Adenocarcinoma Arising 35 Years after Colonic Interposition for Benign Esophageal Disease

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Abstract: *Adenocarcinoma is a rare long-term complication of the interposed colon in patients submitted to esophagectomy for benign diseases. At the moment, including the present case, 13 patients with cancer arising in a colon graft have been reported in the literature. We describe a 65-year old woman with a history of lye-induced stricture in childhood who developed a polypoid adenocarcinoma of the grafted colon 35 years after esophageal reconstruction. She was successfully treated with endoscopic resection of the lesion followed by chemotherapy (CT): the patient is alive and free from disease after 43 months of therapy in excellent condition. Based on their own experience and literature results, the authors underline the need for surveillance after esophageal replacement in patients with long life expectancy.*

Keywords: *colonic interposition, colonic adenocarcinoma, caustic stricture, endoscopic resection.*

1. Introduction

Colonic interposition after esophagectomy for benign or malignant diseases is followed by significant short-term morbidity and mortality and long-term complications such as anastomotic strictures, colic reflux, and peptic ulcers , redundant and/or atonic graft. Adenocarcinoma of the interposed colon is a rare long-term postoperative complication, occurring 5 to 40 years after the initial esophageal reconstruction. The first case of a colon-transposed adenocarcinoma for the benign esophageal disease was published in 1978 [1]: since then, 11 additional patients have been reported in the literature [2]- [12]. The survival and therapeutic approach appear to be related to tumor characteristics and stage at diagnosis and patient' s clinical conditions.

2. Case report

We present the case of a 65-year-old woman with adenocarcinoma arising in the interposed colon 35 years after surgery. At the age of 28, the patient underwent sub-total esophagectomy and left isoperistaltic colon interposition due to lye-induced stricture following unintentional ingestion of a corrosive agent in childhood. In the early postoperative course, the patient developed a small but significant upper anastomotic leak followed by left chest empyema which required surgical drainage and, in the following years, partial resection of the eighth and ninth left ribs as a consequence of rib osteomyelitis. From the nineties to 2013 the patient developed a redundant graft and stasis and narrowing of the upper anastomosis treated with intermittent dilatation courses. In spite of these problems, she was a well-nourished lady with a normal lifestyle and satisfactory eating habit. However, at the end of 2013, the patient experienced a change and worsening of dysphagic symptoms and was ultimately hospitalized. Upper gastrointestinal series showed a severe stricture of the oesophago-colic anastomosis which required endoscopic evaluation and dilatation (Figure 1).

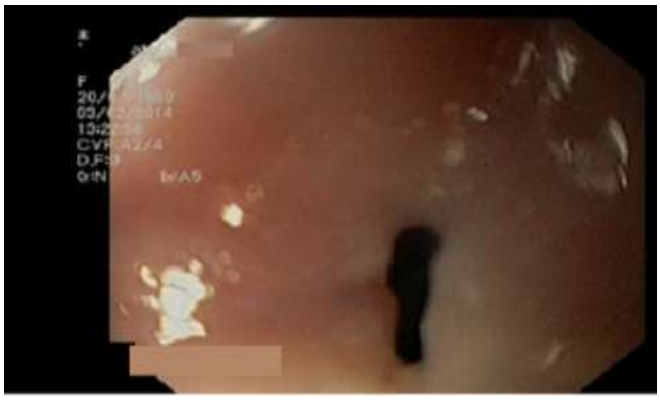

Figure 1: Narrowing of the oesophago-colon anastomosis.

The colon explored beyond the oesophago-colon junction revealed a polypoid lesion few centimeters below the anastomotic edge. Several biopsy specimens were obtained, and histologic examination documented a moderately differentiated colon adenocarcinoma developed 35 years after reconstructive surgery (Figure 2).

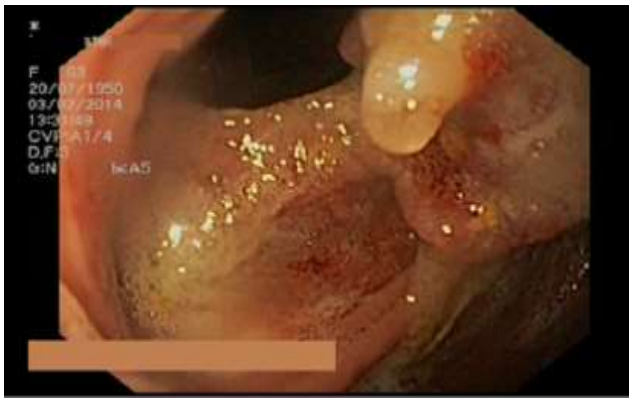

Figure 2: Adenocarcinoma of the colon graft. Computed tomography scan showed an eccentric thickening of the lateral wall of the transposed colon without extraparietal extension and absent, distant liver or pulmonary spreading. As the patient refused any surgical attempt, an endoscopic resection of the lesion was accomplished, followed by chemotherapy with FOLFOX from February to June 2014.

