Synchronous esophageal and lung cancer treated by one-stage esophagectomy and upper right lobectomy

Synchroniczny rak przełyku i płuca leczony jednoczasową resekcją przełyku i prawostronną górną lobektomią

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Abstract

We present a case of 58 year-old patient with solid food dysphagia due to neoplastic infiltration of the esophagus 37 centimeters from the incisors and 10 kilograms body weight loss. Computed tomography revealed abnormal 20 mm thickness of the esophagus wall up to 5 cm above the cardia as well as enlarged 15 mm pericardial lymph node suspected of metastatic etiology. Diagnosis of adenocarcinoma was confirmed endoscopically. Gastroscopy and endoscopic ultrasound (EUS) examination were not possible to perform below the level of the esophageal infiltration stenosis. Bronchofiberoscopy revealed no pathological findings. The patient was treated by parenteral nutrition for 10 days prior to surgery. Ivory-Lewis esophageal resection was performed with two-field lymphadenectomy and thoracic duct resection. A tumor 1 cm in diameter located in the upper right lobe not found on chest computed tomography (CT) was palpated at the time of the surgery. It was decided to perform additional right upper lobectomy. Histopathological specimen examination confirmed primary synchronous small cell lung cancer. The role of PET examination in preoperative diagnosis of patients with esophageal cancer is discussed below.

Key words: esophageal cancer, synchronous cancer, positron emission tomography.

Streszczenie

W pracy przedstawiono przypadek 58-letniego chorego z naciekiem nowotworowym przełyku na głębokości 37 cm od siekaczy i dysfagią pokarmów stałych, z utratą 10 kg wagi. Tomografia komputerowa wykazała pogrubienie ściany przełyku do 20 mm w obrębie wpustu, sięgające 5 cm powyżej wpustu oraz 15-milimetrowy węzeł okołowpustowy podejrzany o tło przerzutowe. Rozpoznany z wycinka z gastroskopii jako gruczolakorak, choć gastroskopowo i aparatem EUS nie pokonano zwężenia światła przełyku. Bronchofiberoskopia nie uwidoczniła zmian. Chorego zakwalifikowano do leczenia operacyjnego z wdrożeniem całkowitego żywienia pozajelitowego przez okres 10 dni przed operacją. Resekcję przełyku wykonano klasyczną metodą Ivor-Lewisa z dwupolową limfadenektomią i resekcją przewodu piersiowego. W trakcie etapu klatkowego uwidoczniono niemy w obrazie TK guz wnęki płata górnego o śr. 10 mm. Zakres zabiegu rozszerzono jednoczasowo o lobektomię górnopłatową prawostronną, a wynik histologiczno-patologiczny zmiany w płucu oceniono jako synchroniczny, pierwotny rak drobnokomórkowy. W dyskusji omówiono rolę PET w diagnostyce przedoperacyjnej u chorych z rakiem przełyku.

Słowa kluczowe: rak przełyku, rak synchroniczny, pozytonowa tomografia emisyjna.

Introduction

Staging is the basic diagnostic step in the evaluation of a newly revealed case of a neoplasm. In esophageal cancer it is the cornerstone to make the decision of a major, expensive and difficult operation. The diagnostics should include FDG-PET/CT (positron emission tomography) [1-4].

Case report

A 59-year-old man was admitted to our institution due to solid food dysphagia since 3 months and weight loss of 10 kg. Gastroscopy revealed esophageal infiltration of adenocarcinoma occluding its lumen by 90% and situated 37 cm from the incisors. It was impossible to get through

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the tumor by the gastroscope or EUS (endoscopic ultrasound). In the CT and radiological contrast study the infiltration included 2 cm of cardia and 5 cm of distal esophagus. The infiltration wall was 2 cm thick. In addition, a single 15 mm cardiac lymph node suspected of metastatic origin was found by means of CT and abdomen ultrasonography. The bronchofiberoscopy, chest and head CT revealed no abnormalities (Figs. 1-3). The patient was qualified for surgery with total parenteral nutrition 10 days prior to the operation. The classical Ivor-Lewis esophagectomy was performed followed by 2-field lymphadenectomy. The anastomosis was done using 2 linear staplers. The first peritoneal stage of the operation was uneventful whereas the right thoracotomy revealed infiltrated esophagus with concomitant 8 mm lymph node within the thoracic duct and 1 cm tumor of the right upper lobe hilum, which was not detected in the chest CT. The esophagus was resected with posterior mediastinum lymph nodes. The proximal resection distance was 10 cm and the anastomosis was performed over the azygos vein. In addition the thoracic duct with the lymph node was resected as well. Due to the lung tumor, right upper lobectomy was performed followed by standard mediastinal lymphadenectomy. The postoperative histopathological findings confirmed esophageal adventitia infiltration (T3) and extracapsular neoplastic metastases in cardiac, subcarinal, pulmonary ligament and thoracic duct lymph nodes. The upper lobe tumor assessment confirmed primary, synchronic, small-cell lung cancer. The short-term postoperative course was uneventful and the patient underwent adjuvant chemotherapy. Later on the brain metastases appeared followed by head irradiation and the patient died on the 317th postoperative day due to neoplasm dissemination.

