

A Rare Case of Gastric Crohn's Disease Complicated by Gastric Carcinoma

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Abstract

Background

Inflammatory bowel diseases are strongly associated with colorectal cancer. In addition, a few cases reported with gastric and small bowel adenocarcinoma in gastroduodenal Crohn's disease.

Case report

We reported a case of a 47-Year-old female, who was referred to our surgical department and after a routine gastroscopy which revealed a lesion. Biopsy confirmed gastric well-differentiated adenocarcinoma of limited gastric Crohn's disease, for a patient on regular anti Crohn's medication. The patient underwent varying laparoscopic distal gastrectomy. She received adjuvant chemotherapy treatment and thereafter, she was cancer free within the period of 3- years of regular follow up.

Conclusion

The only way to diagnose such lesions of a rare case of gastric cancer in a patient with Crohn's disease is to regularly carry out upper gastrointestinal examinations.

Keywords: Inflammatory bowel diseases, Crohn's disease, Upper gastrointestinal tract Crohn's disease, Gastric cancer.

Abbreviations:

CD: Crohn's disease; **GC:** Gastric cancer; **IBD:** Inflammatory bowel disease; **H. pylori:** helicobacter pylori; **GCD:** Gastric Crohn's disease; **GIT:** Gastrointestinal tract.

Introduction

Gastric cancer is one of the most common cancers worldwide, which has caused the number of death to about 754000 [1]. However, its incidence has declined over the recent decades due to the recognition of particular risk factors such as H. pylori and its treatment by antibiotics, and availability of fresh produce and less reliance on salt-based preserved foods [2].

The prognosis is unfavourable for the late stage of disease as at the time of presentation. Inflammatory bowel diseases are strongly associated with colorectal cancer. In addition, a few cases reported with gastric and small bowel adenocarcinoma in gastroduodenal Crohn's disease, in which 15% of the patients were observed and the most commonly affected is the distal antrum and duodenum and in association with concurrent distal intestinal involvement [3]. Gastroduodenal Crohn's disease

commonly present with upper abdominal pain and symptoms of gastric outlet obstruction, which is managed mainly through surgery. Here, we present a case of young female whose gastric adenocarcinoma was developed in a background of isolated gastroduodenal Crohn's disease.

Case Presentation

A 47-Year-old female patient, who had a past medical history of Crohn's disease limited to upper GIT since 24 years on a regular dose of Mesalazine and Azathioprine and regular follow-up with the gastroenterologist.

The patient was referred to our surgical department for an incidental finding of pre-pyloric fungating Mass on screening gastroscopy (Figure-1), whose biopsy revealed well-differen-

tiated adenocarcinoma, the intestinal type with a background of high-grade dysplasia, HER2/neu is equivocal (+2).

During presentation, the patient was complaining of epigastric abdominal pain for a longer period of standing, burning in nature, related to food intake and not radiation. No history of early satiety, anorexia, nausea, vomiting, or hematemesis were found. No history of diarrhea or constipation or melena were found. No history of the anal disease was found. No history of fever, weight loss, or night sweating were found. The patient was in regular follow up in a gastroenterology's clinic with multiple gastroscopy showing severe antral inflammation and pyloric edema and prepyloric ulcerations with narrowing, normal duodenum (Figure-2) with biopsy of 8 years before presentation shows moderate active superficial chronic



Figure 1: Large perpyloric polypoid lesion occupying the whole antrum, the structure at the pylorus

