

# Crohn's disease discovered by colon adenocarcinoma

## Abstract

Colorectal cancer (CRC) is the third most common malignancy and fourth leading cause of cancer-related mortality worldwide.<sup>1,2</sup> Inflammatory bowel disease (IBD) is widely accepted as one of the important risk factors leading to colorectal cancer (CRC). IBD ranks as the third highest risk condition for CRC.<sup>3</sup> In this group of patients the incidence of CRC increases by 60% compared to that of the general population.<sup>4</sup> However; it is unusual to discover Crohn's disease after the development of cancer. We present a case of Crohn's disease discovered in a follow-up of ileocolic adenocarcinoma.

**Keywords:** inflammatory bowel disease, colorectal cancer, crohn's disease

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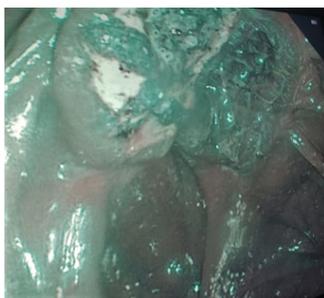
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## Case presentation

A 62-year-old male, former smoker, with Crohn's disease in the family background (his nephew), consults for feverish abdominal pain with a normal bowel movement. Abdominal tomography showed a circumferential thickening of the last ileal loop next to a 5 centimeter abscess. The decision was to perform an exploratory laparotomy and an ileo-coecal resection after antibiotics's failure. The pathological examination of the resection piece showed a mucinous adenocarcinoma classified pT4aN1a as well as a segmental ileocolic inflammation suggestive of Crohn's disease. Low digestive endoscopy (performed 6months after surgery) showed ulcerated ileitis without colonic lesions. Ileal biopsies revealed nonspecific inflammation. CT-enteroclysis found 20cm long terminal ileitis with signs of activity (Figures 1 & 2).

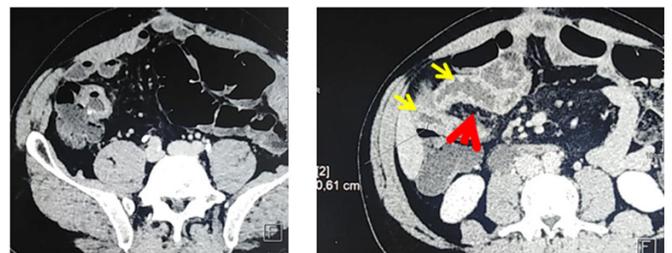


**Figure 1** Budding ulcerative lesion of the anastomotic area shown by colonoscopy.



**Figure 2** Budding ulcerative lesion of the anastomotic area shown by Chromo colonoscopy.

The patient received chemotherapy for his tumor and has been followed up. The disease was in clinical (CDAI Index <150) and biological remission (CRP = 2mg/l and fecal calprotectin = 9ng/kg). We introduced mesalazine as treatment for Crohn's disease. However, 2months after the end of chemotherapy, the check-up tomography showed a thickening of the sigmoid colon. We completed with a chromo colonoscopy showing budding ulcerative lesion of the anastomotic area (Figures 3,4) without sigmoid lesions. The mucosa of the last 15cm of the ileum was nodular without ulcerations. The pathological examination of the anastomotic lesion showed the recurrence of adenocarcinoma. The patient underwent totalization of the right colectomy and resection of the last 15cm of the ileum. Anatomopathological examination of the resected specimen found adenocarcinoma recurrence in the ileocolic anastomosis without lymph node metastases with healthy surgical limits. The evolution was favorable in the short term (current follow-up of 1 month).



**Figure 3** Axial sections after contrast product injection: Circumferential, non-stenosing thickening of anastomotic ileal loop (yellow arrow) measured at 6mm thick and extended over 26cm in length. It is associated with a densification of the mesenteric fat opposite (red arrowhead).

