

An Unusual Presentation of Esophageal Cancer: A Case Report and Review of Literature

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Abstract

We present a case of a 49-year-old white female who complained of a chronic cough for 1 year. Computed tomography (CT) of the chest revealed abnormal thickening of the thoracic esophagus. Esophago-gastroduodenoscopy (EGD) revealed diffuse multiple masses in the esophagus, which appeared separate. Histopathology of the masses revealed adenocarcinoma.

Keywords: Esophageal adenocarcinoma; Metastatic cancer; Chronic cough

Introduction

Worldwide, 90% of esophageal cancers are squamous cell carcinomas (SCCs) and about 5% are adenocarcinomas [1]. The remaining 5% represent rare malignancies and metastases from other organs [1]. The most common presenting symptoms are dysphagia, odynophagia, and weight loss [2, 3]. It is one of the deadliest cancers worldwide with 5-year survival rates of 5.0-26.2% and the eighth most common cancer worldwide [4-9]. There are two major types of esophageal cancer: esophageal adenocarcinoma (EAC) and esophageal squamous cell cancer

(ESCC) [10]. EAC arises from the distal third of the esophagus and is commonly found in Caucasian men [7, 11, 12]. ESCC arises from the proximal two-thirds of the esophagus and is commonly found in African Americans and Caucasian females [7, 13-15].

Case Report

A 49-year-old white female with a past medical history of hypothyroidism and generalized anxiety disorder was referred to our gastroenterology clinic by the pulmonologist for an abnormal finding on the computed tomography (CT) scan of the chest. The patient was evaluated by her pulmonologist for a chronic cough of 1 year duration. Despite three courses of antibiotics, the cough continued to worsen.

She denied any medical history of gastroesophageal reflux disease (GERD), esophagitis, or aspiration pneumonitis. She

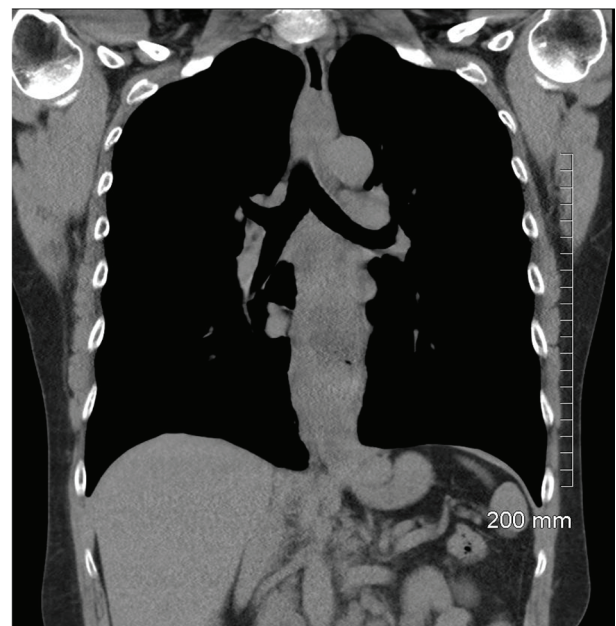


Figure 1. Computed tomography (CT) scan of the chest (coronal view) showing circumferential thickening and irregular enlargement of the esophagus with wall thickening and dilatation.

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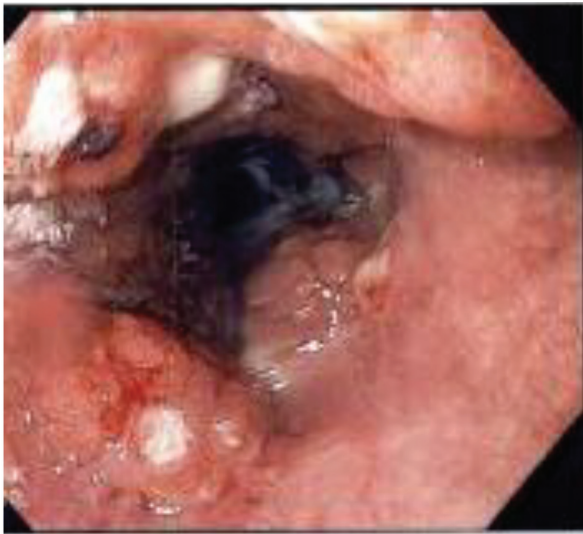


Figure 2. The EGD scope was advanced into the esophagus and almost immediately, a 22 cm friable fungating mass was seen. There were multiple esophageal masses, which appeared separate.

denied any tobacco smoking or second hand smoking exposure. She consumed two drinks of alcohol on the weekend. She works as a pharmaceutical representative and was on medical leave due to the severe cough during the nights.