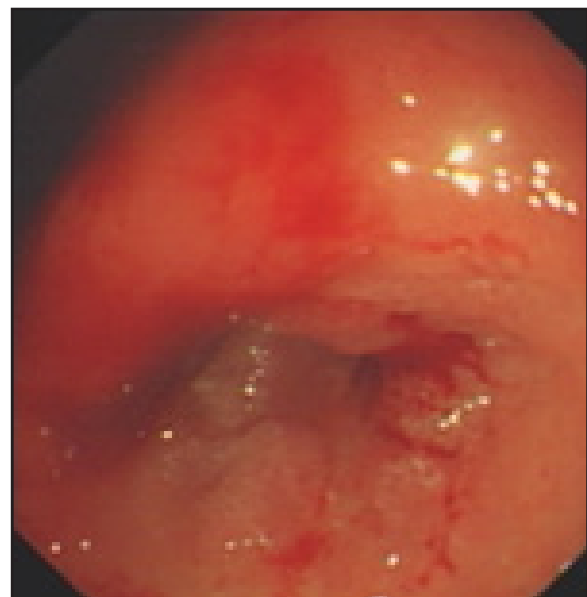
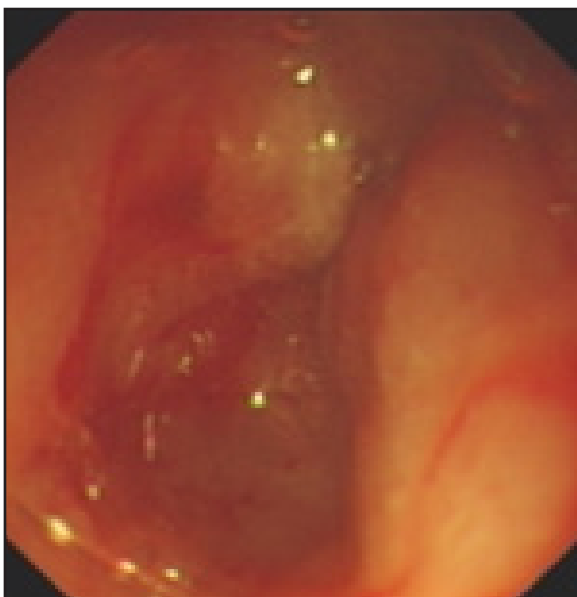


Figure 2: Diffuse gastric inflammation, nodularity with pyloric edema, narrowing, and ulcerations

gastritis with epithelioid granuloma, no *H. pylori* organisms were identified and multiple normal colonoscopies and biopsies. The patient did have a record of cigarette or alcoholic consumption, also with no significant surgical history. The patient medications were: Mesalazine 1 g, Azathioprine 50 mg OD, Esomeprazole 40 mg OD, Folic acid 5 mg OD, Ferrous sulfate 300 mg OD, Vitamin B₁₂ 1000 mg once/month for total three doses, Prednisolone 50 mg on tapering dose of 5 mg every week for one time and Naproxen 500 mg BDS PRN.

The patient is a mother of multiple children delivered through Normal Spontaneous Vaginal Delivery (NSVD) and with a history of contraceptive pills intake for a short period of time. Her family history was also not significant. Her general condition was perfect with good body build (weight: 59 kg, Height: 158 cm, BMI: 23 kg/m²) and other vital signs were normal. Her physical

examination was unremarkable. No abdominal distention or tenderness were found. No palpable mass or lymph nodes were found.

On the day of admission, the results of her routine laboratory investigations were within normal ranges, except for a decrease in hemoglobin, which was measured at 9.1 g/dL (normal range: 11.5 to 16.5 g/dL), and a decrease in hematocrit 0.308 % (normal range: 0.340 to 0.470 L/L) CRP: 2 mg/L (normal range: 0 to 6). Tumor markers result, CEA: 1ug/L (normal range: 0 to 3.4), CA19-9: 35 U/ml (normal range: 0 to 34), CA125: 15 U/ml (normal range: 0 to 35), AFP: 5.3kIU/L (normal range: 0 to 5.8). Gastroscopy result: large pre-pyloric polypoidal lesion occupying the whole antrum, there was a stricture at the pylorus (Figure-1). Computed tomography scan (Figure-3) for chest, abdomen and pelvis with contrast was performed, which



Figure 3: Soft tissue mass in the gastric antrum

revealed an enhancing soft tissue mass in the gastric antrum measuring 4.3 x 3.2 cm, (focal transmural gastric wall thickening) without extension into the perigastric fat, the terminal ileum is unremarkable, and a few sub-centimeter lymph nodes in the gastro hepatic ligament and around the gastroepiploic vessels. No celiac or retroperitoneal lymph nodes were found. No obvious perianal disease, no evidence of distant metastasis,

radiological stage T2N0M0. Magnetic Resonance Imaging MRI (Figure-4) shows a polypoid filling defect within the gastric antrum.

