PRIMARY ADENOCARCINOMA IN AN OESOPHAGEAL GASTRIC GRAFT – CASE REPORT

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Primary adenocarcinoma in the esophageal gastric graft is a rare complication diagnosed in patients with long-term survival (1). The relationship of esophageal carcinoma with other primary tumors, especially gastric cancer, has been thoroughly elucidated in the Japanese population (2-5).

According to literature data, 0.9% to 2% of patients after esophagectomy develop cancer in the gastric substitute (1, 2, 6), which is also the organ most commonly used in case of gastrointestinal reconstruction, considering patients after esophageal resection (1, 5, 7). The time elapsed between esophageal resection and gastric carcinoma diagnosis ranged between 16 months and 21 years (6), mean values ranging between 50 and 72 months (1, 2, 8).

The most common symptom in case of patients with developing cancer in the esophageal gastric graft is dysphagia (when the substitute was displaced to the posterior mediastinum or retrosternally), or a palpable tumor in case of subcutaneous substitute displacement (2, 6). Other clinical symptoms observed include weight loss (2), anemia (2), and chest pain (6, 9). Tumors which lead to the development of clinical symptoms are associated with poor prognosis and a short survival period, in contrast to tumors diagnosed during control endoscopic examinations (2, 8).

CASE REPORT

A 66-year old patient was admitted to the Department of Gastrointestinal Surgery, Silesian Medical University in August, 2013, with confirmed histopathological diagnosis of adenocarcinoma in the esophageal gastric graft. In November, 2010 the patient underwent transhiatal esophageal resection, due to squamous cell carcinoma. The narrowed stomach was used as an esophageal substitute, being transferred by means of the posterior mediastinum to the chest. End-to-end esophago gastric anastomosis was performed. The
postoperative period proved uneventful. The histopathological result confirmed the diagnosis of G2 squamous cell carcinoma (Carcinoma planoe epitheliale G2, infiltrating the muscular membrane, pT2N0M0).

Prior to surgery the patient underwent endoscopy of the upper gastrointestinal tract, in June and October, 2010, which confirmed the diagnosis of esophageal carcinoma in its middle part. No other pathological lesions were observed in the distal esophagus, subcardia, fundus and body of the stomach. During endoscopic examinations inflammatory lesions and flat erosions were observed in the pre-pyloric area of the stomach from which, histopathological samples were collected. The histopathological result was as follows: Gastritis chronica erosiva.

In February, 2011 the patient was subjected to control computer tomography of the chest. The esophagogastric anastomosis was visualized without pathological lesions and regression of enlarged mediastinal lymph nodes was observed. In September, 2011 the patient once again was subjected to control computer tomography of the chest. No pathological lesions were observed in case of the displaced stomach and esophagogastric anastomosis. In March, 2012 the patient underwent a control chest and abdominal CT at the Oncology Center, due to periodically occurring difficulties in swallowing solid foods. The described stomach and esophagogastric anastomosis showed no signs of pathology. The abdominal cavity was free-off pathological lesions. Control gastroscopy was recommended. In April, 2012 gastroscopy was performed with samples collection from the esophagogastric anastomosis. In the pre-pyloric area of the stomach displaced to the mediastinum a softened mucous membrane was observed requiring histopathological sample collection. The histopathological result was free-off neoplastic infiltration. In November, 2012 chest and abdominal cavity CT was once again performed revealing the presence of a thickened reconstructed esophagus-lesion progression as compared to the previous examination. In November, 2012 control gastroscopy was performed, which showed the presence of a patent esophagogastric anastomosis with cicatrizaton requiring samples collection. In the proximal part of the body of the stomach we observed thickening of the posterior wall with massive softening of the mucous membrane; histopathological samples were collected. Significant progression was observed. Neoplastic infiltration was not confirmed in the esophageal gastric graft. Samples collected from the esophagogastric anastomosis showed fragments of multi-layer squamous epithelium, while in case of the changed mucous membrane of the body of the stomach-chronic gastritis.

Due to increased swallowing disturbances the patient once again had chest and abdominal cavity CT performed in May, 2013, showing progression of gastric changes displaced to the mediastinum, thickening of the gastric wall (30 mm over a length of 66 mm), and enlarged perigastric lymph nodes, which were previously normal in size. No pathological lesions were observed in the abdominal cavity. In May, 2013, gastroscopy was once again performed, showing a patent esophagogastric anastomosis. The posterior part of the anastomosis was exophytic (20 mm diameter), fragile, and bleeding upon contact-histopathological samples were collected. No other stomach pathologies were described. The histopathological result was as follows: foci adenocarcinomatosi (G-3). The patient was directed for further treatment to The Department of Gastrointestinal Surgery, Silesian Medical University.

