

Jejunal Adenocarcinoma- An uncommon cause of refractory iron deficiency anemia in young patients

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Abstract

Small bowel adenocarcinoma is a relatively uncommon condition and it is usually diagnosed at an advanced stage due to its non-specific symptoms and inaccessibility via esophagogastroduodenoscopy. Here we present a diagnosed case of a young patient while evaluated for refractory iron deficiency anemia, requiring multiple blood transfusions and a negative bidirectional endoscopy being diagnosed with jejunal adenocarcinoma at an advanced stage, with push enteroscopy. An unexplained iron deficiency anemia needs a high index of suspicion of small bowel neoplasm to initiate appropriate investigations, which will aid in early diagnosis, thereby facilitating timely intervention and potentially improving survival outcomes.

Key words: Small bowel adenocarcinoma, Rare cancer, Iron deficiency anemia, Refractory anemia

Introduction

Small bowel neoplasms are relatively uncommon, accounting for approximately 3-5% of all gastrointestinal malignancies. Small bowel cancers include four common histological types: adenocarcinoma, carcinoid tumor, lymphoma and sarcoma [1].

Primary small bowel adenocarcinoma includes 30-40% of which jejunal adenocarcinoma accounts for 25-29% of the cases. Diagnosing small bowel adenocarcinoma remains a significant challenge, and often detected at an advanced stage. In contrast to duodenal carcinoma, jejunal carcinoma exhibits a relatively favourable prognosis [2,3].

We present a case of 42 years old male presenting with persisting iron deficiency anemia diagnosed with jejunal adenocarcinoma with a diagnostic delay.

Case Presentation

A 42-year-old male patient presented with exertional tiredness, palpitations, symptoms clinically indicative of anemia, yet without any overt gastrointestinal bleeding or other identifiable causes of anemia. He had associated loss of appetite and significant weight loss. He was treated for Pulmonary tuberculosis 20 years back and has a family history of gastric carcinoma in a first-degree relative. He neither smokes nor consumes alcohol. Upon examination, he was grossly pale, there was no organomegaly and the rest of the examination was unremarkable. Laboratory investigations revealed severe iron deficiency anemia with a Hb-4.4 (microcytic hypochromic). His abdominal ultrasound, Upper and lower gastrointestinal endoscopies up to the terminal ileum were normal. Tumour and inflammatory markers were also within the normal levels. He received 2 pints of blood transfusion and was discharged with oral iron supplements. He subsequently presented 3 times with severe iron deficiency anemia needing blood transfusion.

Upper gastrointestinal endoscopy revealed healed ulcer and biopsy showed superficial fragments of unremarkable duodenal mucosa. Lower gastrointestinal endoscopy upto terminal ileum was normal with biopsy revealing normal mucosa.

He presented again in a year, with severe iron deficiency anaemia. Repeated upper and lower gastrointestinal endoscopies were normal. Given the chronic blood loss, iron deficiency, loss of appetite and loss of weight, Contrast enhancing computed tomography (CECT) coeliac artery angiogram was done, which revealed irregular wall thickening in jejunal loop measuring 13.2cm length, suspicious of jejunal neoplasm, potentially lymphoma or malignancy.

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Following the CECT he underwent Push enteroscopy, which revealed 6cm long stricture with abnormal growth seen in proximal jejunum around 15cm from duodenojejunal flexure(Figure 1 and 2) and the biopsy revealed moderately differentiated adenocarcinoma shown in Figure3.

He underwent a laparoscopy procedure which converted into an open excision for jejunal tumour. There was a large tumour measuring 20cm in length and 5cm in diameter involving proximal jejunum, found to be attached to transverse mesocolon and omentum. Histopathology specimen revealed moderately differentiated adenocarcinoma extending to subserosa of small bowel and infiltrates into muscularis propria of attached large bowel, with evidence of venous invasion and absent lymphatic invasion. Patient's postoperative period was uneventful and he was referred to the oncology team for adjuvant chemotherapy.