## Discussion

Patients with long-standing ulcerative colitis (UC) and Crohn's disease (CD) are at a higher risk of developing CRC compared to the general population.<sup>5</sup> Although IBD-associated CRC accounts for approximately 2% of all CRC, the rate of death resulting from CRC in IBD patients ranges from 10 to 15%.<sup>6</sup> The incidence rate corresponded to a cumulative probability of 2% by 10years; 8% by 20 years; and 18% by 30years. The mean age of UC-associated cancer diagnosis was 43.2years.<sup>7</sup> Reported risk factors for CRC include extensive

disease<sup>8</sup> young age at diagnosis,<sup>10</sup> family history of CRC co-existing primary sclerosing cholangitis (PSC) and persistent inflammation of the colon.<sup>11,12</sup>

Systematic colonoscopy surveillance can detect early dysplastic lesions, and the systematic use of 5-ASA therapy can lower the risk of developing colorectal cancer in patients with IBD. The reduced incidence of prophylactic colectomy for dysplastic lesions determines a high risk for colorectal cancer. This information is an argument for

preventive colonoscopy surveillance of patients with IBD and surgical prophylaxis in case of dysplasia.<sup>13,14</sup> Guidelines from the Crohn's and Colitis Foundation of America (CCFA) and from European Crohn's and Colitis Organization (ECCO) mention the same methods for Crohn's colitis surveillance and ulcerative colitis as well due to the similar risk of developing colorectal. Colonoscopic screening is performed during remission of the disease, every 1 or 2 years, after 8–10 years of evolution (Table 1).

**Table 1** Summary of the screening and surveillance recommendation from international guidelines for patients with inflammatory bowel disease

|                       | ACG 20100  | BSG 2010  | AGA 2010  | ACG 2010    |
|-----------------------|--|---|---|-------------|
| 1st screening         | 8-10 yr  | 10yr  | Max 8yr   | 8-10 yr     |
| Surveillance interval | Extensive: 2 yearly to 20yr then annually<br>Left sided: 2 yearly starting at 15 yr<br>PSCI yr | By risk low 5yr<br>Intermediate 3yr<br>High 1yr | Max8 yr<br>13yr<br>More often at high risk eg., PSC | 1-2yr       |
| Random biopsy         | Recommended  | Recommended                                     | Recommended   | Recommended |
| Chromo endoscopy      | Superior to white light endoscopy  | >>33 if no<br>chromo                            | >>33  | >>33        |

ECCO, european crohn's and colitis organization; BSG, british society of gastroenterology; AGA, american gastroenterological association; ACG, american college of gastroenterology; PSC, primary sclerosing cholangitis

The relationship between cancer and chronic inflammation was first described over 150 years ago by Rudolf Virchow.<sup>15,16</sup> Since this hypothesis was put forward it has been confirmed by many clinical studies. However, the pathogenesis and molecular biology of cancers associated with chronic inflammation remains the subject of much research. Chronic inflammation is observed in approximately 20% of all human cancers. The strongest correlation between long-standing inflammation and tumorigenesis is most apparent in CRC. Inflammation is one of the physiological factors that occurs as a protective response elicited by injury or the destruction of tissue. In effect, inflammatory-driven genetic alteration and epigenetic change occur, both important aspects of tumor initiation in CRC and particularly in CAC (abbreviation non Claire?).<sup>17</sup>

When Crohn's disease has evolved without symptoms for a long time as is the case in our patient, the diagnosis remains difficult. Thereby, the simultaneous discovery of colorectal cancer and IBD can be a real therapeutic challenge. Which maintenance treatment for Crohn's Disease should we introduce? Where does immunosuppressive therapy fit in this particular case especially that we know how this therapy should be avoided in case of cancer? We chose to treat the patient with mesalazine for 3 reasons: first, the disease was inactive, second, to lower the risk of colorectal cancer and finally to avoid immunosuppressant promoting carcinogenesis. But the decision would be more difficult if the CD was active and severe. In that situation, surgery should be discussed. Indeed, it is a standard surgery in case of colorectal cancer complicating IBD. It's easier in case of UC but the surgery in CD remains a challenge in these delicate situations.

## Conclusion

Colorectal adenocarcinoma is a tumor with an easy diagnosis, conferring a good prognosis. Physicians should have a high level of suspicion of cancer in patients with longstanding Crohn's disease. But should also think of the possibility of quiescent disease. According to our observation, the concomitant discovery of IBD associated with colon cancer requires radical surgery to avoid recurrence.

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## Conflicts of interest

Author declares that there are no conflicts of interest

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