to bridge the distance between the cervical esophagus and the abdomen, but it must also have a reliable vascular supply and be sufficiently functional to allow for deglutition.

Multiple structures have been proposed to serve as a conduit but the stomach has gained favor for its length, reliable vascular supply, and need for only a single anastomosis. However, there are times when the stomach is unavailable. It is in these instances that an esophageal surgeon must have an alternative option in their armamentarium.

Colonic interposition has been used for esophageal reconstruction since the early 1900s.¹ Either the left or right colon may be utilized and in either case, the transverse colon is always required. Proponents of colonic interposition recommend this option in many cases for its substantial length. The length of the right colon interposition for example closely simulates that of the native esophagus.

Another benefit of the colon is its resistance to acid and the right colonic interposition includes the valve of Bauhin which may further decrease reflux.² Disadvantages of the colonic interposition include; the colon may have or can develop native pathology and that loss of absorptive capacity of the colon may result in diarrhea.³ The colon conduit may also lengthen over time leading to redundancy that may require surgical revision.⁴

CASE PRESENTATION

A 26 years old female, with a history of corrosive intake, presented to us with progressive dysphagia which was initially for solid food only but she now presented with complaints of difficulty for intake of liquids as well.

Past medical history revealed no previous comorbid conditions or any other associated traditional risk factors. On clinical examination, the patient was pale and emaciated.

Barium swallow and upper GI endoscopy confirmed the diagnosis of concomitant esophageal and gastric stricture. Baseline workup was done and the patient was prepared for transmittal esophagectomy followed by esophageal reconstruction with colonic interposition. The right and middle colon were mobilized; ileocolic and cologastric anastomosis was constructed.

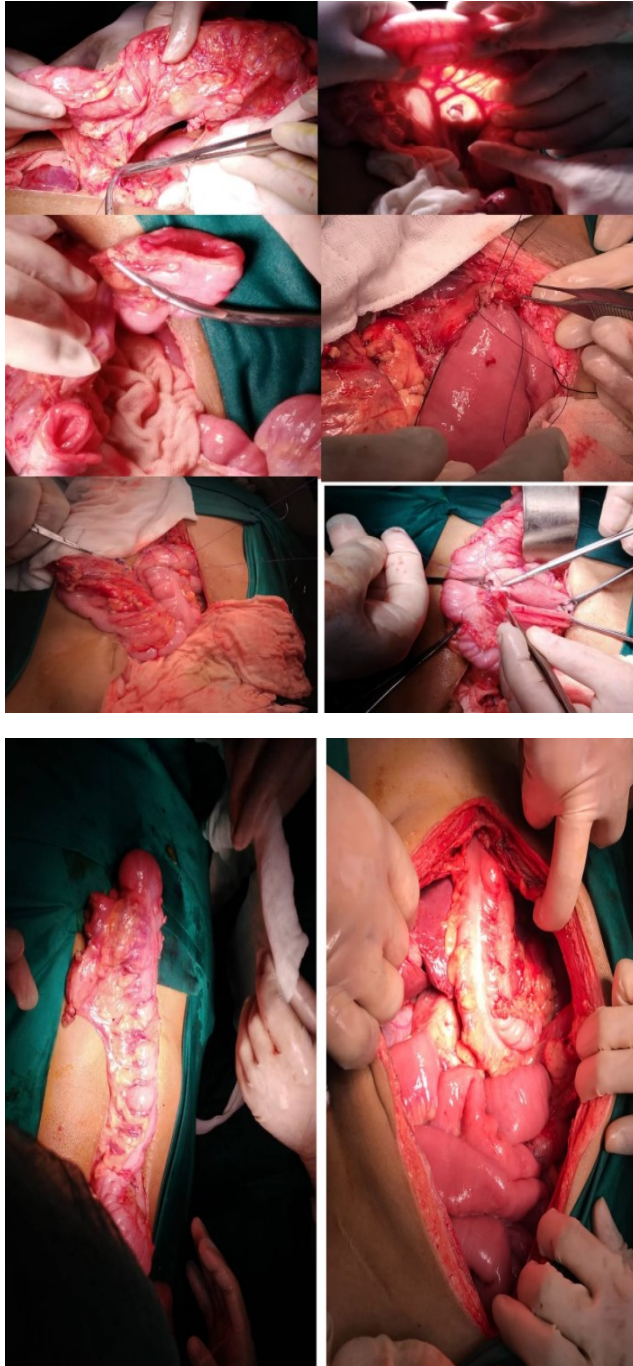


Fig 1&2: These pictures demonstrate the mobilized colon and the colon in situ in the retrosternal position following mobilization and the cologastric anastomosis.

