

Scalp Lesion as an Initial Presentation of Esophageal Squamous Cell Carcinoma

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Abstract

Esophageal cancer is the ninth most common malignancy. The incidence of esophageal cancer varies greatly among regions of the world and occurs at a high frequency in Asia and northern Iran.

We report the case of an 80-year-old man with esophageal squamous cell carcinoma who initially presented with a metastatic scalp lesion. Esophagoscopy was performed and a lesion was located in the mid-portion of the esophagus. Pathological and immunohistochemical studies favored the diagnosis of a metastatic scalp lesion.

Keywords: Cancer of the esophagus, Symptoms, Metastasis

Introduction

Esophageal cancer (EC) is the sixth most common malignancy and the ninth leading cause of cancer deaths that is one of the deadliest tumors in solid tumor oncology.¹

Squamous cell carcinoma (SCC) and adenocarcinoma (AC) are the two main histological subtypes identified in EC.² Squamous cell carcinoma is mostly located in the proximal and mid-esophagus³ and is predominant in most parts of the world, including endemic areas of China, southern Russia, northern Iran, and Turkey.¹

Risk factors for EC include tobacco and alcohol use (mainly for SCC), chronic esophageal irritation,

gastroesophageal reflux disease (GERD), obesity, vegetables and salted, smoked meats, zinc deficiency and Molybdenum and infection with human papilloma virus (HPV).^{1,3,4} Esophagography is often the initial diagnostic test.⁵

In most cases due to the advanced disease stage at diagnosis the only possible remedy is surgery to reduce symptoms and complaints, and to improve quality of life.^{6,7}

The incidence of EC is highly variable worldwide, and ranges from approximately 20 per 100,000 in the United States and Britain, 3 to 100 per 100,000 in northern Iran and southern Russia.^{1,8,9}

The main causes of AC is Barrett's

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esophagus and GERD during which the squamous mucosa of the lower esophagus is replaced by columnar epithelium which can increase the risk of AC to 40 times that of normal subjects.^{8,9} The symptoms of EC vary with the stage of the disease. Early-stage cancers may be asymptomatic or mimic symptoms of GERD. Most patients present with dysphagia and weight loss.¹⁰

Common sites of metastases include the liver, lung, bone, peritoneum, and non regional lymph nodes. The brain is an uncommon site of metastasis from the esophagus and stomach.^{1, 11}

Cutaneous metastases from internal malignancies occur in 0.5% to 9% of cases. Such cutaneous metastases occur at any age, but most frequently arise in the 6th and 7th decades of life.^{1,12} They usually originate from cancers of the breast, lung, and large bowel.⁷ Cutaneous metastases usually occur on the chest wall and abdomen as asymptomatic nodular patterns. Esophageal cancer rarely metastasizes to the skin.

We report the case of an 80-year-old man with esophageal SCC who initially presented with a metastatic scalp lesion. Esophagoscopy was performed and a lesion was located in the mid-portion of the esophagus. Pathological and immunohistochemical studies favored the diagnosis of a metastatic scalp lesion.

Case Report

An 80-year-old Iranian man presented with an ulcerated macular scalp lesion (Figure1) in addition to mild dysphagia and dyspepsia since six months previous. The scalp lesion was a prominent lesion with an ulcerated surface and mild central necrosis. Excisional biopsy of the scalp lesion was performed.

The patient underwent an endoscopic examination, which revealed an ulcerated tumor in the middle esophagus. Based on pathological and immunohistochemical studies, we considered one source for both the scalp lesion and tumor of the middle esophagus. Both lesions were SCC.

Carcinoembryonic antigen (CEA) and CA 19-9 levels were within normal limits. Liver and renal function tests and hematologic exams were



Figure 1. The scalp lesion. (Hematoxylin & Eosin, 200×).

within normal range.

Computed tomography (CT) scan of the liver and lungs as well as a bone scan were all negative for metastases.

The patient underwent palliative surgery that consisted of a transhiatal esophagectomy and gastroesophageal anastomosis, after which he received adjuvant chemotherapy.

Pathologic Findings

Gross pathological examination of the esophageal tumor revealed a poorly-circumscribed, unencapsulated creamy-white, firm solid mass that measured 12×5×4 cm. Microscopic examination (Figure2) and immunohistochemistry (IHC) were performed on formalin-fixed and paraffin-embedded tissues from both specimens. Specimens were positive for cytokeratin (Figure3), epithelial membrane antigen, and p53 protein, along with an elevated Ki-67 labeling.

