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Case Report

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Malignant Tracheo-Esophageal Fistula: Case Report

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1. Abstract

A 64-year-old male patient diagnosed with locally advanced esophageal cancer complicated by tracheo-esophageal fistula. Esophagogastroduodenoscopy (EGD), contrasted CT and PET-CT showed mid esophageal lesion. Bronchial fibroscopy (BFS) revealed protruding nodular mass invasion from esophagus at the distal trachea and fistula. An esophageal endoprosthesis was used for tracheoesophageal fistula of malignant origin. He received definitive chemoradiotherapy. Follow up contrasted CT showed partial response at primary site. And bronchial fibroscopy (BFS) showed regressed tumor with fibrotic change of fistula.

2. Introduction

Currently, CRT is one of the alternatives for unresectable T4 esophageal cancer although evidence-based data on CRT as a treatment strategy is limited and the treatment response remains uncertain [1]. A severe complication of advanced esophageal carcinoma is esophageal fistula, and most probably chemoradiotherapy that affect the walls of the esophagus and adjacent organs increase the susceptibility of fistula formation [2]. Malignant tracheo-esophageal fistula (TEF) is a serious complication of cancer arising usually in the esophagus, lung, or tracheobronchial tree. Repeated aspiration and pneumonia lead to rapid deterioration and death [3]. Treatment of TEF includes such as Surgical bypass of the lesion, enterostomies, esophageal endoprostheses, and supportive care [4-6].

We conclude that insertion of an esophageal endoprosthesis should be the usual preferred option for palliative treatment of malignant TEF.

3. Case Report

We report the case of a 64-year-old male patient diagnosed with locally advanced squamous cell carcinoma of esophageal cancer complicated by tracheo-esophageal fistula. The patient had symptom of dysphagia. Esophagogastroduodenoscopy (EGD) showed a circumferential mass forming stricture at mid esophagus (Figure 1). Contrasted CT and PET MIP showed hypermetabolic mid esophageal lesion (Figure 2A and Figure 2B). Bronchial fibroscopy (BFS) revealed protruding nodular mass invasion from esophagus at the distal trachea and fistula (Figure 3). The patient was hospitalized. An esophageal endoprosthesis was used for tracheoesophageal fistula of malignant origin (Figure 4). He received definitive chemoradiotherapy. At 6 months, contrasted CT showed partial response at primary site (Figure 5). At 6 months, BFS showed regressed tumor with fibrotic change of fistula (Figure 6).

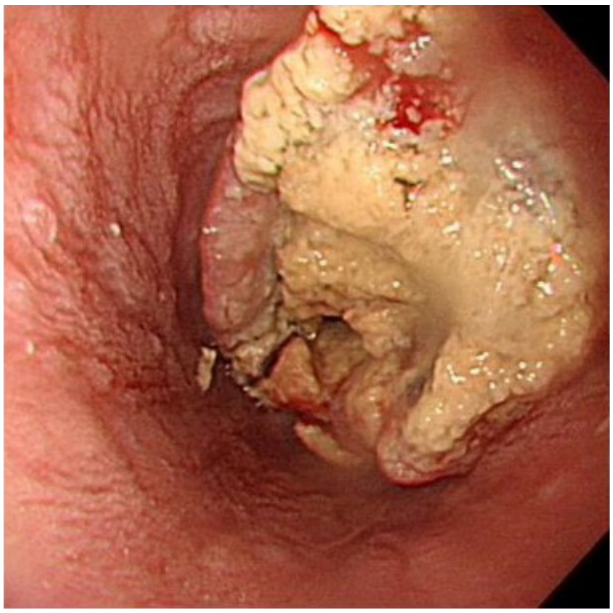

Figure 1. Esophagogastroduodenoscopy (EGD) showed a circumferential mass forming stricture at mid esophagus.

Figure 2A. Contrasted CT showed mid esophageal lesion.

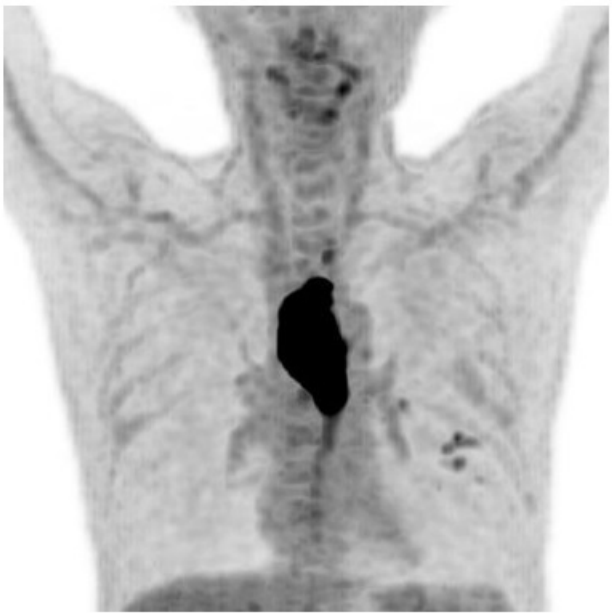

Figure 2B. PET MIP showed hypermetabolic mid esophageal lesion without metastasis.

