

# Lateral Spreading Tumor Arising in an Interposed Colonic Segment

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## ABSTRACT

A 57-year-old woman developed dysphagia 30 years after esophagectomy with partial gastrectomy and colonic interposition due to severe and extensive caustic esophageal stricture. Upper gastrointestinal endoscopy showed a lateral spreading tumor in the colonic tube with a granular surface measuring 40 mm in diameter. The lesion was removed by piecemeal endoscopic mucosal resection. Histology revealed tubular adenoma with low/high-grade dysplasia. Although colonic interposition replacement is a relatively common procedure, especially in the past, the development of adenoma or adenocarcinoma as a late complication is very rare.

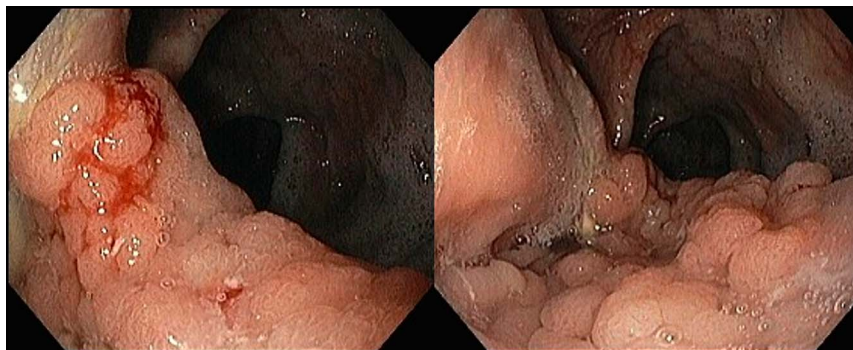
## INTRODUCTION

For many years, the use of a segment of the colon as a substitute for the esophagus was the procedure of choice for esophageal replacement.<sup>1-3</sup> The development of an adenomatous polyp or an adenocarcinoma in the colonic tube is a rare long-term complication. We present a woman with tubular adenoma with low-grade and high-grade dysplasia arising in the interposed colon 30 years after subtotal esophagectomy and partial gastrectomy due to extensive and severe strictures after accidental caustic ingestion.

## CASE REPORT

A 57-year-old woman developed dysphagia for soft food. She had undergone esophagectomy with partial gastrectomy and colonic interposition 30 years ago because of severe and extensive esophageal strictures caused by accidental ingestion of sulphuric acid. Endoscopic dilatation of postoperative esophagogastric anastomotic stricture had been required in the past. Comorbidity includes pulmonary emphysema secondary to smoking (30 packs a year). She had no history of alcohol intake and no personal or family history of colorectal cancer.

The patient underwent an upper endoscopy, which showed a laterally spreading tumor in the middle third of the colonic tube with granular surface (Paris 0-IIa, laterally spreading tumor–granular, NBI International Colorectal Endoscopic 2) and a maximal diameter of 40 mm (Figures 1 and 2). The lesion was removed by piecemeal endoscopic mucosal resection. Four through-the-scope clips were applied to close the endoscopic mucosal resection scar. Histology revealed a tubular adenoma with low-grade and high-grade dysplasia. After the procedure, the patient presented with fever and chest pain and laboratory results showed an increase in inflammatory parameters. Thoracic computed tomography showed thickening of the wall of the colonic tube with some air bubbles. She was started on broad-spectrum empiric antibiotics with clinical improvement and hospital discharge 7 days later. Fifteen days later, the thoracic computed tomography was performed with resolution of the alterations described. The patient is waiting for follow-up upper endoscopy to ensure complete resection.



**Figure 1.** Colonic tube with a laterally spreading tumor with granular surface (Paris O-IIa, laterally spreading tumor–granular) with a maximal diameter of 40 mm.