She denied any fever, chills or night sweats. She denied any chest pains, heartburn, nausea, vomiting, dysphagia, odynophagia, and weight loss. The patient's vital signs were unremarkable. Her physical examination was unremarkable except for a scattered bibasilar expiratory wheezing in the anterior and posterior lobes.

Recent laboratory workup included a white blood cell (WBC) count of 7.1 cells/mL, hemoglobin of 15.1 g/dL, plate-



Figure 3. The EGD reveals this friable and fungating mass 30 cm from the incisors.



Figure 4. The EGD revealed this friable, large, and smooth mass 35 cm from the incisors.

lets of 279 /mm³, absolute eosinophils of 0.30 × 10³/μL, and auto-eosinophils of 4.8%. Other blood tests revealed Na of 138 mEq/L, K of 4.2 mEq/L, creatinine of 1.0 mg/dL, alkaline phosphatase of 61 unit/L, AST of 29 unit/L, ALT of 16 unit/L, and a total bilirubin of 1.0 mg/dL.

Sputum Gram-stain and culture revealed 2+ WBCs, 1+ epithelial cells, normal oropharyngeal flora isolate, and +3 probable *Escherichia coli* (*E. coli*) susceptible to cefazolin, cefepime, ciprofloxacin, gentamicin, levofloxacin, meropenem, and trimethoprim/sulfamethoxazole.

The CT scan of the chest (Fig. 1) revealed a markedly abnormal thickening of the thoracic esophagus in the proximal, mid, and distal esophagus that is suspicious for esophageal neoplasm.

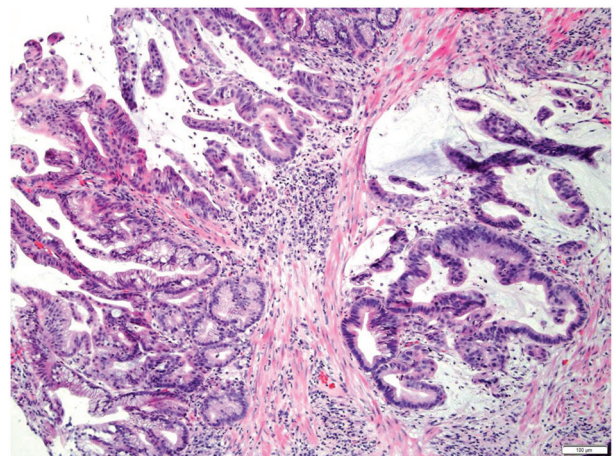


Figure 5. Hematoxylin and eosin (H&E) stain (× 100) showing luminal part of malignant glands of adenocarcinoma and submucosal invasive adenocarcinoma showing extracellular mucin. Arc-shaped pink-colored smooth muscle fibers of muscularis mucosae separate the malignant mucosa in the left half of the picture from the submucosal invasive adenocarcinoma in the right half.

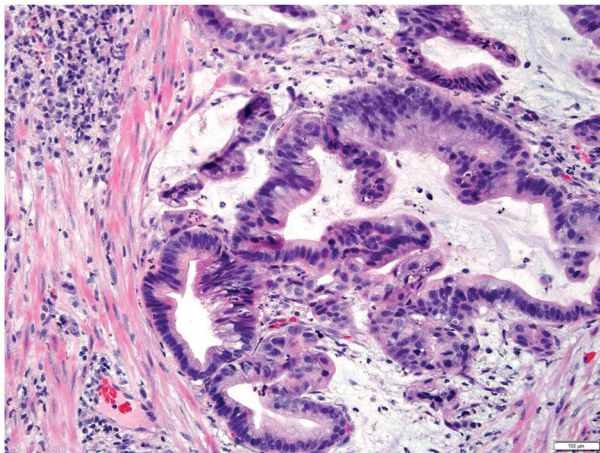


Figure 6. Hematoxylin and eosin stain (H&E) (× 200) showing higher magnification of submucosal invasive adenocarcinoma showing extracellular mucin. Submucosal invasive adenocarcinoma shows pleomorphic and hyperchromatic nuclei of the columnar cells with loss of polarity. Submucosal invasive adenocarcinoma is lying under the arc-shaped pink-colored smooth muscle fibers of muscularis mucosae.

