Metachronous Adenocarcinoma of the Remnant Oesophagus 15 years following Multimodal Therapy

Abstract

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A 53-year-old man underwent neo-adjuvant chemo-radiotherapy and a 2 stage oesophagectomy for a junctional oesophageal tumour in 1996. In March 2012, a metachronous oesophageal tumour was identified, 7cm above the anastomotic margin, on a background of non-inflamed squamous mucosa. He is currently being managed with chemo-radiotherapy. Oesophageal cancer is associated with a historically poor survival rate, with primary concerns being local recurrence or death from disseminated disease. This case highlights the challenges which must be faced, as treatment strategies improve and consequently survival rates increase.

Introduction

Recent advances in the surgical and multimodal management of oesophageal cancer may improve cure rates and survival. Metachronous tumors may be a risk in long-term survivors, and for oesophageal cancer this may reflect a field change, chronic duodenogastric reflux consequent on the resection and resultant stoma, or the effect of treatment, in particular radiation therapy. We report a case of adenocarcinoma of the remnant oesophagus post multimodal therapy, and discuss the possible aetiological factors and management considerations.

Case Report

The patient first presented in 1996 to St. James’s Hospital. He had dysphagia and weight loss, on a background of long standing gastro-oesophageal reflux disease (GORD), and an adenocarcinoma was diagnosed in the lower third of the oesophagus. Endoscopic ultrasound and Computed Tomography (CT) staged him as T3N0M0, and he was treated with neoadjuvant therapy (5-Flouro Uracil, Cisplatin, and 40 Gy/15 fractions radiation therapy) prior to a 2-field oesophageal resection. The pathologic stage was ypT3 ypN0 with microscopic involvement of the proximal margin.

The patient underwent annual endoscopy for follow up. He remained clinically well for fifteen years after his initial surgery when he represented with dysphagia. An endoscopy revealed a stricture at 20cm (Figure 1). This was non traversable with a 9mm endoscope and balloon dilatation was performed with a 15mm balloon. On advancing the endoscope beyond the stricture post dilatation, the oesophago-gastric anastomosis was visualised a further 7 cm distally and was normal in appearance, with a well demarcated neo-squamo-columnar junction and no Barrett’s oesophagus. Biopsies of the stricture were obtained, and revealed an adenocarcinoma. Previous biopsies 1 year beforehand had shown inflammation only. A Positron Emission Tomography (Figure 2) showed tracer uptake in the oesophageal remnant but no nodal or metastatic spread. The diagnosis was a metachronous adenocarcinoma of the oesophageal remnant. The case was discussed at our multidisciplinary meeting, and options included surgery with jejunal, colonic interposition, or a pharyngo-laryngo-oesophagectomy, or alternatively chemo-radiotherapy using the Herskovic regimen. The latter was decided on, and he received 50 Gy radiotherapy in combination with Cisplatin and 5-Flourobrucil. At one year following treatment he is clinically, endoscopically and radiologically tumour-free.

Discussion

This case is unusual in several aspects. First, a 15 year disease-free survival for residual disease (R1 resection) is extremely rare. For stage 3, in total, the 5 year survival is approximately 15 per cent. Second, on re-presentation, the natural assumption was that he had recurrence of his original tumour, and advanced disease was predicted. However, endoscopically this tumour was 7cm proximal to the anastomotic margin. Third, chronic duodenogastric reflux occurs post-oesophagectomy predisposing to development of specialised intestinal metaplasia (SIM) and metachronous cancer (the risk being 2-5% per year). In this patient tumour arose on a background of ggr-inflamed, squamous mucosa, with no evidence of Barrett’s SIM. The tumour may have simply arisen de novo, with no identifiable aetiological factors. The history of radiation therapy would seem the most likely aetiological factor here, given the absence of known genetic factors. There are many reports of radiation-induced carcinomas, although squamous cell cancers predominate, association with adenocarcinoma risk is well described. One study describing the incidence of adenocarcinomas arising in patients who received abdominal irradiation for childhood malignancies showed the risk was significantly increased, with a standardized incidence of 10.9 as compared to the US general population.

In conclusion, although many factors may underlie the risk of his second adenocarcinoma, late radiation carcinogenesis is the most likely significant factor. This supports the question of follow-up, and makes us reflect upon the most appropriate surveillance programmes for these patients post oesophagectomy, or oesophageal carcinoma in a modern era where results have improved and the management is increasingly multimodal.

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References


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