**Figure 2.** Narrow-band imaging of the lesion.

## DISCUSSION

Colonic interposition for esophageal reconstruction was first reported in 1911 and, for many years, it was the procedure of choice for esophageal reconstruction.<sup>1,2</sup> Currently, colonic interposition is performed when gastric pull-up is not technically feasible. This procedure is associated with serious early and late complications, such as anastomotic dehiscence and fistula formation, necrosis of the anastomotic site, fibrosis, and strictures (22%).<sup>2,3</sup> Development of a malignant neoplasm in the colonic graft is extremely rare, with 24 reported cases in the literature: 4 adenomatous polyps and 20 adenocarcinomas.<sup>4–15</sup>

The pathogenesis for development of malignancy is not yet fully understood. Reflux disease, positive family history for colorectal carcinoma, colitis, and a history of colonic polyps are associated with greater risk.<sup>1,5,6</sup> Therefore, before colon interposition, colonic diseases such as extensive polyposis, malignancy, diverticulosis, or inflammatory bowel disease need to be excluded because these are contraindications for the procedure.<sup>1–3</sup>

Currently, there are no screening protocol or guidelines for these patients. Some studies recommend the upper endoscopic screening within 1 year of colonic interposition and periodic surveillance at every 2–5 years.<sup>1–3</sup>

Although colonic interposition replacement is a relatively common procedure, especially in the past, the development of adenoma or adenocarcinoma as a late complication is very rare. This is particularly significant for patients with benign esophageal diseases with long-term survival. We recommend upper endoscopic screening in all patients with colonic interposition because lesions may be detected early and removed safely by endoscopy.

## DISCLOSURES

Author contributions: C. Simões, M. Moura, and C. Noronha Ferreira wrote the manuscript. R. Rosa, JP Freire, L. Carrilho Ribeiro, and R. Tato Marinho revised the manuscript. C. Simões is the article guarantor.

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Informed consent was obtained for this case report.

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## REFERENCES

1. Jie Ng DW, Ching Tan GH, Teo MCC. Malignancy arising in a 41-year-old colonic interposition graft. *Asian J Surg*. 2016;39(1):45–7.
2. Liao CT, Hsueh S, Yeow KM. Primary adenocarcinoma arising in esophageal colon interposition: Report of a case. *Hepatogastroenterol*. 2004;51:748–9.
3. Aryal MR, Mainali NR, Jalota L, et al. Advanced adenocarcinoma in a colonic interposition segment. *BMJ Case Rep*. 2013;doi:10.1136/bcr-2013-009749. Accessed October 15, 2019.
4. De Moura DTH, Ribeiro IB, Coronel M, et al. Primary adenocarcinoma arising in esophageal colon interposition for corrosive esophageal injury: A case report and review of the literature. *Endosc Int Open*. 2018;6(12):E1406–E1409.
5. Bando H, Ikematsu H, Fu KI, et al. A laterally-spreading tumor in a colonic interposition treated by endoscopic submucosal dissection. *World J Gastroenterol*. 2010;16:392–4.
6. Grunner S, Gilshtein H, Kakiashvili E, et al. Adenocarcinoma in colonic interposition. *Case Rep Oncol*. 2013;6(1):186–8.
7. Goldsmith HS, Beattie EJJ. Malignant villous tumor in a colon bypass. *Ann Surg*. 1968;167:98–100.

8. Szántó I, Kiss J, Vámosi-Nagy I, et al. Endoscopic polypectomy in the segment of colon used for oesophageal replacement. *Endoscopy*. 1981;13:134.
9. Haerr RW, Higgins EM, Seymore CH, et al. Adenocarcinoma arising in a colonic interposition following resection of squamous cell esophageal cancer. *Cancer*. 1987;60:2304–7.
10. Houghton AD, Jourdan M, McColl I, et al. A carcinoma after colonic interposition for oesophageal stricture. *Gut*. 1989;30:880–1.
11. Theile DE, Smithers BM, Strong RW, et al. Primary adenocarcinoma in a colonic “oesophageal” segment. *Aust N Z J Surg*. 1992;62:158–60.
12. Lee SJ, Koay CB, Thompson H, et al. Adenocarcinoma arising in an oesophageal colonic interposition graft. *J Laryngol Otol*. 1994;108:80–3.
13. Altorjay A, Kiss J, Voros A, et al. Malignant tumor developed in colon-oesophagus. *Hepatogastroenterol*. 1995;42:797–9.
14. Kovacs BJ, Griffin RA, Chen YK. Synchronous adenomas in a colonic interposition graft and the native colon. *Am J Gastroenterol*. 1997;92:2303–4.
15. Altomare JF, Komar MJ. A tubular adenoma arising in a colonic interposition. *J Clin Gastroenterol*. 2006;40:765–6.

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