The patient has been subjected to a close clinical follow-up: endoscopic biopsies and CT scan of the brain, chest, and abdomen were repeated every six months to evaluate her response to treatment. No local or distance relapse have been documented, and the patient is free from disease 43 months after the initial treatment (Figure 3).

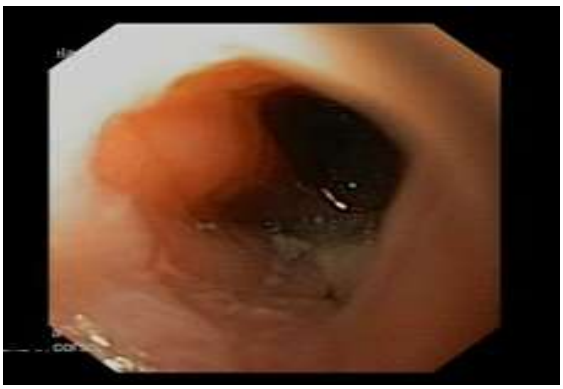

Figure 3: Absence of local relapse after 43 months from the endoscopic treatment.

3. Discussion

Adenocarcinoma of the transposed colon is an uncommon long-term complication after reconstructive surgery for the benign esophageal disease. In a series of 271 esophageal reconstructions with colon interposition for caustic injuries only one case of cancer arising in the interposed colon has been recorded (0,4%) [9]. As indicated in Table1, up to now 13 cases [1]- [12] have been published in the international literature, including the present report, with the timing of colon cancer onset ranging from 6 to 44 years. In 5 patients with advanced disease, the treatment was palliative, 6 patients underwent surgical resection of the colon cancer with curative intent while endoscopic ablation of the lesion was performed in the remaining 2 subjects. In our own case, endoscopic resection was followed by CT; RT was avoided as it could further damage the inflammatory stricture of the upper anastomosis, worsening the patient's dysphagia. Due to the small number of patients observed, no guidelines are currently available for the management of cancer occurring in the transposed bowel. It is reasonable to suggest that when there is no evidence of metastatic disease, and local situation and patient's clinical condition are favorable, surgical resection of the lesion should be attempted. Endoscopic ablation with adjuvant CT and RT, when feasible, may be recommended in locally limited tumor with the excellent functional result and long-term survival as documented in our own case and in a similar previous report [15]. It is well known that the etiology of colon cancer is multifactorial. However, it has been argued that the interposed colon is exposed to environmental changes with altered chemical and bacterial flora causing dysplastic changes and increasing precancerous conditions [13]. In grafted colon, the food transit time is longer than in normal esophagus as peristaltic muscle activity is absent [5]. Furthermore, the redundancy of the transposed bowel, stasis and absence of sphincter activity promoting gastric reflux may favor fundic type gastric metaplasia and dysplastic transformation of the graft [14]. On the other hand, the left colon, that we used to replace the esophagus, is a common site of cancer development. Adenocarcinoma of the interposed colon may only be the result of the natural history of the dysplasia-carcinoma sequence outside the native anatomical location. These observations emphasize the importance of upper endoscopy screening and surveillance in patients with colon interposition who have a normal life expectancy.

Case report	*Age*	*Years from surgery*	*Graft*	*Therapy*	*Diagnosis*	*Survival*
Licata et al 1978[1]	51	11	Right colon	No	Metastatic Adenocarcinoma	Not specified
Houghton et al. 1989[11]	64	20	Right Colon	Surgery	Dukes A Adenocarcinoma	Not specified
Altorjay et al. 1995[5]	72	6	Left colon	Surgery	Adenocarcinoma	9 years
Martìn et al. 2005[3]	65	40	Right Colon	Surgery	Dukes B Adenocarcinoma	Not specified
Hsieh et al. 2005[2]	57	39	Right Colon	Surgery	Adenocarcinoma	Not specified
Hwang et al. 2007[6]	60	40	Not specified	Endoscopic resection	Intramucosal Adenocarcinoma	Not specified
Shersher et al. 2011[10]	60	40	Not specified	Surgery	T1 N0 Adenocarcinoma	Not specified
Sikorszki et al. 2012[7]	75	44	Right Colon	Surgery	Adenocarcinoma	Not specified
Kim et al 2012[12]	70	47	Right Colon	CHT	Adenocarcinoma	6 months
Aryal et al 2013[8]	60	30	Right Colon	CHT	Metastatic Adenocarcinoma	Not specified
Tranchart et al2014[9]	66	19	Right Colon	CHT	Metastatic Adenocarcinoma	3 months
Cheng et al. 2015[4]	40	15	Right Colon	No	Metastatic Adenocarcinoma	4 months
Present report	67	35	Left colon	Endoscopic resection +CHT	Adenocarcinoma	Alive 43 months

Table 1: literature review

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