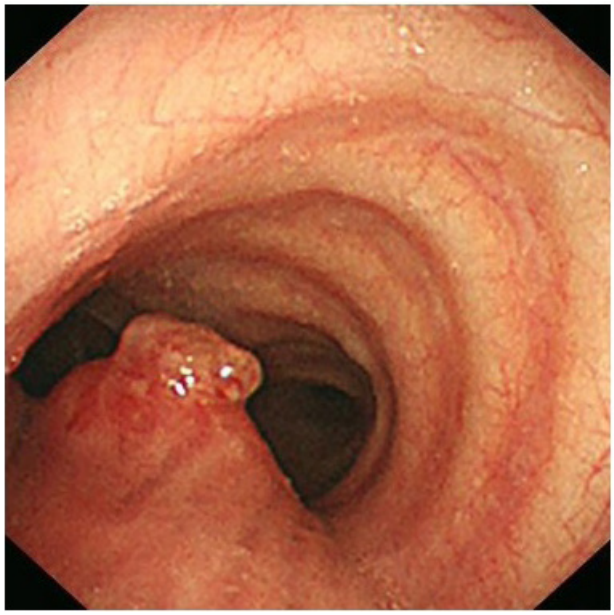

Figure 3:. Bronchial fibroscopy (BFS) revealed protruding nodular mass invasion from esophagus at the distal trachea and fistula.

Figure 4. CT of an esophageal endoprosthesis for tracheoesophageal fistula of malignant origin.

Figure 5. At 6 months after chemoradiotherapy contrasted CT showed partial response at primary site.

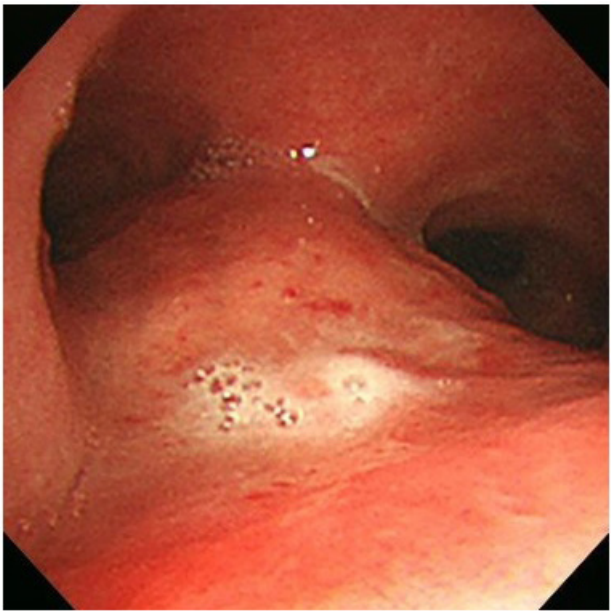

Figure 6. At 6 months after chemoradiotherapy BFS showed regressed tumor with fibrotic change of fistula.

4. Discussion

Esophageal cancer is one of the leading causes of cancer-related mortality worldwide with a high prevalence in Asia [7,8]. chemoradiotherapy (CRT) is the standard of care for the treatment of locally advanced esophageal cancer [1, 9, 10]. According to the 7th edition of the American Joint Committee on Cancer (AJCC) staging manual, esophageal carcinoma invading the aorta, vertebral body, or trachea is classified as T4b disease [11]. T4b Esophageal cancer is usually ineligible for initial surgery [12]. Currently, Chemoradiotherapy (CRT) is one of the alternatives for unresectable T4 esophageal cancer although evidence-based data on CRT as a treatment strategy is limited and the treatment response remains uncertain [1]. A severe complication of advanced esophageal carcinoma is esophageal fistula, and most probably chemoradiotherapy that affect the walls of the esophagus increase the susceptibility of fistula formation [2]. And fistula formation may be aggravated due to CRT-induced tumor necrosis that results in rapid tumor regression in the absence of regeneration of normal esophageal tissue [13, 14]. Malignant tracheo-esophageal fistula (TEF) is a serious complication of cancer arising usually in the esophagus, lung, or tracheobronchial tree. Repeated aspiration and pneumonia lead to rapid deterioration and death [3, 15]. Treatment of TEF includes such as Surgical bypass of the lesion, enterostomies, esophageal endoprostheses, and supportive care [4-6].

Our patient diagnosed with locally advanced esophageal cancer complicated by tracheo-esophageal fistula at diagnosis. An esophageal endoprosthesis was used for tracheoesophageal fistula of malignant origin (Figure 4). The patient received definitive chemoradiotherapy without severe toxicities. At 6 months, contrasted CT showed partial response at primary site (Figure 5). At 6 months, BFS showed regressed tumor with fibrotic change of fistula (Figure 6). Insertion of an esophageal endoprosthesis could be the usual preferred option for palliative treatment of malignant tracheo-esophageal fistula (TEF) before chemoradiotherapy.

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