

An Unusual Cause of Upper Gastrointestinal Bleeding in Clinical Practice; A Case Report of Locally Invasive Colon Cancer with Superimposed Actinomycosis

Y. A. Awuku^{1*}, Y. A. Nartey¹, J. I. Lovi¹, M. Nortey², T. M. Morna²
and P. K. Akakpo³

¹Department of Medicine and Therapeutics, University of Cape Coast, Ghana.

²Department of Surgery, University of Cape Coast, Ghana.

³Department of Pathology, University of Cape Coast, Ghana.

Authors' contributions

This work was carried out in collaboration between all authors. Author YAA developed the idea and wrote the manuscript. Authors YAN and PKA wrote and reviewed the manuscript. Authors JIL, MN and TMM reviewed the manuscript. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJMMR/2017/32202

Editor(s):

(1) Syed Faisal Zaidi, Department of Basic Medical Sciences, College of Medicine, King Saud Bin Abdulaziz University-HS, National Guard Health Affairs, King Abdulaziz Medical City, Kingdom of Saudi Arabia.

Reviewers:

(1) Negoii Ionut, Carol Davila University of Medicine and Pharmacy, Emergency Hospital of Bucharest, Romania.

(2) B. B. Sharma, PGIMER and Dr. RML Hospital, New Delhi Ram Manohar Lohia Hospital, India.

(3) Carlos Henrique Marques dos Santos, Universidade Anhanguera, Brazil.

Complete Peer review History: <http://www.sciencedomain.org/review-history/18713>

Case Report

Received 14th February 2017

Accepted 18th April 2017

Published 21st April 2017

ABSTRACT

Background: Colon cancer commonly presents with lower gastrointestinal bleeding in symptomatic patients. Upper gastrointestinal bleeding as a symptom of colon cancer is unusual. This case highlights the diagnostic and management challenges of colon cancer masquerading as gastric ulcer with a bleeding complication.

Case Presentation: We report the case of a 45-year-old man who presented with passage of melaena stools with associated epigastric pain. Endoscopy revealed gastric ulcer in the greater curvature. Histopathology identified a diffuse adenocarcinoma with superimposed actinomycosis. Intra-operatively the patient was found to have a carcinoma of the transverse colon diffusely

*Corresponding author: E-mail: ppawuku@gmail.com, y.a.awuku@uccsms.edu.gh;

infiltrating and ulcerating the stomach in its greater curvature. Patient died from bilateral pulmonary thromboembolism 10 weeks after the surgery.

Conclusion: Although rare, colon cancer can present with upper gastrointestinal bleeding. It must be considered as a differential in the work up for a patient passing melaena stool.

Keywords: Colon cancer; upper gastrointestinal bleeding; gastric actinomycosis.

1. BACKGROUND

The crude incidence for colorectal cancer in sub-Saharan Africa for both sexes is estimated to be 4.04 per 100,000 population (4.38 for men and 3.69 for women) [1], and in this setting, patients often present late in the course of the disease due to factors such as poverty [2]

The commonest presentation for colorectal cancer is lower gastro-intestinal bleeding, with other symptoms such as weight loss, change in bowel habit and abdominal pain. There are few documented reports in the literature of upper gastro-intestinal bleeding as the primary presentation for colon cancer. Mechanisms for these include erosion of the tumour from the colon directly to the stomach and tumour metastasis into the portal vein resulting in gastric varices [3,4]. The filamentous gram positive bacteria of *Actinomyces* species invasion of the gastric mucosa as primary actinomycosis is rare [5,6]. In human actinomycosis the culprit is usually *Actinomyces israelii* which invades injured mucosa as an opportunistic infection [7].

We present a case of an adenocarcinoma of the transverse colon masquerading as gastric ulcer with upper gastrointestinal bleeding and with superimposed actinomycosis in a tertiary hospital in Cape Coast, Ghana.

2. CASE PRESENTATION

A 45-year-old man presented to the Cape Coast Teaching Hospital, in the Central Region of Ghana with a one day history of two episodes of melaena stools, mixed with elements of fresh blood. He confirmed a history of epigastric pain and early satiety. Having never had an Upper GI endoscopy, he had been self-medicating intermittently with triple therapy for Peptic Ulcer Disease. He denied any weight loss, change in bowel habit, difficulty swallowing or haematemesis. He had no history of smoking, chronic NSAID use or alcohol intake. The patient had never had a lower GI endoscopy. On examination, he was moderately pale with significant epigastric tenderness, but was otherwise haemodynamically stable. Digital rectal examination revealed two external, non-

thrombosed haemorrhoids at right posterior and left posterior positions, with no palpable masses in the rectum and melaena on the examining finger. Laboratory investigations revealed moderate anaemia (Hb 8.7 g/Dl [reference range: 13.6-18.0]). The remaining laboratory investigations were normal. The patient was admitted for further management.

