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Isolated axillary lymph node metastasis in oesophageal adenocarcinoma

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Abstract

Oesophageal adenocarcinoma metastatic to the axilla is a rare occurrence. The authors present a case of a woman who developed an axillary metastasis from a completely excised oesophageal adenocarcinoma with no prior evidence of nodal disease. With aggressive local treatment, including multiple local operations and radiotherapy, she remains alive and disease-free 12 years after her diagnosis following surgical resection of her axillary metastasis with adjuvant radiotherapy. This case report suggests that there are occasions when aggressive local treatment of apparently isolated metastases can result in a cure.

Keywords: Oesophageal • Cancer • Axilla • Lymph • Metastasis

INTRODUCTION

The incidence of oesophageal adenocarcinoma is on the rise in the Western world. Prognosis of patients diagnosed with oesophageal carcinoma is poor and studies have reported 5-year survival rates ranging between 20 and 36% [1]. Early diagnosis through endoscopic surveillance programmes of patients at high risk and surgical resection with lymphadenectomy remains the mainstay of patient management. The presence of nodal disease is recognized as an important prognostic factor; patients with lymph node metastases have poorer (18–47%) 5-year survival rates following surgical resection compared with those without nodal involvement (50–70%) [2].

CASE PRESENTATION

A 51-year old woman initially presented to the Gastroenterology Clinic with a 4-month history of progressive dysphagia, leading to an absolute dysphagia of liquids and solids and an associated loss of 30 kg in weight. She underwent a gastroscopy, which revealed a tumour 2 cm above the gastro-oesophageal junction and involving the gastric cardia. It was biopsied, and histology confirmed an adenocarcinoma. Staging showed no evidence of metastatic disease and she was referred to the thoracic surgery team for surgical resection.

In just under 3 weeks from diagnosis, she underwent a left thoracotomy and oesophagectomy. Histology showed a T4 N0 moderately differentiated adenocarcinoma that was 29 mm wide, circumferential and ulcerated. The tumour penetrated the gastric serosa and invaded the pleura of an attached wedge of the lung.

There was perineural, but no vascular invasion. All 16 lymph nodes (perioesophageal, mediastinal with left gastric lymph nodes and those along the lesser curve of the stomach), including a further pulmonary node in the specimen, were negative. Her postoperative recovery was uneventful, except for a routine oesophagoscopy and dilatation for a benign stricture 12 months following surgery.

Four months after her first-year follow-up, she was re-referred earlier to the Thoracic Surgery clinic by her general practitioner after a nurse had palpated a right axillary mass at a screening mammography. Fine-needle aspiration was performed revealing metastatic adenocarcinoma cells, mucoid material, adipose tissue and scanty lymphoid cells. After a repeat staging computed tomography (CT) that demonstrated no sign of tumour recurrence or other metastases, she underwent another oesophageal dilatation and excision of the right axillary mass. The specimen contained a fatty nodule measuring 27 mm at widest, with a pale, firm cut surface. Histological section showed skeletal muscle infiltrated by a mucin-secreting, moderately differentiated adenocarcinoma that was marginally excised with the tumour present at the resection margin at least at one point.

Two months after her axillary surgery, the patient noted an increasing nodularity under the scar in her right axilla. The clinical significance of this was uncertain, and the multidisciplinary team decided to refer her to the oncology team for postoperative radiotherapy due to incomplete excision of the tumour. She received a course of 30 Gy in 10 fractions over 2 weeks that was completed nearly 4 months after axillary surgery and 21 months following oesophagectomy. At completion of radiotherapy, she had an easily palpable mass in the posterior fold of the right axilla. At this stage, the patient opted to defer treatment until symptomatic progression.

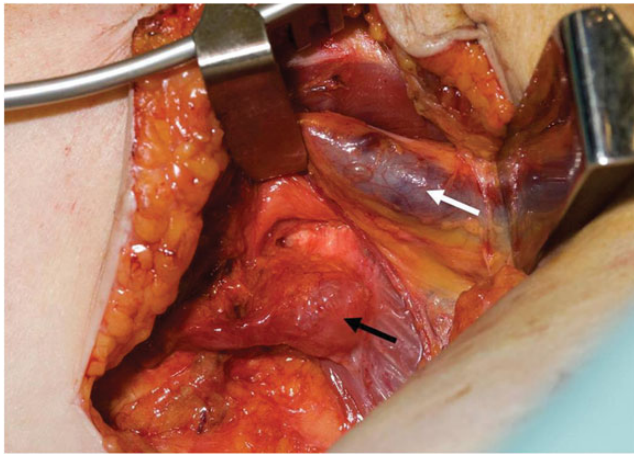


Figure 1: Four years after primary resection of oesophageal adenocarcinoma and three resections of recurrences in the right axilla, a round, well-defined lump (black arrow) was found deep to the right brachial plexus and axillary vessels (white arrow), adhered to the teres major origin. Subsequent histopathology confirmed metastatic adenocarcinoma.