The patient was pre-operatively reviewed by gastroenterologist: medications were stopped before surgery, and to be resumed 4 weeks after surgery.

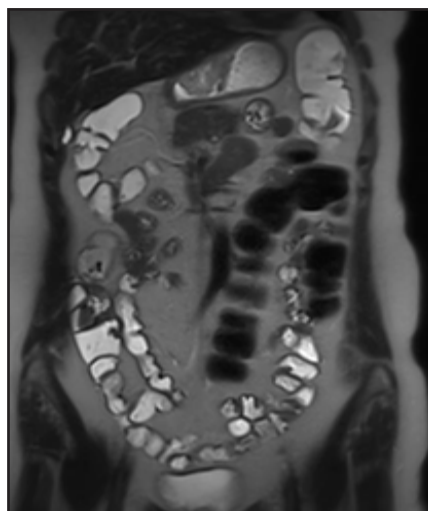


Figure 4: Polypoid filling defect within the gastric antrum.

After a pre-operative consultation with the patient and her family, we performed distal gastrectomy, loop gastrojejunostomy, jejunojejunostomy, and cholecystectomy. Post-operatively, the patient had an uneventful recovery; she was able to accept food gradually after the operation and was discharged on day 11 postoperatively in good condition.

The postoperative pathological stage was pT1aN0M0, (Figure-5) for invasive adenocarcinoma, intestinal type, moderate to poorly differentiated. Tumor size is 5.5 cm, invades lamina propria, muscularis mucosa, without submucosal invasion and no lymphovascular invasion. Proximal resection margin shows intestinal metaplasia with reactive epithelial atypia and small foci suspicious for low-grade dysplasia, distal resection margin is negative. The surrounding of the mucosa shows high-grade dys-

plasia, both proximal and distal to the tumor. Multiple scattered mucosal granulomas are noted. Twenty three reactive lymph nodes are identified (0/23).

Two weeks later, the patient was followed-up in the clinic of surgery and oncology, started on adjuvant chemotherapy with Xelox (Capecitabine) 1 g twice per day for 6 cycles. Until 2 years postoperatively, she was in a regular follow-up in clinics without any active complaint and repeat CEA: 1.3 ug/L [normal range: 0.0 to 3.4, gastroscopy (Figure-6) show Erythematous gastric mucosa with nodularity, histopathology show active chronic gastritis and granulomatous inflammation with focal intestinal metaplasia, without dysplasia or malignancy, and CT scans clear from cancer recurrence.

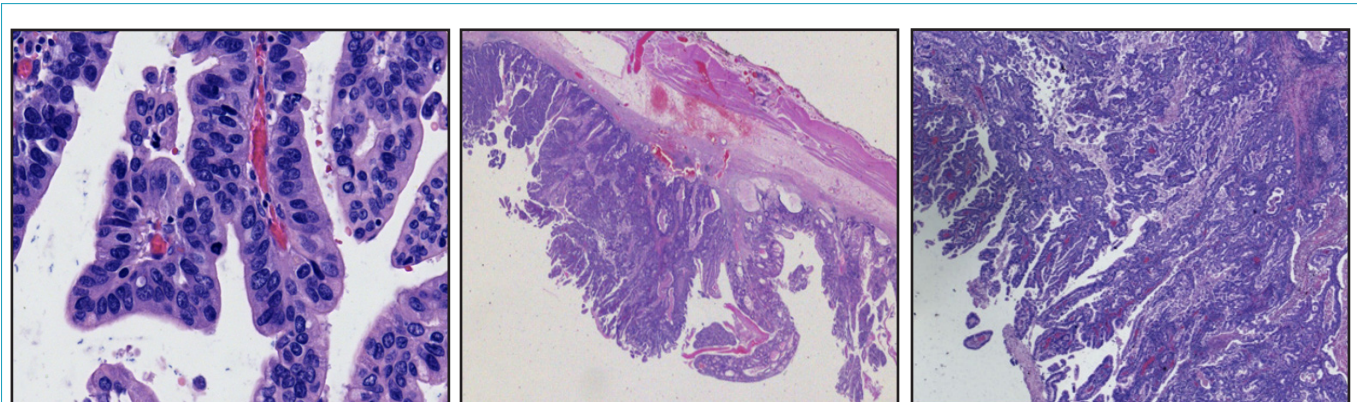


Figure 5: Invasive adenocarcinoma, intestinal type, moderate to poorly differentiate.