The patient had an oesophago-gastroduodenoscopy (EGD), which showed a large, hard, craggy mass in the greater curvature of the stomach. There was an ulcer with a necrotic floor at its centre (Fig. 1). Multiple gastric biopsies were taken. The oesophagus, gastro-oesophageal junction and duodenum were all normal. CLO test for *Helicobacter Pylori* was positive. Following oesophago-gastroduodenoscopy (EGD), the patient began to experience several vomiting events of dark, coffee ground vomitus, as well as continued passage of melena stools.



Fig. 1. An ulcerated, centrally necrotic bulging mass in the lesser curvature of the stomach as seen on Endoscopy

Histopathology showed fragments of antral and body type mucosa with severe active chronic inflammation and scattered atypical cells. There were scattered filamentous organisms with histological morphology in keeping with Actinomycosis. There were associated chronic inflammatory changes. A final diagnosis of diffuse adenocarcinoma with superimposed actinomycosis was made and an abdominal CT scan with contrast was performed.

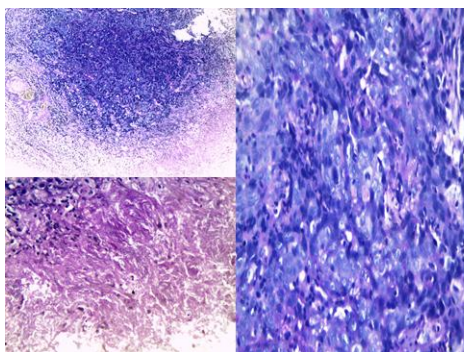


Fig. 2. Showing tumour cells and filamentous organisms from the endoscopic biopsy

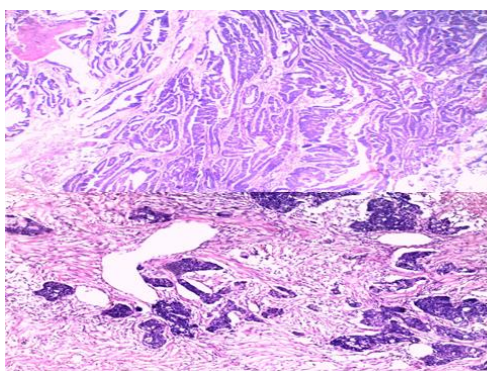


Fig. 3. Showing an adenocarcinoma with solid islands that show cells of neuroendocrine differentiation

The abdominal CT Scan revealed a mass in the lumen of the antral region of the stomach. The mass originated from the posterior wall and bulged into the lumen. It was isodense to the muscle of the stomach and enhanced homogeneously with contrast, measuring 43x31 mm. The remaining gastric mucosa was normal. There was no other organ or lymph node involvement.

Following the abdominal CT scan report, the patient was subsequently prepared for surgery. At laparotomy, findings were; a locally invasive carcinoma of the transverse colon infiltrating the greater curvature of the stomach and ulcerating the mucosa of the stomach. The tumour also involved the greater omentum. The mass was 12x10 cm. No lymph nodes were palpated and the liver, spleen and kidneys were normal with no ascites. A right hemicolectomy with en-bloc resection of the greater omentum and wedge resection of the stomach was thus performed. The patient was started on IV Oxaliplatin 130 mg/m² as continuous infusion plus oral Capecitabine 1000 mg/m² 12 hourly

chemotherapy post-op for 14 days per cycle. He was also on SC Enoxaparin 40 mg 12 hourly for 7 days (plus anti-embolic stockings) as he was fully ambulant by day 5 post surgery. He only received 2 cycles out of the planned 8 cycles and died 10 weeks after surgery from bilateral pulmonary thromboembolism.

3. DISCUSSION

Upper GI bleeding is a rare, yet possible presentation of colon cancer. There are few case reports in the medical literature that describe this finding. In one case report, upper GI bleeding resulted from gastric varices resulting from tumour emboli in the portal vein [4]. Another report also describes duodeno-duodenal fistula formation due to local invasion from the transverse colon [8].

Colonic cancer invasion of the stomach with gastric mucosal ulceration has been rarely reported. One case report mentioned local invasion of the greater curvature of the stomach due to an invasive adenocarcinoma of the transverse colon that also resulted in Upper GI bleeding, with subsequent gastrocolic fistula formation [3].

