

## CASE REPORT

# Squamous cell carcinoma (SCC) arising in esophageal colon interposition

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## Abstract

The idea of using the colon to replace a resected esophagus has a long history. The colon has become a favored organ for esophageal reconstruction in adults with esophageal cancer when the stomach is not suitable or is unavailable. In this article, we introduce an 84-year-old woman that she had surgery 40 years ago and presented with an invasive well differentiated squamous cell carcinoma of colonic origin in reconstructed esophagus.

## INTRODUCTION

The idea of using the colon to replace a resected esophagus was first proposed in 1911. Since then, the colon has become a favored organ for esophageal reconstruction in adults with esophageal cancer when the stomach is not suitable or is unavailable. Colon interposition, although often well tolerated, but it can be associated with restenosis, polyps or rarely adenocarcinoma. The colon has a good blood supply and it is long enough to be pulled up to the neck. Colon has a low incidence of disease, and has a good resistancy to gastric secretions. Therefore, it is usually the preferred source of tissue for esophageal replacement. Very few cases of adenocarcinoma of the interposed colonic segment have been reported in the literature [1–3]. There were some other complications regarding the esophageal interposition such as acute aortic dissection, A fistula, from an anastomotic ulcer to the descending thoracic aorta and it is interesting for us that the case of SCC of the esophageal colonic interposition have not been reported yet. In

this article, we introduce an 84-year-old woman that she had surgery 40 years ago.

## CASE REPORT

An 84-year-old woman was admitted to the GI ward of our hospital with dysphagia and chronic cough which had started from 1 month ago. Dysphagia was crescendo. At first, the patient had dysphagia to fluid but improved to any kind of meals and this complication forced her to induced vomiting. She noticed a surgical history of Esophagostomy and Colon interposition 40 years ago, that we do not know its indication. She had a history of myocardial infarction and she did not use any medication except Aspirin. Blood pressure was normal and heart rate was 125 and the saturation of O<sub>2</sub> was 88%. The sclera was pale but not icteric. No lymphadenopathy was detected. Thyroid examination was normal. In the lung examination, the respiratory sounds was decreased at the both lower parts of lungs. Chest

Received: July 4, 2017. Revised: August 4, 2017. Accepted: August 26, 2017

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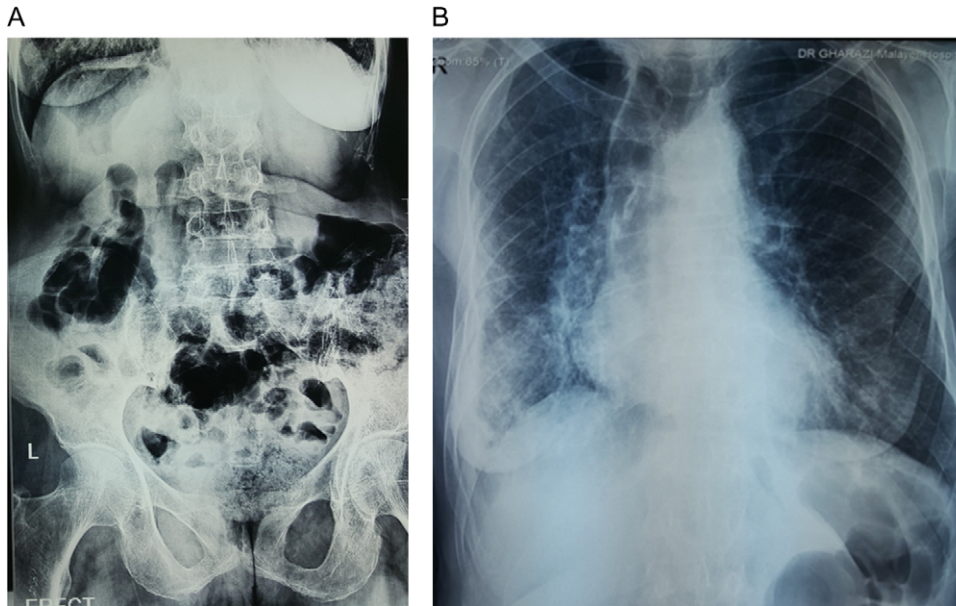


Figure 1: (A) X-ray of Abdomen which is normal. (B) Chest X-ray with consolidation in lower lobe of right lung and mediastinal widening.

