CASE REPORT

Synchronous Adenocarcinoma of Caecum, Transverse Colon and Jejunum

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SUMMARY

Synchronous cancers are defined as malignant tumours that occur simultaneously, each of which must be distinct with no possibility of one being the metastasis of the other. A 65 year old gentleman presented to us with two month history of epigastric pain associated with anaemia, loss of appetite and weight. He has no history of malignancy in his family. Colonoscopy revealed tumours at transverse colon and caecum. Intra-operatively, tumours were sited at caecum, transverse colon and jejunum. Tumours were diagnosed as synchronous adenocarcinoma histopathologically with loss of expression of *MLH1* and *MSH2*. From literature search, this is the first reported triple synchronous tumours of the caecum, transverse colon and jejunum. We believe that this gentleman developed triple synchronous tumour through the sporadic MSI pathway.

KEY WORDS:
Synchronous tumour, Caecum, Transverse colon, Jejunum, Microsatelite instability

INTRODUCTION

Synchronous cancers are defined as malignant tumours that occur simultaneously, each of which must be distinct with no possibility of one being the metastasis of the other. The tumours are all to be recognised within a period of six months. In sporadic colorectal cancer, the frequency of synchronous cancers is approximately around 3.5% and up to 10-20% in patients who have cancer associated with familial adenomatous polyposis (FAP), hereditary non-polyposis colorectal cancer (HNPCC) and chronic ulcerative colitis[1]. We present here a case with triple synchronous tumours at the caecum, transverse colon and jejunum.

CASE REPORT

A 65 year old gentleman was referred to us from a district hospital. He presented with two month history of epigastric pain associated with loss of appetite and weight. He also claimed there were episodes of passage of melaenic stool but he denied altered bowel habits, passage of blood and mucus per rectally. He is a chronic smoker for 20 years. He has four siblings and there is no history of malignancy in his family.

Clinical examination was not remarkable except for mild palor. Full blood count and peripheral blood film confirmed microcytic hypochromic anaemia. Oesophageal gastroduodenal scopy was performed with no significant finding. This was followed by colonoscopy which revealed tumours at transverse colon and caecum (Figure 1). Histopathological examination of biopsy specimens recognised the tumours as adenocarcinomas. Staging ultrasonography revealed liver was spared from the disease. Laparotomy was performed a week later. The caecal and transverse colon lesions were identified. In addition, there was an ulcerative constrictive lesion at jejunum around 20cm from duodeno-jejunal junction. Mesenteric lymph nodes were enlarged. Total colectomy with ileorectal anastomosis and segmental jejunal resection with primary anastomosis were performed. The patient had uneventful post-operative recovery.

Histopathology of the resected specimen diagnosed poorly differentiated adenocarcinoma for lesions at caecum and transverse colon. Tumour cells were mucin-rich. The jejunal lesion was diagnosed as moderately differentiated adenocarcinoma (Figure 2). They were recognised as distinct lesions and not metastasis of the other. All three tumours had infiltrated through the entire thickness of bowel wall with lymphovascular invasion. Lymph nodes were positive for tumour cells (Dukes C). Immunohistochemical staining revealed loss of expression of mismatch-repair (MMR) *proteins-MutL homologue* [1] (MLH1) and *MutS homologue* [2] (MSH2) which suggested micosatellite instability (MSI). Carcinoembryogenic antigen was 1.3 ng/ml preoperatively. Patient received a full course of 5 fluorouracil and folinic acid-based chemotherapy. He has been followed up at our clinic for two years with no evidence of recurrence and metachronous tumour.

DISCUSSION

Triple synchronous tumour involving the gastro-intestinal tract is uncommon. From literature search and to the best of our knowledge, this is the first case of triple synchronous tumours involving caecum, transverse colon and jejunum to be reported. Around 85% of colorectal cancer developed sporadically. There are two pathways identified in the pathogenesis of sporadic colorectal cancer, namely the chromosomal instability (CIN) and microsatelite instability (MSI) pathways[2]. MSI is also involved in hereditary colorectal cancer where it is the hallmark of HNPCC. MSI in hereditary and sporadic colorectal cancer are two distinct identities. MSI in HNPCC is due to a germline mutation of mismatch repair protein, either one of *MLH1, MSH2* and *MSH6*. Meanwhile,

This article was accepted: 24 February 2008
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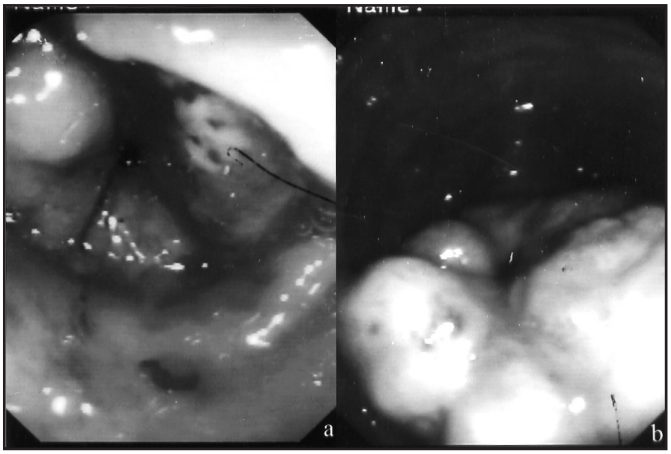

Fig. 1: Endoscopic appearance of tumour at transverse colon (a) and caecum (b).

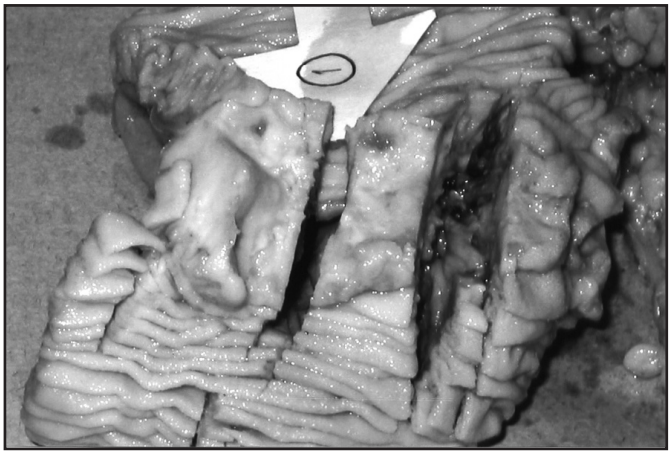

Fig. 2: Resected specimen of jejunal tumour.

MSI in sporadic cancer is usually due to epigenetic silencing of MLH1[3]. Tumours exhibiting MSI are more likely to be proximal to the splenic flexure, diploid, poorly differentiated, mucinous with peritumoral lymphocytic infiltration and larger but less lymph node involvement[3]. Despite the tendency to be poorly differentiated, tumours exhibiting MSI have longer overall and cancer-specific survival than cancers exhibiting CIN at the same stage[4,5]. Cancers exhibiting MSI also have a higher incidence of synchronous and metachronous tumours[3].

This patient does not satisfy the Amsterdam II Criteria of HNPCC and the tumours characteristics are similar to that of MSI related colorectal cancer. We believe that this gentleman developed triple synchronous tumour through the sporadic MSI pathway.

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