Discussion

Preoperative assessment of esophageal cancer based on imaging techniques (chest computed tomography, abdominal ultrasound, radiological contrast study, magnetic resonance) and endoscopic examinations (gastroscopy, endoscopic ultrasonography) fails in some cases, especially in abdominal or pleural neoplastic dissemination and in evaluation of the extrastenotic, distal part of the esophagus [1, 3]. The third, distal part of the esophagus is beyond EBUS range and bronchoscopy cannot show extrabronchial lung tumors, as in the presented case [5]. The evaluation can be improved by invasive techniques such as mediastinoscopy, laparoscopy and videothoracoscopy or noninvasive ones such as FDG-PET/CT, which is effective in T2-T4 esophageal tumors and lung tumors with a diameter over 5–8 mm, though this fact is often considered doubtful [1, 3]. FDG-PET/CT is also helpful in the diagnosis in the described case of synchronic esophageal and lung cancer [6-9]. In our case we did not perform FDG-PET/CT and the synchronic lung cancer tumor was revealed during inspection of the operative field during thoracotomy. This inspection is the crucial step of each oncological operation. The probably positive result of FDG-PET/CT in this case would prevent

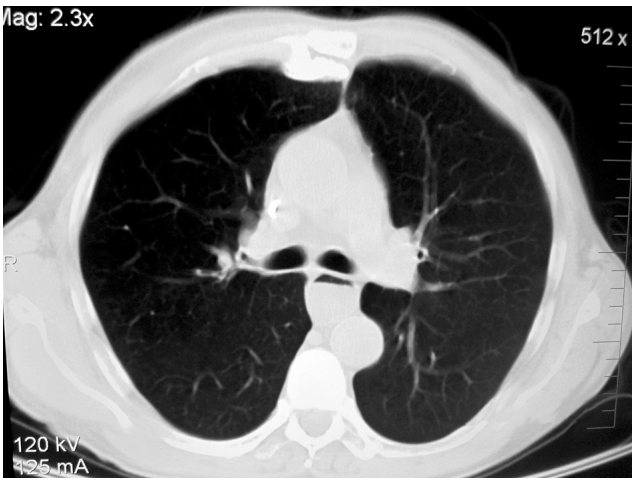

Fig. 2. CT scan revealed no signs of lung cancer in the right hilum and prestenotic enlargement of the esophageal lumen

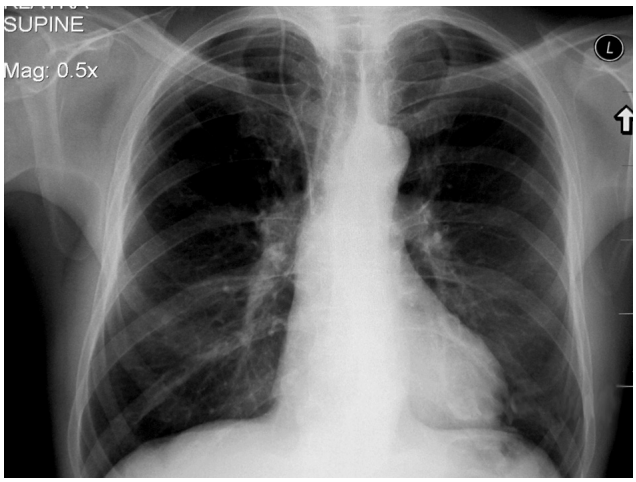

Fig. 1. Preoperative chest X-ray shows position of the intravenous catheter and no signs of tumor of the right lung

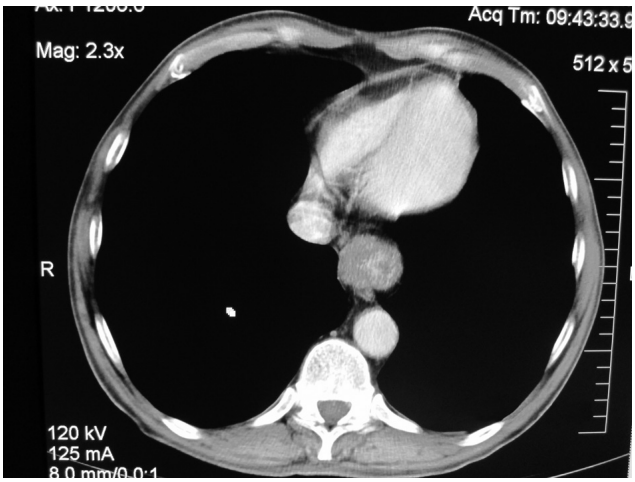

Fig. 3. CT scan above the hiatal level shows massive infiltration of the esophageal wall

an extended esophagectomy and lead to systemic oncological treatment after securing temporary feeding access with similar follow-up. FDG-PET/CT is a routine examination of esophageal cancer patients in the USA and Europe. This improves the diagnostics of N(+) and M1 disease [3]. Unfortunately FDG-PET/CT accessibility is not sufficient in Poland, and the West-Pomeranian District does not have such a laboratory. Financing of ambulatory FDG-PET/CT by the National Health Fund according to the decision of the Health Ministry towards proper direction [10]. It would help to diagnose patients with potentially operable esophageal cancer more precisely and to spend money for esophageal cancer treatment in a rational way.

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