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Collision tumor of oesophagus - A rare case report

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Abstract

Histologically esophageal cancer can be divided into squamous cell carcinoma and adenocarcinoma. Squamous cell carcinoma contributes to 90% of worldwide esophageal cancer cases. While adenocarcinoma contributes to 2/3rd of cases in developed countries. Although other rare types and collision with multiple histological types of tumors do occur in the esophagus, it is very rare. Here we reported a rare case of esophageal collision tumor showing adenocarcinoma and neuroendocrine tumor.

Keywords: (CT) Scan, Squamous Cell, Uterus,

Introduction

The collision tumor is defined by Meyer as that arisen from the accidental meeting and eventual intermingling of two independent neoplasms, which is quite rare. Most of them occur in the junction of different epithelial types of tissue such as oral cavity, esophagogastric junction, anorectal junction and cervix, while collision tumors occurring in the liver, gallbladder, pancreas, urinary bladder also have been reported.[1]

We report here a rare case of an esophageal collision tumor composed of adenocarcinoma and neuroendocrine carcinoma arising in lower end of esophagus.

Case Report

65 years old male presented with dysphagia and epigastric discomfort for one and half months duration. Endoscopy showed growth in lower end of esophagus. There was difficulty in negotiating endoscope from lower end of oesophagus to stomach. Computed tomography (CT) scan revealed that a 3-cm long thickened esophageal wall with the lumen stenosis at lower third of esophagus that was well enhanced, no distant metastases or enlarged lymph nodes were seen. The liver, spleen and pancreas were found normal, there was no ascites.

Endoscopic biopsy was done. Biopsy was taken from the lower end of oesophagus and sent to our pathology department for histopathology. Histopathology showed features of well differentiated adenocarcinoma, intestinal type. A proximal gastrectomy with a lower esophagectomy and regional node dissections was performed subsequently (Figure1). Multiple sections

studied from different areas of growth. They revealed mainly adenocarcinoma. But in few sections, there was a solid sheet like arrangement of small tumor cells with scanty cytoplasm and round nuclei with finely stippled nuclear chromatin (Figure2). So, immunohistochemistry was done. That was positive for synaptophysin. So, we considered the diagnosis of collision tumor composed of adenocarcinoma and neuroendocrine carcinoma of lower end of oesophagus.

Discussion

The collision tumor is uncommon and often found randomly during pathological evaluation. Most collision tumors occur in the crania, lung, gastroesophageal junction, liver, rectum, bladder, uterus, and testis with two or more independent tumor components without transitional morphology. They are difficult to differentiate from composite tumors (characterized by two divergent lineages originating from the same neoplastic clonal proliferation).[1, 2]

Although the occurrence of tumors with mixed exocrine and endocrine components in the gastrointestinal tracts are very frequently reported in the appendicial region, which is also the most common location of carcinoid tumors in the gastrointestinal tract, they are very rare in the esophagus, stomach, and small and large intestines.[2].Gonzalez et al. demonstrated a biclonal origin for both components of the collision tumor.[3]Brahmania et al provided detailed descriptions of three possible mechanisms: (i) the rare occurrence that two primary tumors develop adjacent to each other at the same time; (ii) one tumor develops and changes local microenvironment to promote the development of the second tumor; and (iii) the two types of tumors share a common origin of pluripotent precursor stem cells that differentiate into the components of tumor cell types. The incidence of synchronous cancers in patients with esophageal cancer ranges from 3.6%-27.1%

Spinelli et al. described the first case of a 74-year-old male patient with a myeloproliferative syndrome, esophageal squamous cell carcinoma, and GIST.[5]

Adenocarcinoma and neuroendocrine carcinoma are each well known to occur in the background of atrophic gastritis[6], but composite glandular/exocrine-endocrine carcinoma of the gastrointestinal tract is a special tumor type composed of common adenocarcinoma and the neuroendocrine component comprising of at least one third of the whole tumor area.[7] These tumors, mixed exocrine-endocrine carcinomas of the stomach, are rare and mostly published as case reports.[5]

In 1987, Lewen and Appelamn first proposed a simple nomenclature for these neoplasms as follows: 1) mixed or composite tumors with an admixture of glandular and endocrine components; 2) collision tumor, where these two components are distinct and juxtaposed; 3) amphicrine cell tumors,3 composed predominantly of cells that exhibit dual endocrine and nonendocrine differentiation. Collision tumors are believed to result from two separate but adjacent neoplasms (biclonal malignant transformation), whereas composite tumors are thought to arise through a multidirectional differentiation of a single neoplasm.[8,9]

Prognosis appears to depend on the stage of tumour and types of components present in the collision. Collision tumours may require different treatment for different components.

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Legend Figures

Figure 1: Gross specimen showing tumor mass in the lower part of oesophagus and gastroesophageal junction.

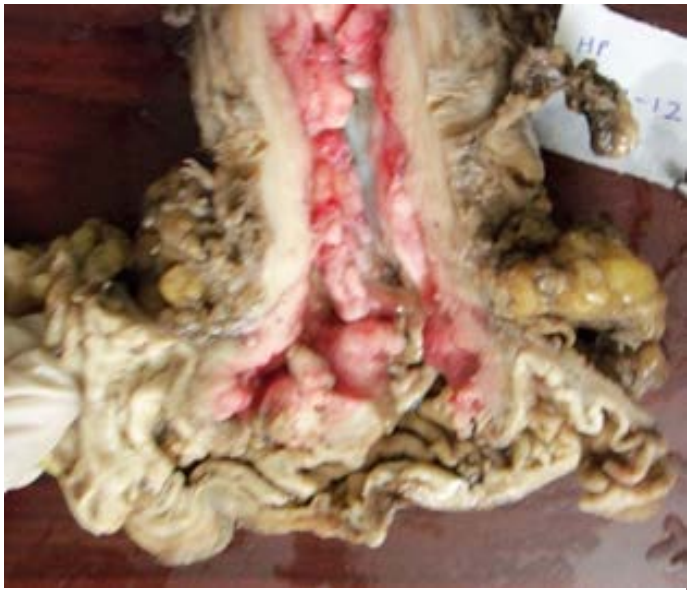

Figure 2: Phoromicrograph showing glandular component and solid sheet like arrangement of small round tumor cells.