Adenocarcinoma of a colonic interposition graft for benign esophageal stricture in a young woman

There are more than 5000 cases of caustic ingestion in the United States annually [1]. About one-third of these patients subsequently develop esophageal strictures [2]. The colon has a good blood supply, is long enough to be pulled up to the neck, has a low incidence of disease, and is resistant to gastric secretions [3]. Therefore, it is usually the preferred source of tissue for esophageal replacement.

A 40-year-old woman had suffered a corrosive esophageal injury after an attempted suicide 15 years previously. Reconstruction of the esophagus with part of the ascending colon had been done at that time. She was admitted to our hospital with fever, a productive cough, vomiting, and poor appetite, which had persisted for 1 week. At the emergency department, her temperature was 38.1°C. Auscultation of breathing sounds in the right lung revealed rales and rhonchi. Laboratory test results showed leukocytosis, predominantly due to increased neutrophils. Computed tomography (CT) of the thorax showed a huge heterogeneous mass arising from the reconstructed esophagus. The mass had directly invaded the middle and lower lobes of the right lung, causing pneumonia and passive atelectasis (Fig. 1). Panendoscopy showed the esophageal tumor was situated 27 cm from the incisors (Fig. 2). Histopathology of a biopsy revealed an adenocarcinoma of colonic origin. The patient died 4 months after admission from nosocomial infections.

Colonic interposition for esophageal reconstruction has several early and late complications, such as graft necrosis, anastomotic leakage, fistula formation, strictures of the anastomosis, and gastrocolic reflux. Adenocarcinomas in this situation are extremely rare. There are several case reports of colo-esophageal adenocarcinoma after reconstruction for underlying malignant conditions [4–11]. However, only four cases have been reported on PubMed in patients with benign esophageal stricture (see Table 1).

Our patient developed an adenocarcinoma of the interposed colon 15 years after her reconstruction, when she was aged 40. No risk factors for colon cancer, other than the procedure itself, could be identified. One possible reason for the development of this tumor could be the presence of already pretumorous polyps in the grafted colon. On the other hand, this intervention might lead to direct contact of the transplant with irritants from the oral cavity. Therefore, the procedure should be considered as a risk factor for colon cancer.

We suggest a screening colonoscopy should be performed before carrying out esophageal reconstruction and that regular follow-up endoscopies should be undertaken in patients with esophageal colonic-interposition grafts.

**Competing interests:** None

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**Table 1** The published cases of adenocarcinoma of the colo-esophagus after reconstruction for benign esophageal strictures.

<table>
<thead>
<tr>
<th>Report</th>
<th>Year of publication</th>
<th>Sex</th>
<th>Age, years</th>
<th>Original disease</th>
<th>Original treatment</th>
<th>Time since reconstruction, years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licata et al.</td>
<td>1978</td>
<td>Male</td>
<td>51</td>
<td>Esophageal stricture after corrosive injury</td>
<td>Right colon for reconstruction</td>
<td>11</td>
</tr>
<tr>
<td>Houghton et al.</td>
<td>1989</td>
<td>Male</td>
<td>64</td>
<td>Benign esophageal stricture</td>
<td>Right colon for reconstruction</td>
<td>20</td>
</tr>
<tr>
<td>Altorjay et al.</td>
<td>1995</td>
<td>Male</td>
<td>65</td>
<td>Benign esophageal stricture</td>
<td>Left colon for reconstruction</td>
<td>5</td>
</tr>
<tr>
<td>Hsieh et al.</td>
<td>2005</td>
<td>Male</td>
<td>57</td>
<td>Esophageal stricture after corrosive injury</td>
<td>Right colon for reconstruction</td>
<td>39</td>
</tr>
<tr>
<td>Our report</td>
<td>2014</td>
<td>Female</td>
<td>40</td>
<td>Esophageal stricture after corrosive injury</td>
<td>Right colon for reconstruction</td>
<td>15</td>
</tr>
</tbody>
</table>

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Fig. 1 Chest computed tomography (CT) scan showing a huge heterogeneous mass arising from the reconstructed esophagus and directly invading the middle and lower lobes of the right lung, causing passive atelectasis. The bronchus intermedius also appears compressed by the mass.

Fig. 2 Endoscopic view showing the esophageal tumor situated 27 cm from incisors.

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Yi-Chiao Cheng, Chang-Chieh Wu, Chia-Cheng Lee, Cheng-Wen Hsiao, Tsai-Yu Lee, Shu-Wen Jao, Ching-Liang Ho

1 Division of Colon and Rectal Surgery, Department of Surgery, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan
2 Division of Hematology/Oncology, Department of Medicine, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan

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Corresponding author
Ching-Liang Ho, MD
Division of Hematology/Oncology
Tri-Service General Hospital
National Defense Medical Center
No. 325, Section 2, Cheng-Kong Rd.
Neihu District
Taipei 114
Taiwan ROC
Fax: +886-2-87927411
hochingliang@yahoo.com.tw