SAS Journal of Medicine
Abbreviated Key Title: SAS J Med
ISSN 2454-5112
Journal homepage: https://saspublishers.com

OPEN ACCESS

Medicine

Multifocal Colorectal Cancer in Ulcerative Colitis Patient - Case Report

Z. Benjelloun[1*], S. Roudi[1], A. Ait Errami[1], S. Oubaha[2], Z. Samlani[1], K. Krati[1]

[1]Departement of Hepato-Gastro-Enterology, Arrazihospital, Mohammed VI University Hospital Center, Marrakech 40000, Morocco
[2]Departement of Physiology, Faculty of Medicine, Cadi Ayyad University, Marrakech 40000, Morocco

DOI: 10.36347/sasjm.2023.v09i05.028 | **Received:** 02.03.2023 | **Accepted:** 19.04.2023 | **Published:** 30.05.2023

***Corresponding author:** Z. Benjelloun
Departement of Hepato-Gastro-Enterology, Arrazihospital, Mohammed VI University Hospital Center, Marrakech 40000, Morocco

Abstract **Case Report**

Ulcerative colitis (CU) is an inflammatory disease predisposing to colorectal cancer. Colorectal cancer in ulcerative colitis is more often metachronous or synchronous. In this case report we present a patient with multifocal colorectal cancer in the course of CU and operative treatment that was implemented. Additionally primary sclerosing cholangitis was diagnosed in this patient post-operatively.

Keywords: Ulcerative colitis (CU), inflammatory disease, colorectal cancer, synchronous.

INTRODUCTION

Ulcerative colitis (CU) is an inflammatory disease predisposing for colorectal cancer [1]. Research shows that the risk of its occurrence increases significantly 8–10 years after the onset of CU symptoms [2]. Colorectal cancer an inflammatory bowel disease (IBD) is associated with chronic inflammation that has a destructive effect on the epithelium of the large intestine, leading to its excessive proliferation and, consequently, to the formation of foci of dysplasia, which over time transform into a malignant tumor.

CASE REPORT

A forty-year-old female patient with many years of ulcerative colitis (CU) was admitted with a diagnosis of caecal cancer for surgical treatment. Colonoscopy performed prior to hospitalization showed a change in the caecum. The remaining sections of the large intestine showed fragile, contact bleeding mucosa devoid of vascular pattern, and furthermore anal stenosis. Beside typical CU symptoms, the patient complained of rectal bleeding persisting for one year with a bowel movement, and reported sporadic abdominal pain in the left iliac region.

The woman was treated with sulfasalazine, azathioprine and folic acid. In addition, her clinical history included: iron-deficiency anemia treated with iron intramuscularly for a year, status post appendectomy due to acute appendicitis 10 years ago, status post hysterectomy with removal of the right appendix due to fibrosis 3 years ago. Negative family history.

On the basis of interview and physical examination as well as additional tests, the patient was qualified for surgery. After presenting all aspects of the disease and discussing them with the patient, it was proposed to perform restorative proctocolectomy. Due to the advanced pathological process and a suspicion of multifocal cancer, the surgery was divided into stages. A colectomy was done with preservation of the rectum and construction of an end ileostomy. Cecal cancer was confirmed, but a second, hard lesion could be felt in the mid-way along the length of the transverse colon. There was a noticeable narrowing in the rectum. The large bowel was removed by Hartmann's procedure, leaving a 12 cm rectum. An end ileostomy was exteriorized. No metastatic lesions were found in the liver or in the small intestine.

Histopathological examination of resected intestinal fragments showed as many as four adenocarcinoma lesions. Two were palpable and macroscopically visible during surgery for changes in the caecum and transverse colon.

This was followed by qualification of the patient for chemotherapy according to the FOLFOX 4 regimen. However, she only underwent 9 out of 12 treatment cycles. Subsequent cycles were abandoned due to agranulocytosis.

DISCUSSION

Ulcerative colitis (CU) is an inflammatory disease predisposing for colorectal cancer [1]. Research shows that the risk of its occurrence increases significantly 8–10 years after the onset of CU symptoms [2]. Colorectal cancer an inflammatory bowel disease (IBD) is associated with chronic inflammation that has a destructive effect on the epithelium of the large intestine, leading to its excessive proliferation and, consequently, to the formation of foci of dysplasia, which over time transform into a malignant tumor. Therefore, the development of colorectal cancer associated with CU differs from the sporadic form, the development of which is dominated by the sequence: adenoma – adenocarcinoma. The role of chronic inflammation is confirmed by the fact that effective anti-inflammatory treatment in CU, e.g. with mesalazine (5-ASA) or thiopurines, can reduce the risk of colorectal cancer [1]. In addition, chronic inflammation causes genetic and epigenetic changes that can initiate the development of colorectal cancer. We should also not overlook the role of proinflammatory cytokines such as TNF-alpha, IL-1, IL-6 in the neoplastic process, as well as intestinal biofilm transformations, resulting in the promotion of chronic inflammation, mucosal damage and, as a consequence, the development of dysplasia [3]. The development of colorectal cancer in patients with CU is also associated with free oxygen radicals, which are formed in excessive amounts in the inflamed mucosa; this, in turn, leads to cellular damage and cancer. However, this mechanism has not yet been fully clarified, as demonstrated by the fact that CU-associated colorectal cancer does not always occur in sites of production of the largest amount of free oxygen radicals, i.e. in the rectum. On the contrary, studies show that the focus is more often found in the left colon [1]. It has also been reported that CU-related colon cancers are more often multifocal and with a higher degree of histological differentiation than sporadic forms [4].

Therefore, CU-related colorectal cancer is characterized by several features that differentiate it from the sporadic form: it appears in younger patients, it is more often synchronous, histologically it contains signet-ring and mucous cells more frequently, and, as already mentioned, it has a different mechanism of formation. It is reported to arise from flat foci of dysplasia, which may be accompanied by: inflammatory lesions, scarred lesions, and pseudopolyps. Dysplasia often has no clear macroscopic boundaries, which makes endoscopic diagnostics and possible resection more challenging [4]. Hence, endoscopic surveillance of patients with CU lasting over 8 years is associated with the use of chromoendoscopy, as research shows its higher effectiveness in detecting dysplasia from white light endoscopy [5].

The treatment of CU-related colorectal cancer is in most cases the same – it involves proctocolectomy with the formation of an intestinal reservoir with ileoanal anastomosis [6]. Such radical management results from the increased risk of synchronous and metachronous cancers in patients with CU [7]. This treatment can consist in one stage or be divided into two or three stages [8]. The described patient underwent a complete resection of the large intestine using Hartmann's procedure with the exteriorization of an end ileostomy and the use of adjuvant chemotherapy. Due to the multifocality of colorectal cancer, a severe postoperative course and the need for further oncological treatment, with the patient's approval, it was decided to abandon further stages of surgical treatment. The woman lives to this day with an exteriorized ileostomy.

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