

PROCEEDINGS

SYNCHRONOUS COLON CARCINOMAS LEADING TO EMERGENCY SURGERY. CLINICAL CASE AND LITERATURE REVIEW

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ABSTRACT

Colorectal carcinoma (CRC) is one of the most common malignant pathologies. It is also a leading cause of mortality in both sexes. The term synchronous colon tumors refers to the presence of two or more separate cancers in different parts of the colon in a given patient.

The present study aims to examine the data from the world exchange on the subject and to present a clinical case of a patient who, before his hospitalization, had mild complaints such as disturbances in the tract and the act of defecation. Immediately after hospitalization for a colonoscopy examination, with no preparation, the patient suddenly developed an extensive picture of obturation ileus and, after a short preoperative preparation, he was operated on as an emergency.

Due to the rapid negative dynamics in the patient's general condition, the following physical examination methods: biochemical blood analysis, complete blood count, and abdominal X-ray, were used to establish the diagnosis and make a decision on urgent surgical intervention. Two tumor formations were found intraoperatively, one on the cecum obturating the ileocecal valve, causing ileus and diffuse peritonitis, and a second smaller one located immediately after the hepatic flexure. Operative intervention included extended right hemicolectomy, ileostomy lavage, and abdominal drainage. The histological examination determined an adenocarcinoma.

In conclusion, we can confirm that synchronous colon tumors are a rare clinical finding. They often represent a challenge in surgical intervention due to the extended volume of resection, a combination of accompanying diseases, and the age of the patient require a differentiated approach in elderly patients.

Keywords: *synchronous colon tumors, colorectal carcinoma, emergency surgery, ileus*

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INTRODUCTION

We present a rare clinical case of a patient who, before his hospitalization, had mild complaints such as disturbances in the act of defecation. Right after being hospitalized for a colonoscopy without any prior preparation, the patient experienced a sudden onset of severe obstructive ileus. After a short pre-operative preparation, he was operated on urgently. Intra-



operatively, synchronous colon tumors with the following localizations were detected:

1. tumor formation of the cecum, completely obstructing the ileocecal valve and causing ileus with severe distension of the small intestine;
2. tumor formation of the colon transversum, immediately after the hepatic flexure.

Due to the existing pathology and the conditions of urgency, a decision was made to perform an extended right hemicolectomy and removal of an ileostomy, and in the second stage, restoration of the continuity of the gastrointestinal tract would be performed.

AIM

The purpose of the present study is to present a patient with a rare pathology detected during his hospitalization, which led to urgent surgical treatment, as well as to study the data in the world literature on the problem and therapeutic approaches in this pathology.

CASE DESCRIPTION

An 84-year-old male patient was admitted to the Department of One-Day and Minimally Invasive Surgery at the Second Clinic of Surgery of St. George University Hospital in Plovdiv. From the physical examination methods after his transfer to the clinic the following was registered: ballooned abdomen, tympanism, painful abdomen in the right half with marked resistance in the ileocecal area, sloshing noise and weakened to absent peristalsis. From the paraclinic: leukocytosis was absent on admission to the hospital. Abnormalities in biochemical analysis: Glu: 8.6, Urea: 11.1; CRP: 106; Na: 129; Cl: 95.



Fig. 1. Highly distended intestinal loops with typically shaped water-air levels.

The X-ray of the abdomen showed presence of highly distended intestinal loops with typically shaped water-air levels (Fig. 1).

Abdominal CT was not performed because of the inability to use contrast material due to elevated urea levels.

Due to the lack of effect of the prescribed conservative therapy, a decision was made for urgent surgical treatment. A short preoperative preparation was started with rehydration, preoperative administration of antibiotic and antithrombotic prophylaxis with low molecular weight heparin.

The intraoperative finding (Fig. 2) established:

1. tumor formation of the cecum, completely obstructing the ileocecal valve and causing ileus with severe distension of the small intestine;
2. tumor formation of the colon transversum, immediately after the hepatic flexure.



Fig. 2. Intraoperative finding.

An extended right hemicolectomy was performed, with bowel cleansing and ileostomy removal.

Histological Results

The tumor formation of cecum was moderately differentiated adenocarcinoma of the large intestine, infiltrating the entire thickness of the intestine, the serosa, and the adjacent fatty tissue. There was presence of perineural and intravascular infiltration. The adjacent 4 lymph nodes were without metastases.