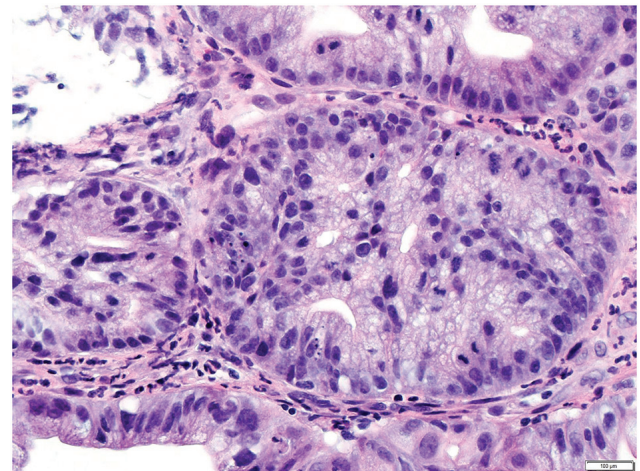


Figure 7. Hematoxylin and eosin (H&E) stain (× 400) showing higher magnification of another area of adenocarcinoma with cribriform structures composed of pleomorphic and hyperchromatic nuclei showing a few prominent nucleoli. A few mitotic figures are also seen.

Table 1. Review of the Literature for Esophageal Cancer With an Unusual Presentation [9, 10, 25-38]

Reference	Age	Gender	Comorbidities	Uncommon presentation	Final diagnosis	Treatment	Outcome
[9]	51	M	Multiple sclerosis, chronic smoker	Diffuse painless solid skin nodules	Metastasis from esophageal cancer	Palliative chemotherapy	
[10]	53	M	Alcohol abuse, chronic smoker	Upper abdominal pain, post-prandial fullness, nausea, vomiting	Squamous cell carcinoma of the esophagus	Palliative therapy	Poor
[25]	50	M	Chronic smoker	Left gluteal mass, dysphagia, odynophagia, weight loss	Metastasis from esophageal cancer	Palliative radiotherapy	Poor
[26]	58	M	Gastroesophageal reflux disease, hyperlipidemia	Severe right hip pain	Skeletal muscle metastasis from esophageal cancer	-	-
[27]	35	F	None	Painful right lump breast mass, weight loss	Metastasis from esophageal cancer	Radiation therapy, chemotherapy	-
[28]	58	F	Esophageal cancer s/p esophago-gastrectomy	Occipital lesion	Metastasis after esophago-gastrectomy from esophageal cancer	-	-
[29]	68	M	None	Dysphagia, cutaneous nodules	Metastasis from esophageal cancer	Chemotherapy, radiation therapy	-
[29]	73	M	Esophageal cancer s/p esophago-gastrectomy	Cutaneous nodules	Metastasis after esophago-gastrectomy from esophageal cancer	Chemotherapy, radiation therapy	-
[30]	59	M	Chronic smoker, chronic bronchitis	Cervical pain and limited neck mobilization	Metastasis from esophageal cancer		
[31]	61	M	None	Dyspnea, dysphagia, hoarseness, palpable thyroid nodule	Metastasis from esophageal cancer	-	Deceased due to advanced esophageal cancer
[32]	54	M	Chronic alcohol, chronic smoker	Dysphagia, weight loss, solitary jejunal metastasis	Metastasis from esophageal cancer	Surgery and chemotherapy	Survived

Table 1. Review of the Literature for Esophageal Cancer With an Unusual Presentation [9, 10, 25-38] - (continued)