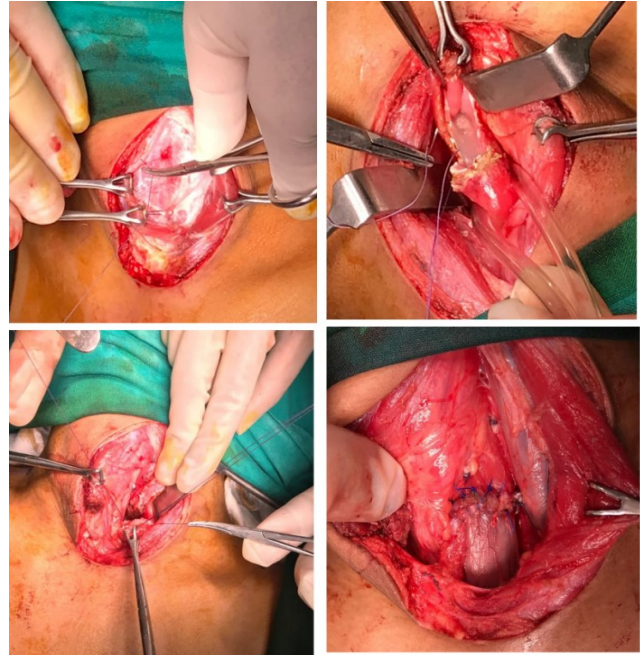


Figure 3: Mobilized esophagus and the esophagocolic anastomosis can be seen in these pictures

DISCUSSION

Colonic interposition is one of the standard conduits available for construction. Rates of reported graft loss were 0–14%. In the larger case series, this range decreases to 0–2%. The reported anastomotic leak rate was 0–50% and in larger case series, this rate decreases to 0–12.6%. Mortality ranged from 0–16.7% and in centers with higher case volume, this rate was 0–7%. The long-term stricture rate was 0 to 32%. The re-operative rate was 0–32% and reasons for re-operation included graft necrosis, graft redundancy, and anastomotic leaks. The most commonly reported medical complication was aspiration and pneumonia which had a rate of 0–32%. Resumption of oral intake has been reported between 75% and 100%. The use of non-gastric conduits after esophagectomy is often a salvage procedure and interpretation of the results of series describing outcomes following colon and jejunal interpositions should consider this. Though the interpositional procedures are quite complex and the morbidity and mortality rates are high, as published in the literature, we advocate that the construction of colon and jejunal conduits if performed by experienced surgeons have an excellent prognosis. When the gastric conduit is not available we prefer to use an isoperistaltic right colon interposition, the reason being its sufficient length, robust blood supply, and non-dependence on a microvascular anastomosis.

ARTICLE INFORMATION Accepted for Publication: March 14, 2021, Published Online: Dec 30, 2021. <https://doi.org/10.48111/2021.04.10>
Open Access: This is an open access article distributed under the terms of the CC-BY License. © 2021 Ahmed et al ASR.

Author Affiliations: Department of Surgery, Shalamar Medical College & Dental College, Lahore, Pakistan

Declaration of Consent: The authors certify that they have obtained all

appropriate consent required from the patient.

Financial Support and Sponsorship: Nil.

Conflicts of Interest: There are no conflicts of interest.

REFERENCES

1. Boukerrouche A. Isoperistaltic left colic graft interposition via a retrosternal approach for esophageal reconstruction in patients with a caustic stricture: mortality, morbidity, and functional results. *Surg Today* 2014;44:827-33
2. Yasuda T, Shiozaki H. Esophageal reconstruction with colon tissue. *Surg Today* . 2011;41:745-53
3. DeMeester SR. Colonic Interposition for Benign Disease. *Oper Tech Thorac Cardiovasc Surg* 2006;11:232-49.
4. Strauss DC, Forshaw MJ, Tandon RC, et al. Surgical management of colonic redundancy following esophageal replacement. *Dis Esophagus* 2008;21:E1-5
5. Korst RJ, Sukumar M, Burt ME, et al. Atraumatic gastric transposition after transhiatal esophagectomy. *Ann Thorac Surg* 1997;64:867-9.
6. Saeki H, Morita M, Harada N, et al. Esophageal replacement by colon interposition with microvascular surgery for patients with thoracic esophageal cancer: the utility of superdrainage. *Dis Esophagus* 2013;26:50-6