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CLINICAL

Synchronous gastric polyp and colonic cancer

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ABSTRACT Systematic studies of synchronous gastric and colonic cancer are rarely described in the literature, and most reports are single case studies. Synchronous cancer may be detected either following the initial presentation with new symptoms or as part of routine surveillance. Treatment options depend on the final diagnosis and staging of the individual lesions. We describe an unusual case of a 78-year-old patient who was diagnosed with a mixed hyperplastic-adenomatous gastric polyp (a premalignant condition) and was subsequently found to have a colonic adenocarcinoma. The simultaneous presentation of an adenomatous polyp in the upper digestive tract and a frank cancer in the lower digestive tract is uncommon. A review of the literature questions the merits of routine surveillance in patients under the age of 50.

KEYWORDS Cancer surveillance, colon adenocarcinoma, colon cancer, gastric cancer, hyperplastic-adenomatous gastric polyp, synchronous cancer

DECLARATION OF INTERESTS No conflict of interests declared.

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Gastrointestinal tumours of the upper or lower digestive tract are relatively common and are among the top five cancers in both men and women in the UK. The incidence of gastric cancer is reported to be 22 per 100,000 in males and 10.3 per 100,000 in females, while the colonic cancer incidence is reported to be 20 per 100,000 for males and 14.6 per 100,000 for females.[1] The incidence, however, of synchronous gastric and colonic cancer is relatively rare, with a paucity of case reports as well as research; only a few cases of gastric adenomatous polyps and synchronous colonic adenocarcinoma have been reported.

CASE REPORT

A 78-year-old male patient was referred to our clinic with persistent dyspeptic symptoms resistant to standard-dose proton pump inhibitor therapy, as well as loss of appetite and weight loss. At the time of referral, the patient did not report any change in bowel habit or rectal bleeding. The only medical history was of hypertension and heart failure. There was no family history of gastrointestinal cancer or polyps. At upper gastrointestinal endoscopy, a pedunculated fleshy polyp was seen in the fundus of the stomach, along the greater curvature (Figure 1). Biopsies from this polyp were consistent with a tubular adenoma with a few pleomorphic and atypical nuclei. A computed tomography (CT) scan of the abdomen showed the polyp. There was no thickening of the gastric wall and no extra-gastric spread. The polyp was therefore endoscopically resected with an endoloop-assisted snare polypectomy. The histology of the polyp was reported by an experienced gastrointestinal pathologist to be a hyperplastic polyp with focal adenomatous change and high-grade dysplasia, but with no evidence of invasive malignancy.

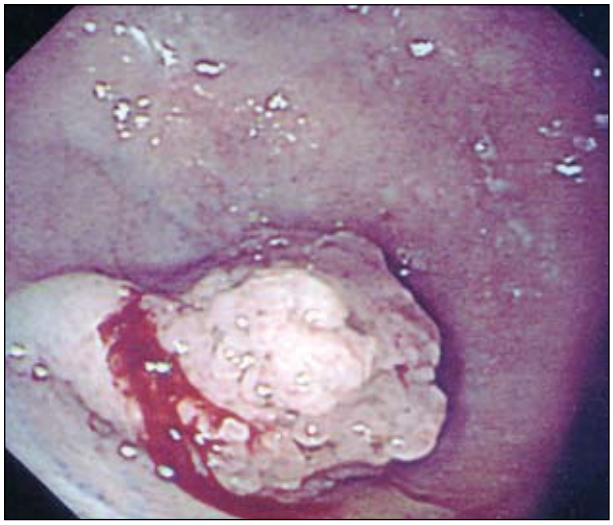

FIGURE 1 Endoscopic picture showing a pedunculated fleshy polyp in the fundus of the stomach at the greater curvature. Histologically, this proved to be a hyperplastic polyp with focal adenomatous change and high-grade dysplasia. There was no evidence of invasive malignancy.

The patient presented two months later to the clinic with lower abdominal pain and associated intermittent constipation and diarrhoea, together with further weight loss. At colonoscopy, a flat lesion was demonstrated at the recto-sigmoid junction (Figure 2). Histology from this lesion showed a well-differentiated adenocarcinoma, and a staging CT scan was reported to show localised wall thickening with a few small lymph nodes but no distant spread. The patient underwent an anterior resection of the recto-sigmoid junction and an open resection of the base of the gastric polyp. The final histology of the colonic cancer was a Duke's stage C (T3, N2, Mx) cancer, with four out of eight positive