The tumor formation of the colon transversum was moderately differentiated. There was an adenocarcinoma of the colon with infiltration in the tunica muscularis.

DISCUSSION

The colon and rectum are the most common sites for the development of multiple primary malignancies after the skin and the breast.

The number of cases of colorectal carcinoma has been increasing with each passing year, but cases of multiple primary malignant tumors of the colon remain rare. Studies show that the incidence of multiple colorectal carcinoma (MCRC) varies and is 1.1–8.8% of all colorectal cancer (CRC) cases, with an increasing global trend (1).

Cases of multiple malignancy are divided into two groups:

1. *Synchronous*: those in which two or more tumors are present at the same time. Synchronous implies that the tumors were found at the same time, either preoperatively or in the resected material.
2. *Metachronous*: those in which the first carcinoma is followed by a second one after certain amount of time.

This division is useful, but not always easy to make when the interval between the first and second tumor is short. It is possible that the second tumor was present before the first one was removed but was not clinically manifested. A second CRC 6 months after the removal of the first can be defined as metachronous (2).

Billroth first reported a case of MCRC in 1879. Cerny was the first to remove a double carcinoma of the colon.

In the present study, the synchronous carcinomas were in the right half of the colon. In most other studies, synchronous carcinomas were more frequently located in the right colon (3,4,5). However, Finan et al. (6) reported a predominance in the left side of the colon and rectum.

A family history of cancer can be an important factor in looking for synchronous carcinoma. The relationship between the familial history of cancer and the frequency of synchronous lesions was investigated by Kimura et al., who found no significant correlation between them (7).

The symptoms of multiple primary colorectal cancer resemble those of single colorectal cancer. In general, there are no obvious symptoms during the early stage (8). Patients show significant symp-

toms when the tumor ulcerates, infects, ruptures, or causes obstruction. The most important symptom is rectal stimulation, which includes frequent bowel movements, changes in the act of defecation, a “gaping” sensation of the anus, tenesmus, and pain in the lower abdomen. Symptoms associated with stenosis of the intestinal lumen are also very common. As the tumor grows, it can infiltrate the muscle layer of the intestinal wall, leading to intestinal stenosis and stool deformation. Patients may have symptoms of incomplete intestinal obstruction, which include abdominal pain, bloating, hyperactive bowel sounds. Often, the patient can notice blood and mucus, and even pus and bloody discharge in their stools. When the tumor invades the prostate and bladder, it will cause dysuric symptoms such as odynuria and hematuria. Severe and persistent sacrococcygeal pain may occur when the sacral nerve is affected (9). There are also corresponding clinical manifestations when there are metastases in the liver, lung, and bones.

Recommendations for adequate treatment of synchronous colonic carcinomas are to some extent based on the risk of developing metachronous adenomas and carcinomas after colonic resections. In this sense, the reasonable approach for synchronous tumors located in one segment is to perform a conventional resection. When carcinomas are widely spaced, extended resection or subtotal colectomy is the method of choice.

In order to achieve adequate control of the disease in patients with colorectal carcinoma, the following algorithm is proposed:

1. Preoperatively, the entire colon should be considered as a potential source of malignancy. The entire colorectal region should be examined for a synchronous lesion by means of fibrocolonoscopy.
2. In all patients with colorectal carcinoma without evidence of secondary lesions, a complete surgical exploration should be performed. The resected specimen should be dissected and examined by the operator for other malignant lesions before the operation is completed. When multiple lesions are identified, the volume of surgery should be individualized according to the location of the lesions, the site of spread, and the patient's condition.

3. Postoperative follow-up should include follow-up examinations every 3–4 months for 2 to 3 years. Then every 6 months, colonoscopies and examination for occult bleeding should be conducted. Annual CT scans of the chest and abdomen are recommended as well as PET in case of suspected disease progression. All this is against the background of chemotherapy and, if necessary, radiotherapy (10).

CONCLUSION

In conclusion, we can confirm that synchronous colon tumors are a rare clinical finding. They often present a challenge in surgical intervention, due to the extended volume of resection, the combination of comorbidities and the age of the patient, which require a differentiated approach in each patient.

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