Figure 6: Erythematous gastric mucosa with nodularity, anastomosis looks normal.

Discussion:

The case presented here is one of a few cases reported in Crohn's disease patients with gastric adenocarcinoma [4,5]. However, the association remains controversial.

Gastric cancer is one of the most common cancers, adenocarcinoma accounts for 95%, with two primary sub-types: intestinal 70% and diffuse 30% as per Lauren classification [6]. Significant risk factors for gastric cancer include family history, smoking, and alcohol consumption. While chronic gastritis

associated with *H. pylori* is one of a well-studied and most common risk factor for gastric cancer. Although chronic gastritis could be caused by Crohn's disease.

Gastroduodenal Crohn's disease can present 0.5–4% of cases with the ileocolonic disease, while isolated stomach involvement is very unusual presentations less than 0.07% of all gastrointestinal tract [7]. As evidenced from a Major Dutch University Referral Center, only 1 of 940 Crohn's disease cases had isolated proximal disease and evidenced from the largest case

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series consisted of only 7 patients of isolated gastroduodenal Crohn's disease [8]. Endoscopically, GCD can exhibit as mucosal edema, focal or diffuse erythema, nodular lesions or erosions, and ulcers, while, histologically, biopsies showing non-specific chronic gastritis and rarely granulomas [8]. However, according to various studies, it is often difficult to be cured with medical and surgical interventions [7].

Annunziata's series of 119 CD patients underwent upper endoscopy with biopsy, 16% of the patients have upper GIT involvement, 63% were asymptomatic and 37% were symptomatic, frequently have colicky abdominal pain and/or cramps, nausea, and anorexia [3,8]. A review of 20 studies conducted in 2015 at Miami University, there was 815 upper gastrointestinal involvement from 2511 CD cases, most histopathological findings were nonspecific gastric inflammation 32%, gastric granuloma 7.9% and Focal gastritis 30.9%, most endoscopic finding were erythema 5.9%, and erosions in 3.7% [9].

The association of developing colorectal and small intestinal cancer with Crohn's disease is well known and the risk increase with long-standing disease surgically bypassed loops and chronic fistula. While the incidence of squamous cell carcinoma of the anus and skin, testicular cancer, and other miscellaneous cancers have all been reported in Crohn's disease (CD), although the strength of these associations is unclear [10]. Colon cancer has been considered as the most cause of excess mortality in CD [11]. A review published in 2007 of 34 studies and 60,122 CD case, demonstrated an increased risk of small bowel, extra-intestinal cancers, and lymphoma [12].

Our literature review identified few detailed cases of stomach cancer on top of Crohn's, and incidence of cases in studies of malignancies in Crohn's disease.

In Katsanos's and his colleagues 15-years follow-up study, stomach cancer were diagnosed in 5 cases from 62 cancer developed, 3 with ulcerative colitis and 2 with Crohn's disease [13].

One case of stomach cancer was observed in 770 Crohn's disease, and two cases of gastric cancer, stage T1, and were observed in a total of 4,248 CD patients, without any of the either present or previous signs of CD activity in the stomach in studies carried out in Japan [14,15].

In a study conducted in Netherlands 2016, 59 gastric cancer cases were countered in inflammatory bowel disease, 30.5% with Crohn's disease, with an intestinal type GC (59.3%). No difference in cancer location and behavior or tumor differentiation between the IBD patients and general population except in advanced T-stage in IBD patients and significantly worse in survival [16].

Most large series have failed to demonstrate an increased risk of gastric cancer in Crohn's disease. Furthermore, it is unclear whether gastric cancer histologically or clinically with IBD patients is different from the general population. This is most likely due to the rarity of gastric involvement in Crohn's disease, difficulty to a definite diagnosis of gastric malignancy in the setting of Crohn's disease and the controversial association.