Due to differences in endoscopic examination results described at the Center of Oncology, gastroscopy was performed once again. The endoscopic procedure was performed on June 14, 2013, showing a patent esophagogastric anastomosis. Below the anastomosis we observed an exophytic lesion on the posterior wall, 4-5 cm long, with a crater-like ulceration and necrotic foci. The remaining part of the stomach showed no pathological lesions (fig. 1a and b). The patient was qualified for surgery. Due to the waiting time, prior to surgery the patient had chest CT performed in August, 2013 showing progression of lymphadenopathy, while gastric lesions remained unchanged (fig. 2). The lesion was considered as resectable, infiltration of surrounding structures was not observed. On August 14, 2013 the patient underwent surgery: graft resection by means of right-sided thoracotomy. During the intraoperative examination we observed neoplastic infiltration spreading to the pulmonary tissue, with esophageal gastric graft removal impossible to perform. The lesion was considered as unresectable. Seven days after surgery the
Primary adenocarcinoma in an oesophageal gastric graft – case report

Fig. 1a, b. Endoscopy of the upper gastrointestinal tract: exophytic adenocarcinoma in the esophageal gastric graft

Fig. 2. Computer tomography: enlarged lymph nodes surrounding the esophageal gastric graft and thickened stomach walls

Patient was discharged from the hospital with recommendation of an oncological consultation and symptomatic treatment.

DISCUSSION

Long-term survival after esophageal resection, due to cancer is rarely achieved. The five-year survival amounted to 17%, according to data obtained during the period between 1996-2004 (SEER-Surveillance, Epidemiology and End Results) (1). Despite poor prognosis, one may constantly observe an insignificant increase in survival, considering patients with esophageal cancer. The above-mentioned is associated with better diagnostics and improved surgical techniques, as well as systemic treatment (2, 3). With the increase in the five-year survival rate after esophageal resection, diagnosis of esophageal gastric graft tumors will constantly increase (9). In contrast to the Japanese population, where esophageal cancer is diagnosed in the early stages and five-year survival after esophageal resection amounts to nearly 50% (3), prognosis and distant survival in European patients remains poor. Due to the above-mentioned, gastric metachronous cancer diagnosis in case of esophageal gastric grafts in European countries is rarely observed (9).

The therapeutic method in case of esophageal gastric graft cancer depends on its stage and patients’ general condition at the time of diagnosis (1, 9). In case of early diagnosed gastric cancer, endoscopic mucosal resection (EMR) (1, 2, 6) or endoscopic submucosal dissection (ESD) are performed with a high five-year survival rate, amounting to (84.7%) (1).

In case of esophageal gastric graft cancer, which cannot be removed by means of endoscopic procedures or in case of locally advanced cancer, the recommended procedure consists in gastric resection with its replacement by means of a colon graft, displaced retrosternally or subcutaneously (1). The resectability of the gastric substitute used for the reconstruction of the gastrointestinal tract after esophageal resection depends on the stage of the disease and method of its translocation (3, 6). The possibility of resection after posterior mediastinum translocation amounts to 50%, retrosternally – 77%, and subcutaneously – 93% (6). It is also possible to perform partial resection of the displaced stomach. According to Okamoto et al. qualification for partial resection depends on the following: depth of neoplastic infiltration, absence of lymph nodes

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metastases, and presence of a tumor graft located in the abdominal cavity or anterior part of the chest (10). According to Yoon et al. the condition to perform such a procedure is to maintain a gap between the tumor and right gastroepiploic artery, and lack of infiltration through the serous membrane tumor (1). The surgical treatment of gastric cancer used as a graft in case of gastrointestinal reconstruction after esophageal resection is associated with a high percentage of complications amounting to 80% (1). Sugiura et al. and Akiyama et al. emphasized that the surgical resection of the graft is burdened with a high mortality amounting to nearly 50% (2, 11). If the stage of the disease in case of the gastric graft does not render possible surgical resection or the patients’ general condition is poor, palliative chemotherapy, radiotherapy, or both are performed, in addition to conservative treatment (1).

In case of cancer with overt clinical symptoms, prognosis is poor and long-term survival impossible. In case of cancer diagnosed during endoscopic procedures good treatment results are obtained (1, 2, 6, 9).

Thus far, there is no diagnostic standard considering patients after esophageal resection, due to cancer. Most authors agree to the need to perform endoscopic procedures every year in case of patients after esophageal resections, in order to diagnose early, metachronous graft cancer (1, 2, 9). Matsubara et al. recommended a control system consisting of the physical examination, laboratory results, and chest CT performed every six months, as well as control endoscopy once a year (3). At the same time there is lack of understanding concerning the duration of control visits, as the longest observation period from esophageal resection to gastric graft cancer diagnosis amounted to 21 years (6). It is also important to perform endoscopic procedures, in order to determine the gastric graft for possible small pathological lesions during the early stages of the disease. Graft deformations and postoperative radiotherapy after primary esophageal cancer therapy might hinder diagnosis of early neoplastic lesions (2).

The presented study case confirmed the need to perform systematic endoscopic diagnostics in case of patients after esophageal resection, including esophagogastric anastomosis and graft evaluation at least once a year. The described patient had his first endoscopic procedure performed two years after the esophageal resection, due to dysphagia. On detection of pathological graft lesions it is important to collect histopathological samples, in order not to delay metachronous cancer diagnosis. Graft cancer diagnosis when the patients’ condition excludes radical surgery or in case of generalized dissemination renders recovery impossible.

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Received: 30.04.2014 r.
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