



## A Case Report of Synchronous Gastric and Colon Cancer

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### Abstract

**Introduction:** The incidence of gastric cancer with synchronous second primary cancer ranges from 2.0% to 10.9%. If the last cancer is detected 6 months after the first diagnosis, it is called a metachronous cancer, if the cancer is detected within 6 months of the first diagnosis; it is called synchronous.

**Case Report:** A 75 years old male patient was admitted in the hospital with reported melaena stool. An endoscopy of upper and lower gastrointestinal tract was performed. The upper gastrointestinal tract endoscopy revealed an abnormal mucosa at the stomach wall at the antrum prepyloric and the less curvature, with superficial ulcerations. Colonoscopy revealed a mass that caused concentric luminal narrowing at 25 cm from anus, which made it difficult promote the colonoscope to the rest of the colon. The surgical interventions that took place were a distal subtotal gastrectomy Billroth II, with jejunum-jejunum (Braun) anastomosis. At the colon a sigmoidectomy with end to end anastomosis with circular stapler was performed.

**Conclusion:** As the average life expectancy increases and screening of the population intensifies, the detection of synchronous cancers will increase. It is important to perform early gastroscopy and colonoscopy in patients with symptoms of upper and lower gastrointestinal tract diseases, considering also the age of gastric and colon cancer development.

### Introduction

Multiple primary malignant neoplasms were first described by Billroth in 1889 [1]. Warren in 1932 described 1259 such patients eradicating the medical curiosity of these incidents [2]. Generally, multiple primary cancers are divided into two groups i.e. synchronous and metachronous. If the last cancer is detected 6 months after the first diagnosis, it is called a metachronous cancer, if the cancer is detected within 6 months of the first diagnosis; it is called synchronous [3]. The incidence of gastric cancer with synchronous second primary cancer ranges from 2.0% to 10.9% [4].

### Case Report

A 75 years old male patient was admitted in the hospital with reported melaena stool. His complaint of changes in bowel habits lasted the last three months and sometimes he reported pain in upper abdomen. The physical examination didn't show any pathological signs, except of the digital rectal examination which that revealed melaena stool. The nourishment of the patient was within normal limits. He hadn't anything to report from familiar and past medical history.

The blood test examinations show hemoglobin at 10 mg/dl. An endoscopy of upper and lower gastrointestinal tract was performed. The upper gastrointestinal tract endoscopy revealed an abnormal mucosa at the stomach wall at the antrum prepyloric and the less curvature, with superficial ulcerations. Biopsies from these points were obtained. Regarding the lower gastrointestinal tract, colonoscopy revealed a mass that caused concentric luminal narrowing at 25 cm from anus, which made it difficult promote the colonoscope to the rest of the colon. Biopsies from these points were obtained.

Gastroscopy pathology reported an intestinal type metaplasia and low grade differentiation adenocarcinoma with signet ring cells type. Colonoscopy pathology revealed an adenocarcinoma of the sigmoid colon confirming the secondary primary cancers of the gastrointestinal tract. The patient stayed hospitalized and a Computed Tomography (CT) scanning of chest and abdomen were performed. CT showed the stenosis of the sigmoid colon and a thickening of the stomach wall. No metastases of the liver have been recognized, but chest CT reported a suspicious lesion at the lower lobe of the right lung. After consultation with oncologists it was decided to plan an exploratory laparotomy. A gastrectomy and a colectomy would be performed depending on the location of the

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mass. When the patient would recover from the abdominal surgery, a bronchoscopy would be performed.

The surgical interventions that took place were a distal subtotal gastrectomy Billroth II, with jejunum-jejunum (Braun) anastomosis. At the colon a sigmoidectomy with end to end anastomosis with circular stapler was performed.

At post operative day 7 the nasogastric tube was removed and oral feeding with liquids was started.

Further complications were not detected and the patient discharged the hospital at postoperative day 8. A bronchoscopy was planned for a few weeks later.

Pathology of the colon reported a 35 cm colon part and 31 lymph nodes of the pericolic fat. A moderate differentiated adenocarcinoma that didn't infiltrate serosa layer was detected, while all the removed lymph nodes were normal and the surgical boundaries were not invaded from tumor. The stomach pathology report revealed a signet ring cell carcinoma without infiltration of the submucosa layer.

## Discussion

The incidence of gastric cancer with a second synchronous primary cancer is reported to be at 2% to 10.9% [5-7]. Studies have shown that the incidence of synchronous cancers in patients with gastric cancer is at 3.3%. The most common synchronous cancer is the colon cancer. In the majority of cases, colon cancer has been discovered before gastric cancer [8]. The incidence of synchronous gastric and colon cancers is higher in men [6,9-11]. Despite the fact that the relationship between gastric and colon cancer can be accidental, there is some basis to support the existence of a common pathogenesis. It is known that gastric cancer is the second most common exogenous malignancy associated with HNPCC [Hereditary Non Polyposis Cancer] syndrome [12]. Due to the fact that the stomach and the large intestine form a single, uninterrupted system, they can be affected by the same systemic nosogenetic factors or the same carcinogenic agents. Notable is the suggestion that a defect in the mismatch repair system has been suggested to play a role in the development of multiple cancers, but the mechanistic basis for the development of synchronous cancers is unclear [13]. Finally the presence of microsatellite instability in gastric cancer may be a predictor of synchronous gastric and colorectal neoplasms, whereas microsatellite instability in colorectal cancer is not a predictor of synchronous colorectal adenoma [14].

## Conclusion

As the average life expectancy increases and screening of the population intensifies, the detection of synchronous cancers will increase. It is important to perform early gastroscopy and colonoscopy in patients with symptoms of upper and lower gastrointestinal tract diseases, considering also the age of gastric and colon cancer development.

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