Conclusion

We encountered a rare case of gastric cancer in a patient with Crohn's disease. The only way to diagnose such lesions is to regularly carry out upper gastrointestinal examinations.

Conflict of interest:

The authors declare that they have no potential or actual conflicts of interest.

References:

- 1) Cancer. Fact Sheet. [Internet] Geneva: World Health Organization; 2017 [cited 2018 Sep 3]. Available from: <http://www.who.int/mediacentre/factsheets/fs297/en/>
- 2) Parkin DM. The global health burden of infection-associated cancers in the year 2002. *Int J Cancer*. 2006;118[12]:3030-3044.
- 3) Annunziata ML, Caviglia R, Papparella LG, Cicala M. Upper gastrointestinal involvement of Crohn's disease: a prospective study on the role of upper endoscopy in the diagnostic work-up. *Dig Dis Sci*. 2012;57[6]:1618-1623. Epub2012/02/22.
- 4) Ikeuchi H, Kusunoki M, Yamamura T, Nishigami T. Crohn's disease associated with gastric cancer. *J Gastroenterol*. 2002;37(1):47-49.
- 5) Patel M, Banerjee B, Block JG, Marshall JB. Gastric Crohn's disease complicated by adenocarcinoma of the stomach: case report and review of the literature. *Am J Gastroenterol*. 1997;92[8]:1368-1371.
- 6) Lauren P. The Two Histological Main Types of Gastric Carcinoma : Diffuse and So-Called Intestinal-Type Carcinoma. An Attempt at a Histo-Clinical Classification. *Acta Pathol Microbiol Scand*. 1965;64:31-49.
- 7) Reynolds HL Jr, Stellato TA. Crohn's disease of the foregut. *Surg Clin North Am*. 2001;81[1]:117-135.
- 8) Wagtmans MJ, van Hogezaand RA, Griffioen G, Verspaget HW, Lamers CB. Crohn's disease of the upper gastrointestinal tract. *Neth J Med*. 1997;50(2):S2-7.
- 9) Diaz L, Hernandez-Oquet RE, Deshpande AR, Moshiree B. Upper Gastrointestinal Involvement in Crohn Disease: Histopathologic and Endoscopic Findings. *South Med J*. 2015;108[11]:695-700.
- 10) Hemminki K, Li X, Sundquist J, Sundquist K. Cancer risks in Crohn disease patients. *Ann Oncol*. 2009;20(3):574-580.
- 11) Askling J, Dickman PW, Karlén P, Broström O, Lapidus A, Löfberg R, et al. Family history as a risk factor for colorectal cancer in inflammatory bowel disease. *Gastroenterology*. 2001;120(6):1356-1362.
- 12) Von Roon AC, Reese G, Teare J, Constantinides V, Darzi AW, Tekkis PP. The risk of cancer in patients with Crohn's disease. *Dis Colon Rectum*. 2007;50(6):839-855.
- 13) Katsanos KH, Tatsioni A, Pedersen N, Shuhaibar M, Ramirez VH, Politi P, et al. Cancer in inflammatory bowel disease 15

- years after diagnosis in a population-based European Collaborative follow-up study. *J Crohns Colitis*. 2011;5[5]:430-442.
- 14) Yano Y, Matsui T, Hirai F, Okado Y, Sato Y, Tsurumi K, et al. Cancer risk in Japanese Crohn's disease patients : investigation of the standardized incidence ratio. *J Gastroenterol Hepatol*. 2013;28[8]:1300-1305.
- 15) Mizushima T, Ohno Y, Nakajima K, Kai Y, Iijima H, Sekimoto M, et al. Malignancy in Crohn's disease: incidence and clinical characteristics in Japan. *Digestion*. 2010;81[4]:265-270.
- 16) Nissen LH, Assendorp EL, van der Post RS, Derikx LA, de Jong DJ, Kievit W, et al. Impaired Gastric Cancer Survival in Patients with Inflammatory Bowel Disease. *J Gastrointest Liver Dis*. 2016;25(4):431-440.