Our patient had evidence of locally invasive adenocarcinoma of the transverse colon, resulting in ulceration and necrosis of the gastric mucosa with resultant upper GI bleeding. Bleeding was worsened by the presence of superimposed infection with Actinomycosis, which typically invades injured mucosa. Primary gastric actinomycosis in itself is rare with fewer than 20 reported cases, but can precipitate or exacerbate GI bleeding [5]. Factors predisposing an individual to intra-abdominal actinomycosis may include gastrointestinal surgery, inflammation or visceral perforation but is usually impossible to trace the pathway by which actinomyces gets to the gastric wall [9,10]. This diagnosis is usually not made pre-operatively partly because is uncommon and again histology has to confirm before any therapy is initiated. There was a delay in diagnosing colon cancer in our case because of the unusual presentation of upper gastrointestinal bleeding and the presence of gastric ulcer at endoscopy and the histologic diagnosis of superimposed actinomycosis. A diagnosis of primary gastric actinomycosis can present similarly such that the only way to confirm is by histology and in most cases a full surgical specimen and not endoscopic biopsy. Actinomycosis is known to mimick many gastrointestinal conditions [11,12].

Despite deep venous thrombosis prophylaxis using enoxaparin and anti-embolic stocking plus early ambulation of our patient he died of pulmonary embolism after only 2 cycles out of the planned 8 cycles.

4. CONCLUSION

Although rare, colon cancer can masquerade as gastric ulcer with upper gastrointestinal bleeding. It must be considered as a differential in the work up for a patient passing melaena stool.

CONSENT

Written informed consent was obtained from the next of kin (Wife) for publication of this manuscript.

ETHICAL APPROVAL

It is not applicable.

ACKNOWLEDGEMENT

We acknowledge the support of the medical, surgical and pathology teams.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Graham A, Adeloye D, Grant L, Theodoratou E, Campbell H. Estimating the incidence of colorectal cancer in Sub-Saharan Africa: A systematic analysis. *Journal of Global Health*. 2012;2(2).
2. Irabor DO, Afuwape OO, Ayandipo OO. The present status of the management of colon and rectal cancer in Nigeria. *Journal of Cancer Research*. 2014;2014.
3. Thorpe B, Applebaum B, Esquivel RF, Krouse RS, Fass R. Colon cancer presenting as upper-GI bleeding. *Gastrointestinal Endoscopy*. 2006;63(2): 343-5.
4. Waintraub DJ, Toth PJ, Felig DM. Colon Cancer Presenting as an upper gastrointestinal bleed. *Clinical Gastroenterology and Hepatology*. 2015; 13(8):e125-6.
5. Oksüz M, Sandıkçı S, Culhaci A, Egesel T, Tuncer I. Primary gastric actinomycosis: A case report. *The Turkish Journal of Gastroenterology: The Official Journal of Turkish Society of Gastroenterology*. 2007;18(1):44-6
6. Minamino H, Machida H, Tominaga K, Kameda N, Okazaki H, Tanigawa T, Watanabe K, Watanabe T, Fujiwara Y, Osawa M, Arakawa T. A case report on primary gastric actinomycosis. *Digestive Endoscopy*. 2011;23(3):A15.
7. Kaszuba M, Tomaszewska R, Pityński K, Grzanka P, Bazan-Socha S, Musail J. Actinomycosis mimicking advanced cancer. *Pol Arch Med Wewn*. 2008;118: 5814
8. Schabel SI, Rogers CI, Rittenberg GM. Duodeno-duodenal fistula-a manifestation of carcinoma of the colon. *Abdominal Imaging*. 1978;3(1):15-7.
9. Al-Obaidy K, Alruwaili F, Al Nemer A, Alsulaiman R, Alruwaili Z, Shawarby MA. Primary gastric actinomycosis: Report of a case diagnosed in a gastroscopic biopsy. *BMC Clin Pathol*; 2015;15. [Cited 2017 Apr 11] Available:<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4359583/>
10. Jung E-Y, Choi S-N, Park D-J, You J-J, Kim H-J, Chang S-H. Abdominal actinomycosis associated with a sigmoid colon perforation in a patient with a ventriculoperitoneal shunt. *Yonsei Med J*. 2006;47(4):583-6.
11. Acevedo F, Baudrand R, Letelier LM, Gaete P. Actinomycosis: A great pretender. Case reports of unusual presentations and a review of the literature. *International Journal of Infectious Diseases*. 2008;12(4):358-62.
12. Van Olmen G, Larmuseau MF, Geboes K, Rutgeerts P, Penninckx F, Vantrappen G. Primary gastric actinomycosis: A case report and review of the literature. *American Journal of Gastroenterology*. 1984;79(7).

© 2017 Awuku et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://sciencedomain.org/review-history/18713>