COLON CANCER IN PATIENTS WITH CROHN'S DISEASE AND DIABETES MELLITUS

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ABSTRACT

Introduction: Diabetes mellitus and colorectal cancer are diseases with an increasing impact on the population. Colorectal cancer is a well-recognized complication of inflammatory bowel diseases, such as ulcerative colitis and Crohn's colitis. Here we describe an unusual case of diabetes mellitus, Crohn's colitis-associated cancer.

Case report: We report the case of a 49-year-old woman, known with Crohn's disease and diabetes, who developed a transverse colon adenocarcinoma associated with multiple outbreaks of high-grade or low-grade intraepithelial dysplasia/neoplasia, for which a subtotal proctocolectomy with ileorecto-anastomosis with "J" pouch it was made.

Conclusions: The risk of colonic carcinoma in Crohn's disease is increasing. An association of colorectal cancer with diabetes mellitus and inflammatory bowel disease has been established. From diagnosis to treatment the management of these cases can be difficult and challenging.

Keywords: colon cancer, diabetes mellitus, Crohn's disease, case report

Introduction

Colorectal cancer (CRC) is a disease with an increasing impact on the population representing the third common malignancy worldwide with a prevalence rate of 1.4 million cases per year. (1, 2) Diabetes Mellitus (DM), the disease of the century, has an increasing impact on the population and represents a risk factor for CRC. (3, 4) Inflammatory bowel disease (IBD) with its 2 subtypes, Crohn's disease (CD) and ulcerative colitis (UC), is characterized by a chronic inflammation of the intestine and is a well-recognized risk factor for the development of CRC, called colitis-associated cancer (CAC)

(5, 6)

The association between IBD and CRC was first suggested by Burrill Crohn in 1925, but even now CD, specifically, precise cancer risk data are very limited. (7, 8) Even though the pathophysiology of inflammatory carcinogenesis is not completely understood, it is well known that the mechanisms of tumor development and promotion differ from those in sporadic carcinogenesis. (9) Epidemiologic studies have shown an increased risk of CRC in patients with CD between 4-20%, as compared with the general population. (10) The risk of developing CRC in diabetic patients was estimated to be 27% higher than in non-DM patients. (11)

Material and Method

Here we report the case of a patient with a personal history of IBD and DM who developed CRC and required total colectomy.

Case report

A 49-year-old woman with a personal history of DM (6 years, in treatment with oral antidiabetics) and 20-year-old IBD, therapeutically neglected, who presented to the Surgery Department accusing abdominal pain and transit disorders. The clinical and paraclinical examination was within normal limits, except for a hemoglobin value of 8.9 g/dl. In blood biochemistry examination, values were as high as 129.5 ng/ml in CarcinoEmbryonic Antigen (CEA) and 181.0 U/ml in Carbohydrate Antigen 19-9 (CA19-9) tumor markers. The digital rectal examination did not reveal any anomalies. A CT scan was performed and showed a tumor mass involving the transverse colon, partially stenotic, with distension upstream of the entire colic frame. Subsequently, it was decided to perform a lower digestive endoscopy that showed a sigmoid tumor formation about 40 cm from the anal orifice, partially stenotic that could not be overcome with the endoscope, from which biopsies were taken, resulting in villous adenoma with intraepithelial dysplasia/neoplasia high grade. (Figure 1)

Figure 1. Pre-operative colonoscopy showed a sigmoid tumor formation about 40 cm from the anal orifice, partially stenotic that could not be overcome with the endoscope.

In order to better visualize the lesions, it was decided to perform a magnetic resonance imaging (MRI) enterography that identified a stenotic infiltrative formation of the T3d transverse colon, a sigmoid stenotic lesion with possible oncological substrate and plurifocal colonic polyps. (Figure 2)

Figure 2. Preoperative MRI enterography; A, B) Expensive stenotic infiltrative formation of the transverse colon T3d; B, C) Sigmoid stenotic lesion with possible oncological substrate.

