

# A Case of Dual Primary Gastric and Colonic Malignancy

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## Abstract

Incidence of multiple primary malignant neoplasm increases with age, mainly because of an improvement in diagnostic techniques and prolonged survival of patients treated for malignancy. Multiple tumors may develop synchronously or metachronously. If the time interval between the appearances of the two neoplasms is less than 6 months, they are defined as synchronous, and if the time interval is longer than 6 months, they are classified as metachronous. Gastric cancer associated with synchronous colon cancer is very rare. We report a case of 56 year old male who was presented with dyspepsia with associated alarm feature and during evaluation was found to have synchronous primary gastric and colonic cancer.

**Keywords:** Esophagogastroduodenoscopy, gastric cancer, double primary gastric and colorectal cancer, histopathological examination.

## Introduction

The incidence of multiple primary malignant neoplasm increases with age. They are being encountered - due to improvements in diagnostic techniques and prolonged survival of patients treated for malignancy.<sup>[1]</sup> According to the literature, the overall occurrence rate of the multiple primary malignant tumors (MPMT) is estimated between 0.73 and 11.7%.<sup>[2]</sup> Some gastric cancer patients have multiple primary malignant tumors. Knowledge of time for development and mode of organ association may allow clinicians to detect potentially curable subsequent cancer(s). We report a case of 56 year old male who was presented with dyspepsia with associated alarm features and during evaluation was found to have synchronous primary gastric and colonic adenocarcinoma.

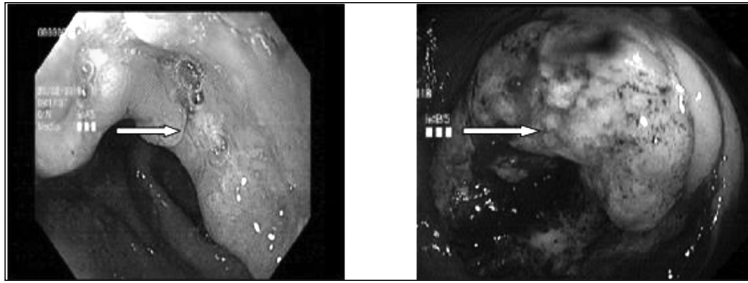
## Case Presentation

A 56 year old male, presented in our outpatient department with complains of epigastric discomfort of 3 months duration, associated with anorexia, weight loss and occasional constipation. In view of dyspepsia with alarm symptoms, he was planned for esophagogastroduodenoscopy (EGD). EGD revealed ulceroproliferative growth in stomach antrum (Figure 1a). Biopsies were taken from gastric antral growth and sent for histopathological examination (HPE). His Contrast Enhanced Computed Tomography (CECT) of abdomen was planned for staging of the malignancy. CECT of the abdomen and pelvis reported 8mm mucosal thickening in stomach antrum likely gastric cancer with circumferential wall thickening of ascending colon with pericolic fat stranding suggestive of carci-

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**Fig 1a: EGD – arrow revealing ulceroproliferative growth in stomach antrum; Fig 1b: Colonoscopy – arrow revealing polypoidal circumferential growth in ascending colon, with luminal compromise.**

noma colon. Colonoscopy revealed polypoidal circumferential growth in ascending colon, with luminal compromise (Figure 1b).

Biopsies were taken from colonic growth and sent for histopathological examination. Biopsies from both stomach antral growth and colonic growth reported as adenocarcinoma. (Figure 2a,b).

Intra operative findings revealed a 4 cm wide circumferential growth in antrum of stomach with 4x4 cm ulcer-proliferative lesion in ascending colon. There were multiple enlarged lymph nodes along the vessels at celiac axis. There were no ascites, liver or peritoneal metastasis. Simultaneous subtotal gastrectomy with D2 lymphadenectomy with extended right hemicolectomy was done. His final HPE from resected specimen reported stomach lesion as a moderately differentiated tubular adenocarcinoma, (Stage T1bN2) and colon as a poorly differentiated adenocarcinoma, (StageT3N2b). Patient was planned for adjuvant therapy and doing well on follow up.

## Discussion

The incidence of multiple primary neoplasms is increasing because of advances in diagnostic methods and due to the increased survival time of cancer patients after treatment. The first systematic study of multiple malignancies phenomenon was published in the 1930s by Warren and Gates.<sup>[3]</sup> These authors pro-

posed the first working definition of multiple primary neoplasms: (1) both tumors should be confirmed histologically as malignant; (2) each cancer must be anatomically separate and distinct; and (3) the second tumor must not be a recurrence or metastasis of the first cancer.

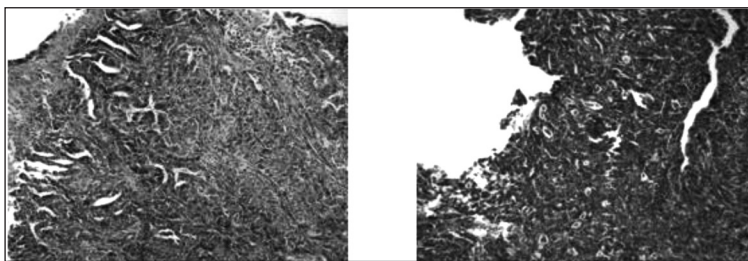
Multiple tumors may develop synchronously or metachronously. If the time interval between the appearances of the two neoplasms did not exceed 6 months, they were defined as synchronous, and if the time interval was longer than 6 months, they were classified as metachronous.<sup>[4]</sup>

The combination of organs reported to be synchronously involved are the esophagus and stomach, the stomach and duodenum, the stomach and colon, the stomach, colon and gallbladder, the gallbladder, common bile duct and pancreas.<sup>[5-7]</sup>

According to some researchers, the incidence of multi-primary cancers in patients with gastric cancer (GC) was 1.1% - 4.7%.<sup>[8]</sup> Most common other primary cancer in patients with gastric cancer was colorectal cancer, followed by lung cancer, hepatocellular carcinoma, renal cell carcinoma and lymphoma.<sup>[8]</sup> A few reports suggest that the development of multiple primary neoplasms in patients with GC is even more frequent. Green *et al*<sup>[9]</sup> reported that this phenomenon affects approximately 8% of advanced GC patients and 32% of early GC patients. Because early GC patients have a longer survival and thus are more likely to develop other neoplasms, it seems that multiple tumors would be expected to occur more frequently in early GC patients. Studies in Japan and Italy estimated that 9%-11% of early GC patients develop other malignancies.<sup>[10,11]</sup>

Etiology has been attributed to genetic and environmental relations. Ikeda *et al*<sup>[12]</sup> found that patients with a second tumor tended more frequently to be males and elderly than those without a second tumor.

Surgical resection represents the standard treatment and simultaneous resection is indicated for all cases.<sup>[13]</sup> Among patients with double primary gastric and colorectal cancer (DPGCC), metachronous DPGCC had a better prognosis than synchronous DPGCC due to the tendency for metachronous DPGCC to occur in patients with early-stage cancer.<sup>[8]</sup> According to Ikeda *et al*, the 10-year survival rate was 40.1% for synchronous double primary cancer.<sup>[12]</sup>



**Fig 2a: Gastric biopsy showing adenocarcinoma stomach; Fig 2b: Colonic growth biopsy showing adenocarcinoma colon.**

## Conclusion

Gastric cancer patients may develop other primary cancers. Synchronous cancer should be considered in the pre-operative workup and combined resection should be considered whenever possible. Periodic examination for metachronous cancer is necessary during the post-operative period.

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