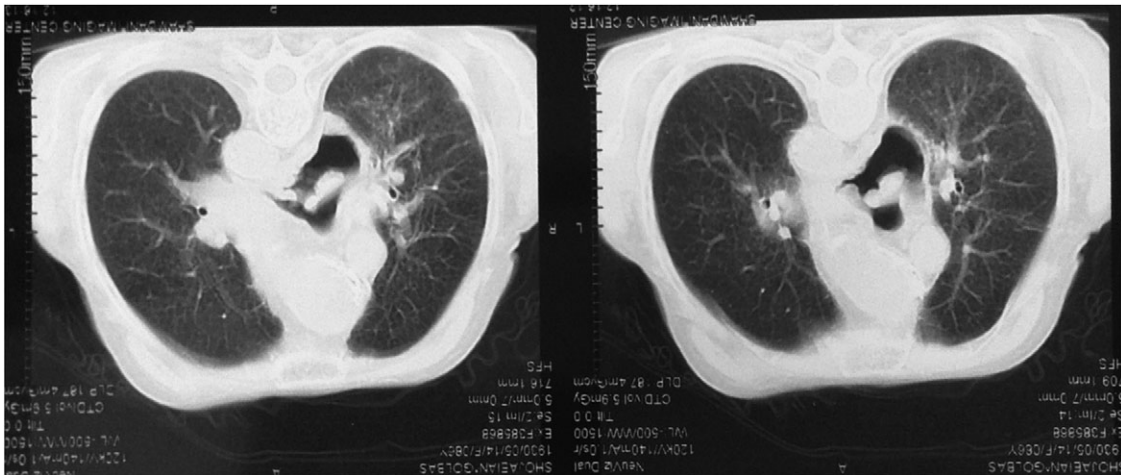


Figure 2: Computed tomography (CT) of thorax showed a fistula between interposition colon and Trachea.

X-ray which showed in Fig. 1 showed widening of mediastinum and consolidation in lower lobe of right lung. In abdomen, there was an old scar at midline that was for her past surgery. The bowel sound was normal. Abdominal X-ray was normal (Fig. 1).

Computed tomography (CT) of thorax showed a fistula between interposition colon and Trachea (Fig. 2). Endoscopy was done and a mass was seen in the distal part of the interposed colon (Fig. 3). Histopathology of a biopsy revealed an invasive well differentiated squamous cell carcinoma of colonic origin in reconstructed esophagus (Fig. 4) and low grade dysplasia in gastric antral prominent mucosal fold. The SCC in the interposed colon is very rare as we searched in the literature.

Laboratory test results showed was done. Hemoglobin was 12.4 g/dl, Hematocrit was 37%, mean corpuscular volume was 82 fl and liver function tests were all within normal limits.

The patient died 4 days after admission because of cardiac arrest and with asystole rhythm.

Esophageal carcinoma, gastric carcinoma, benign esophageal lesions (polyp, esophagitis) and strictures are considered as the possible differential diagnosis. Although it is rare, but colonic polyp and carcinoma in the interposed segment may also be considered as a differential diagnosis.

## DISCUSSION

The use of interposed colons has become an option for esophageal reconstruction in patients with esophageal cancer when the stomach cannot be used due to disease or prior resection. Performing esophageal reconstruction with a segment of the colon provides good long-term function. The late complications of interposed colon have been reported to include anastomotic stricture, diverticulosis, colitis, ulceration and cancer [4].

Among these complications, cancer of the interposed colon arising after esophagostomy is extremely rare. Very small

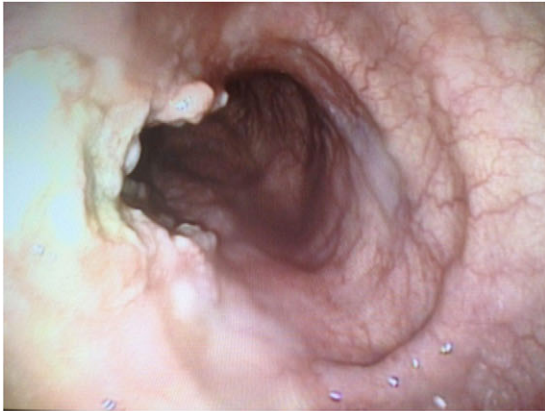


Figure 3: Mass was seen in the distal part of the interposed colon in endoscopy.

amounts of cases have been reported in the literature. In these cases, adenocarcinoma of interposed colon was diagnosed between seven months and 42 years after reconstruction [5].