According to the pathology, the surgical margins of both specimens (scalp lesion & esophagus) were free of tumor.

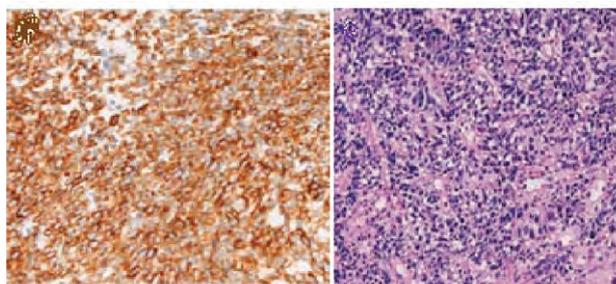


Figure2. Histological views of the esophageal tumor. (Hematoxylin & Eosin, 200×)

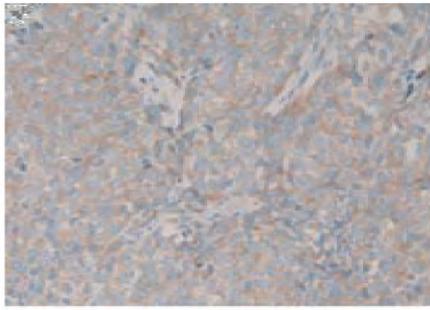


Figure 3. Positive cytokeratin immunostaining of the esophageal tumor. (Hematoxylin & Eosin, 200×)

Discussion

Esophageal cancer is one of the cancers associated with a high mortality rate, yet seldom metastasizes to the skin.

Cutaneous metastasis of EC is rare; metastasis to the scalp is extremely rare. Herein, we have described a case of metastatic skin cancer that originated from esophageal SCC.

References:

1. Khushalani N. Cancer of the esophagus and stomach. *Mayo Clin Proc* 2008; 83(6):712-22.
2. Levine MS, Halverson RA. Carcinoma of the Esophagus. In: Gore RM, Levine MS, editors. Textbook of gastrointestinal radiology. Philadelphia, PA: Saunders 2000;403-33.
3. Ries LAG, Eisner MP, Kosary C. SEER cancer statistics review, 1973-1999. Bethesda, Md: National Cancer Institute 2002.
4. Jemal A, Siegel R, Ward E. Cancer statistics, 2008. *CA Cancer J Clin* 2008; 58(2):71-96. *Epub* 2008 Feb 20.
5. Zablotska LB, Chak A, Das A, Neugut AI. Increased risk of squamous cell esophageal cancer after adjuvant radiation therapy for primary breast cancer. *Am J Epidemiol* 2005; 161(4):330-7.
6. Weinberg JS, Suki D, Hanbali F, Cohen ZR, Lenzi R, Sawaya R. Metastasis of esophageal carcinoma to the brain. *Cancer* 2003; 98(9):1925-33.
7. Von Rahden BH, Stein HJ. Staging and treatment of advanced esophageal cancer. *Curr Opin Gastroenterol* 2005; 21(4):472-7.
8. Van Westreenen HL, Westerterp M, Bossuyt PM. Systematic review of the staging performance of 18F-fluorodeoxyglucose positron emission tomography in esophageal cancer. *J Clin Oncol* 2004; 22(18):3805-12.
9. Meyers BF, Downey RJ, Decker PA. The utility of positron emission tomography in staging of potentially operable carcinoma of the thoracic esophagus: Results of the American College of Surgeons Oncology Group Z0060 trial. *J Thorac Cardiovascular Surg*, 2007; 133(3):738-45.
10. Pera M. Trends in incidence and prevalence of specialized intestinal, metaplasia Barrett's esophagus, and adenocarcinoma of the gastroesophageal junction. *World J Surg* 2003; 27:999-1008.
11. Smith KJ, Williams J, Skelton H. Metastatic adenocarcinoma of the esophagus to the skin: New patterns of tumor recurrence and alternate treatments for palliation. *J Cutan Pathol* 2001; 28:425-31.
12. Bruzzi JF, Munden RF, Truong MT. PET/CT of esophageal cancer: Its role in clinical management. *Radiographics* 2007; 27(6):1635-52.