An exploratory laparotomy was performed and a stenotic and infiltrative tumor formation of the transverse colon was identified, with multiple regional lymphadenopathy, moderately dilated right colon, without intraoperative detection of a sigmoid colon formation. An ileorectal anastomosis with “J” pouch was performed after subtotal proctocolectomy. (Figure 3)

Figure 3. Intraoperative image; A) Stenotic and infiltrative tumor formation of the transverse colon; B) Surgical specimen; C) Ileorectal anastomosis with “J” pouch.

Figure 4. A) 2. Inflammatory polyp with high grade dysplasia: irregular crypts in a rich inflammatory lamina propria, with granulation tissue and ulcerated surface; crypt epithelium presents nuclear hypertrophy, pseudostratification, hyperchromasia, and mitotic figures, B) Transverse colon adenocarcinoma, C) 6. Adenocarcinoma arising in a sigmoid villous adenoma: infiltrative, irregular glands with focal cribriform pattern and villous tumoral component.

Results

From surgical point of view, the patient's evolution was favorable, this patient was discharged on the 7th day after surgery. The pathological results revealed a G2 pT3N1b (2/56 lymph nodes) M0 transverse colon, pTis sigmoid colon, pTis transverse colon splenic flexure, appendix with fibrous obliteration (appendicular neuroma), lesions associated with IBD with marked histopathological activity, suggestive for CD, with multiple outbreaks of high/low grade dysplasia/intraepithelial neoplasia. (Figure 4)

Discussion

Besides these sporadic cases, an association of CRC with DM and IBD has been established. The association between CD and CRC has been suggested by the clinicopathological data obtained from several studies. (12) Korelitz Bl et al (13) followed 356 patients using rectal biopsies, showed that dysplasia occurred in 5% with a predictive value of 11% for CRC. The major risk factors for the development of CRC in CD are: young age at onset, extensive disease, long disease duration, and genetic susceptibility.

The history of IBD and the specific symptoms may mask the symptoms of a CRC, therefore, delayed diagnosis appears to be the major reason for these tumors often being diagnosed at late stages. That is why it is important the gastroenterological follow-up and pay more attention to the change in symptoms. As in our case, the therapeutic neglect of CD and the neglect of new symptoms led to the discovery of an advanced stage of colon cancer.

Despite similar pathogenesis, IBD-associated dysplastic lesions are flatter and have

less distinct borders compared with sporadic precancerous lesions and are therefore less amenable to early detection and preventive removal during screening colonoscopies. (14)

Frequency of early cancer is low and patients do not seem to be at increased risk during the first 7 years. (15) In our patient's case, the inflammatory disease began 20 years ago and has been neglected therapeutically in recent years. All these aspects must be viewed by the doctor from another perspective when the patient has a personal history of IBD. Therefore, European Crohn's and Colitis Organisation recommends either high-definition/chromoendoscopy with targeted biopsies or standard endoscopy with random biopsies (at least 33). (15)

People with IBD were at increased risk of type 2 diabetes mellitus when compared to people without IBD. [16] In our case, the patient developed DM after 14 years of IBD. For the development of CRC both DM and CD are risk factors. (4, 16).

Tumor screening strategies are important and effective tools for the prevention and early detection of cancer in the general population and IBD/DM patient. Regarding the surgery, if possible a subtotal colectomy is recommended, with preservation of the rectum, with ileorectal anastomosis. The risk of developing a rectal neoplasm exists, but the risk is quite low, therefore bioscopic serial rectoscopes are recommended as screening. (17)

Conclusions

In summary, we described a case of a colitis-associated cancer with clinically latent CD and DM. A patient diagnosed with a colon tumor but with a history of IBD should be suspected

of having a malignant tumor. Subtotal colectomy with ileorecto-anastomosis are recommended to be performed only in high-volume hospitals in colorectal surgery by trained, experienced teams.

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