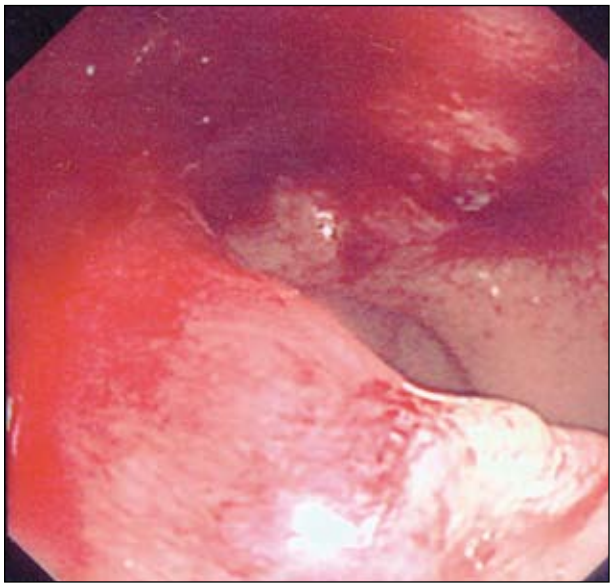

FIGURE 2 Endoscopic picture from the same patient some time later showing a flat lesion at the recto-sigmoid junction. On resection the lesion proved to be a Duke's stage C (T3, N2, Mx) cancer associated with four out of eight positive lymph nodes.

lymph nodes. Adjuvant chemotherapy was planned, but the patient declined further treatment. He is currently on follow-up.

DISCUSSION

This case is an illustration of the rare occurrence of a synchronous gastric adenomatous polyp and colonic adenocarcinoma. The association of upper gastro-intestinal adenomatous polyps and colorectal polyps and cancer is well described in cases of hereditary cancer syndromes such as familial adenomatous polyposis (FAP) syndrome, hereditary diffuse-type gastric cancer syndrome, hereditary non-polyposis colorectal cancer, Li-Fraumeni syndrome and Peutz-Jeghers syndrome (PJS). However, sporadic synchronous occurrence of these two cancers is relatively uncommon and the occurrence of gastric polyps with flat cancers of the colon is rare. One study of 2,109 patients with gastric cancer reported that 18.2% of males and 31.9% of females had synchronous colonic cancer.[2] In a report of a case-control study of gastric cancer patients, 9.5% of gastric cancer patients were found to have colorectal adenocarcinoma, compared with 0.7% of the control group.[3] Similarly, it has been reported that 18.8% of patients with colonic cancer had gastric polyps, compared with 1% of the control patients.[4] In a cohort analysis of 2,668 patients with gastric cancer, there were 3.4% cases of synchronous cancer. Of those patients with two cancers, 19% were colonic and of those with three cancers, 46% were colonic.[5]

There is little existing evidence to explain any association between gastric and colonic cancers, although there is a possibility of missed hereditary cancer syndromes. Interestingly, it has been noted that dyspepsia is a common presenting symptom for patients with gastric fundic gland polyps, as demonstrated in this case report. Out of 85 patients with gastric fundic polyps found at endoscopy, 84% presented with dyspepsia. However, out of 26 patients tested for *Heliobacter pylori*, only one was positive.[6] In another study of 70 patients with gastric fundic polyps, 34% of patients had co-existent oesophageal conditions such as hiatus hernia and gastro-oesophageal reflux, compared with 15% of controls. All patients were *H. pylori* negative.[7] It has been suggested that the presence of replication errors following a mutation of the transforming growth factor-beta receptor type II gene in both colonic and gastric cancers may suggest a link, and this requires further investigation.[8]

At present, there are no guidelines recommending colorectal screening or surveillance for patients with a diagnosis of either gastric adenomatous polyps or gastric adenocarcinomas. Research looking at the rate of synchronous colorectal cancer in patients with gastric cancer found that out of 466 patients with gastric cancer, 18 had a synchronous colorectal cancer, all of which were in patients over the age of 50 years.[9] This suggests that a surveillance programme would be better targeted at patients over the age of 50. It has been reported that out of 65 patients with synchronous gastric and colorectal cancer, 28 of the second cancer diagnoses were found accidentally, highlighting that without surveillance, cases of synchronous cancer may be missed.[10] Further research into valid screening methods is necessary, and there is a suggestion that computed tomography (CT) colonoscopy may be suitable. In one study, 31.4% of patients with gastric cancer followed up postoperatively with CT colonoscopy had a colonic polyp, with only one false negative diagnosis from the CT colonoscopy.[11]

Genetic abnormalities, including microsatellite instability and DNA mismatch repair gene mutations, need to be studied to elucidate whether synchronous gastric polyp and colonic cancer is due to a field defect in carcinogenesis or due to sporadic chance occurrence. Further investigation of the links between the cancers is essential before instigating surveillance measures.

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