Two months later, the lump started increasing in size and within 5 months, it developed into an approximately 3-cm mobile mass involving the posterior axillary wall and associated with the latissimus dorsi muscle. She was referred to the plastic surgery team, who performed an excision. The specimen contained a single nodule containing metastatic adenocarcinoma. The patient was followed up by the oncology team.

Eight months after her excision of the axillary nodule, she was found to have a further recurrence in her right axilla. Two masses were palpated in the posterior axillary fold. The more superior of the two caused a tingling sensation down the arm to the hand when pressed, suggesting proximity to the brachial plexus. Repeat endoscopy with biopsy of the duodenum and oesophageal anastomosis and CT staging demonstrated no recurrence elsewhere. She underwent excision of the two nodules with a cuff of latissimus dorsi muscle fibres that appeared invaded, sacrificing intercostal brachial nerves. The patient made an uneventful recovery.

Just under a year following her third axillary surgery, she developed another palpable mass in her right axilla with return of shooting pains down her arm. This was now 2 years and 8 months following primary excision of the initial right axillary mass, and 4 years and 2 months since oesophageal resection. On this occasion, the single axillary lymph node was excised from deep to the brachial plexus (Fig. 1) with a cuff of muscle from teres major. Histological examination of the specimen showed muscular and fatty tissue infiltrated by a moderately differentiated adenocarcinoma extending within 1 mm of the excision margin with a single lymph node containing adenocarcinoma. The patient had no postoperative neurological deficit and reported that her neurological symptoms resolved 24 h after surgery. She returned to regular follow-up with her oncology team. Since then, she exhibited no sign of recurrence of oesophageal carcinoma. Apart from a recent sigmoid colectomy for repair of a colovesicle fistula secondary to diverticulitis, she remained well. Twelve years after her oesophagectomy and 10 years after radiotherapy treatment, she was discharged from follow-up.

DISCUSSION

The thoracic duct terminates in the confluence of the left internal jugular and subclavian veins. The lymphatic drainage of the right arm and axilla is to the right lymph trunk that drains into the right

brachiocephalic vein. This means that even if lymphatic spread could occur from oesophagus to the axilla, it would be to the left and not the right axilla. Therefore, although regional lymph node metastasis can occur via lymphatics within the oesophagus or along the thoracic duct [3, 4], the anatomical site of metastasis to the right axilla makes lymphatic spread unlikely and blood-borne spread more probable.

Axillary lymph node spread of oesophageal cancers is rare, with a reported rate of 1% in a Japanese study involving 361 patients diagnosed with squamous cell carcinomas of the oesophagus. This group of patients were diagnosed with Stage IVB carcinoma located in the upper two-thirds of the oesophagus. All patients developed left axillary lymph node metastases, which were treated with combined lymphadenectomy and chemotherapy. The longest overall survival period was reported as 89 months following primary treatment for oesophageal cancer [5]. Additionally, some studies suggest that in more than 95% of cases, metastatic oesophageal adenocarcinoma would first develop in the regional lymph nodes around the lower mediastinum around the anatomical site of the primary tumour, lesser gastric curvature and left gastric artery [4].

While resection of blood-borne metastases (e.g. to lung, liver) if isolated can be considered in other tumours (e.g. colorectal cancer or sarcoma), the generally poor prognosis of oesophageal cancer means that such metastases are rarely considered for resection.

Nevertheless, in our case report, the patient had no evidence of nodal involvement at CT staging and following two-field lymphadenectomy. She underwent repeated endoscopic biopsies at the oesophageal anastomosis that demonstrated no evidence of local recurrence, as well as repeat staging CTs, which showed no indication of metastatic spread or occult malignancies elsewhere. While it is possible that the axillary metastasis to the right side was in the subcutaneous tissue, the presence of lymphoid cells observed during fine-needle aspiration performed makes it more likely that the original axillary metastasis involved a lymph node. Isolated metastasis of oesophageal adenocarcinoma to her axilla without involvement of previous regional nodes was unexpected.

Oesophageal adenocarcinoma with metastatic spread to the axilla is a rare occurrence and is not usually considered for aggressive treatment. Our report of a combination of surgical resection and radiotherapy for isolated axillary recurrence has resulted in long-term disease-free survival, and should be considered as an option for patients in a similar situation.

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