In our case, the tumor of the interposed colon was found 40 years after the reconstruction procedure was performed. We do not have any history of that operation.

It is reasonable that, barium enemas or colonoscopy should be performed preoperatively for assessing the colon segment. Also we should consider that, screening endoscopy maybe necessary for screening of the interposed colon. Because we did not have many cases with this period of time with colonic interposition we did not have a protocol for surveillance but after this case we discussed about this topic and made our mind that we should examine with

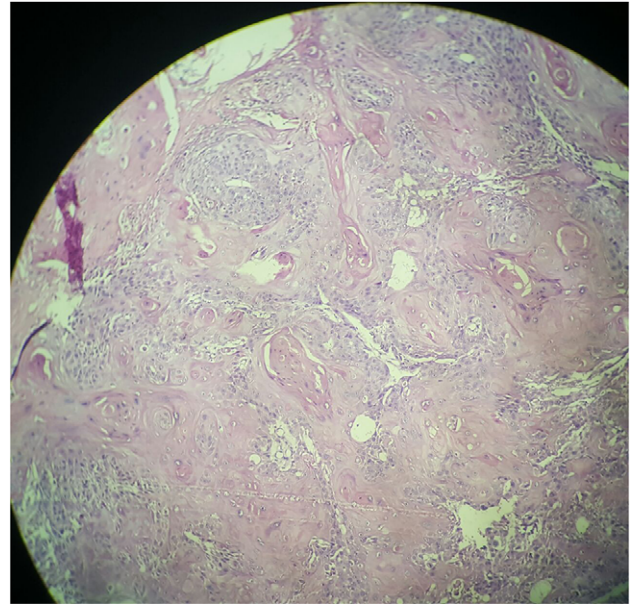


Figure 4: Invasive well differentiated squamous cell carcinoma of colonic origin.

endoscopy at least like screening of colorectal cancer in normal population.

The pathogenesis of cancer arising in interposed colons is unclear; however, it may be related to exposure to undigested food and reflux of intestinal juices. we think SCC maybe is a result of acid exposure.

Interposed colon cancer is an uncommon late complication that requires long-term monitoring for detection. It is technically difficult to resect an interposed colon, and the surgical stress is severe. If cancer is discovered at an early stage, endoscopic mucosal resection or partial resection can be performed, which are minimally invasive. In our patient, cancer was in end stages and there was no time for treatment.

In conclusion, squamous cell carcinoma arising in an interposed colon after resection of esophagus is rare. It is important to follow patients by performing regular endoscopic examinations or FDG-PET in order to detect such diseases at the earliest possible stage.

#### CONFLICT OF INTEREST STATEMENT

None declared.

#### ETHICAL APPROVAL

The article approved in ethical committee of Tehran University of Medical Sciences.

#### CONSENT

The patient signed consent form.

#### REFERENCES

1. Hwang HJ, Song KH, Youn YH, Kwon JE, Kim H, Chung JB, et al. A case of more abundant and dysplastic adenomas in the interposed colon than in the native colon. *Yonsei Med J* 2007;48:1075-1078.

2. Aryal MR, Mainali NR, Jalota L, Altomare JF. Advanced adenocarcinoma in a colonic interposition segment. *BMJ Case Rep* 2013;2013:bcr2013009749.
3. Grunner S, Gilshtein H, Kakiashvili E, Kluger Y. Adenocarcinoma in colonic interposition. *Case Rep Oncol* 2013;6:186-188.
4. Harvey JG, Kettlewell MG. An unusual complication of colonic interposition for oesophageal replacement. *Thorax* 1979;34:408-409.
5. Sallum RAA, Fonseca GM, Szachnowicz S, Seguro FCBDC, Ceconello I. Adenocarcinoma of transposed colon: first case of synchronous tumor. *Arq Bras Cir Dig* 2014;27:163-164.