Reference	Age	Gender	Comorbidities	Uncommon presentation	Final diagnosis	Treatment	Outcome
[33]	55	M	Esophageal cancer	Adrenal mass	Metastasis from esophageal cancer	-	-
[34]	60	F	None	Osteolytic lesion on the femur	Metastasis from esophageal cancer	-	-
[34]	42	F	None	Osteolytic lesion on the left tibia	Metastasis from esophageal cancer	-	-
[34]	24	M	None	Osteolytic lesion on the left iliac bone	Metastasis from esophageal cancer	-	-
[34]	60	F	Chronic smoker, opiate drug addiction	Osteolytic lesion on the seventh cervical vertebra	Metastasis from esophageal cancer	-	-
[34]	40	M	None	Osteolytic lesion on the sixth and seventh ribs	Metastasis from esophageal cancer	-	-
[35]	51	M	Esophageal cancer	Dyspnea	Tracheal stenosis secondary to esophageal cancer	Tracheal stent, jejunostomy tube for feeding, local radiotherapy	Deceased
[36]	66	M	Chronic alcohol abuse, chronic smoker	Swelling of the neck and chest, thyroid mass	Metastasis from esophageal cancer	-	Deceased
[37]	60	M	Esophageal cancer s/p radiotherapy and chemotherapy	Headaches, space-occupying lesion per CT scan 2 years after chemotherapy and radiation therapy	Metastasis from esophageal cancer	Surgery	Survived
[38]	50	M	Chronic smoker	Left upper abdominal pain, splenic lesion	Metastasis from esophageal cancer	Chemotherapy and radiation therapy	Survived
Our study	49	F	Hypothyroidism, Anxiety	Chronic cough	Esophageal cancer	The patient refused treatment	Deceased

An esophagogastroduodenoscopy (EGD) procedure was performed using an Olympus video gastroscope. The scope was advanced into the esophagus and almost immediately, a 22 cm friable fungating mass was seen (Fig. 2). There were multiple esophageal masses, which appeared separate. Esophageal biopsies were obtained from three different sites, 25, 30 (Fig. 3), and 35 cm (Fig. 4) from the incisors.

The pathology report of the mass located at the 25 cm revealed an invasive adenocarcinoma (Fig. 5-7). The biopsy that was obtained from the 30 and 35 cm revealed an adenocarcinoma *in situ*.

Unfortunately, the patient declined further management and passed away 9 months later.

Discussion

This case is unique due to a number of atypical features. Firstly, the patient had respiratory symptoms rather than gastroenterology symptoms. The most common symptoms for esophageal cancer are dysphagia, odynophagia, and weight loss [2, 3]. Our patient presented with a chronic cough. Esophageal cancer can present with respiratory symptoms of cough and lung infec-

tion [16]. This mechanism is commonly due to the presence of an acquired tracheoesophageal fistula (TEF), which the patient did not have. In the literature, there was a case of an esophageal cancer in a patient presenting with acute respiratory symptoms rather than the chronic, without a history of respiratory disease or acquired TEF [17-19].

Secondly, EAC arises from the distal third of the esophagus [20]. The unusual location and distribution of the tumor in our case was very rare. The first friable mass was located at 22 cm from the incisors, which is part of the proximal two-thirds. The lesions were diffuse and extending down 35 cm from the incisors.

Thirdly, common risk factors for EAC are Barrett's esophagus caused by chronic GERD, low socioeconomic status, obesity, and male gender [21-23]. Higher alcohol consumption was not associated with increased risk of EAC [24]. Our patient did not have any risk factors to suspect esophageal cancer.

In the review of the literature (Table 1) [9, 10, 25-38], 16/21 patients presented with atypical symptoms of either metastatic or non-metastatic esophageal cancer.

Endoscopy with biopsy is the diagnostic test of choice for esophageal cancer [39]. Staging of esophageal cancer should first be done with CT and positron emission tomography

(PET)/CT [39]. If the patient is a surgical candidate, endoscopic ultrasonography (EUS) should be used to determine the locoregional extent of disease [39].

Conclusion

We present a case of an atypical feature of esophageal cancer. It is important for clinicians to keep esophageal cancer in the differential diagnosis in patients presenting with the symptoms previously mentioned.

Disclosure

This case was presented at the New York Chapter American College of Physicians Annual Meeting.

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