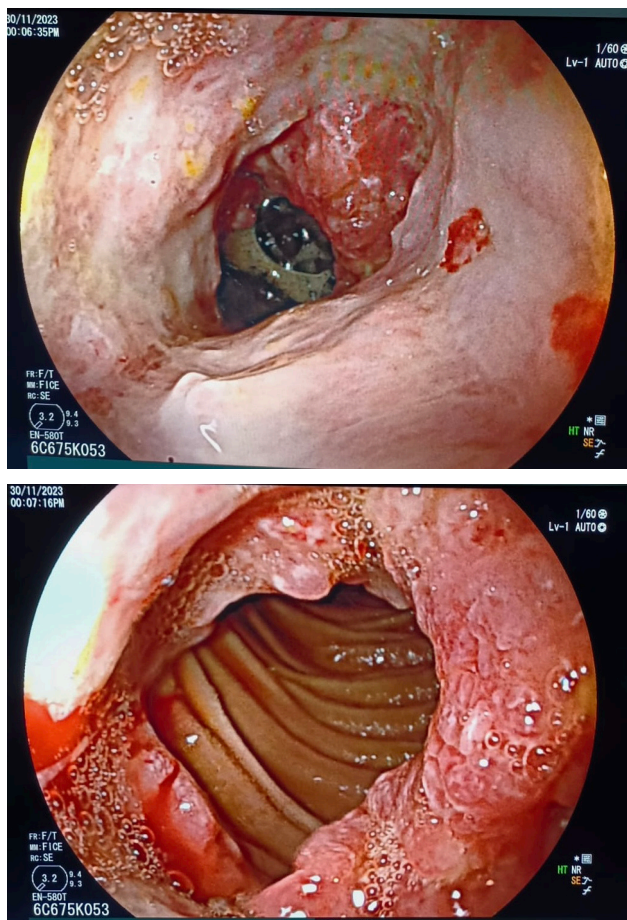


Figure 1 and 2 -Push enteroscopy images showing jejunal growth.

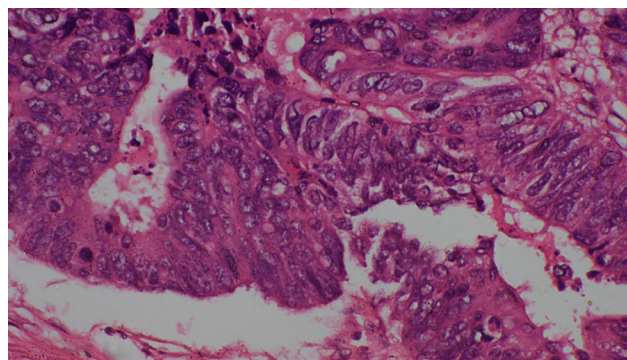


Figure 3-The biopsy of the lesion revealed moderately differentiated adenocarcinoma(magnification * 400).

Discussion

Although surface area of small bowel includes 90% of gastrointestinal system, small bowel malignancies are rare, representing only 3-6% of gastrointestinal tract tumours and only 1-3% of all malignant Gastrointestinal tumours. Out of the small bowel tumours, adenocarcinomas and carcinoids accounts for the majority of small bowel cancers. Notably, only 29% of adenocarcinoma of small bowel are located in jejunum, while duodenum accounts for the majority(57%) (4,5).

Diagnosis of jejunal adenocarcinomas is often delayed due to the inaccessibility of jejunum by conventional diagnostic tools. Diagnosing early and locally advanced jejunal carcinomas is challenging, leading to a diagnosing at advanced stages. literature describes a significant delay from onset of symptoms to diagnosis of small bowel adenocarcinomas due to its vague and non specific symptoms, as well as challenges in evaluating small intestine. Small bowel adenocarcinomas can present with wide range of symptoms including nausea, vomiting, weight loss, abdominal discomfort associated with either obstruction or gastrointestinal bleeding. In addition iron deficiency anemia is a rare occurrence in small bowel adenocarcinoma, as seen in our patient. (6,7).

With reference to another case report, anemia was the only clinical manifestation, when it took two years and four colonoscopies to arrive at a diagnosis. Similarly our patient also experienced nearly 2 years delay in diagnosis from the onset of symptoms, emphasising the difficulties in diagnosing small bowel adenocarcinoma.

Double ballon enteroscopy and capsular endoscopy can aid in early diagnosis of small bowel carcinomas. (9). However, despite the advances made in diagnostic modalities, the time taken to diagnose small bowel adenocarcinoma from the time of medical evaluation has remained unchanged overtime (6).

Since, small bowel adenocarcinomas are often diagnosed at advanced stages the outcome is generally poor with a 5 year survival rate of less than 30% and median survival rate of 19 months. The stage at which small bowel adenocarcinoma is diagnosis significantly impacts the survival rate, for example 5 year survival rate in USA is 65.5 %. In comparison, patients presenting with intestinal obstruction are diagnosed earlier than those presenting with iron deficiency anemia, since the later requires further investigations (10,11). Like in our case, patients presenting with iron deficiency anemia should be evaluated for occult gastrointestinal bleeding due to small bowel adenocarcinoma. Early suspicion and prompt investigations will lead to early diagnosis, thus improving survival rates. Treatment options for small bowel adenocarcinoma include surgical resection with clear margin and regional lymph node resection.

Conclusion

Diagnosis of rare Small bowel malignancies remains yet a challenge. Unexplained iron deficiency anemia needs high index of suspicion for small bowel adenocarcinoma, prompting appropriate diagnostic investigations which will aid in early diagnosis, thus leading to early intervention, improving survival outcome.

Reference

1. Li J, Wang Z, Liu N, Hao J, Xu X. Small bowel adenocarcinoma of the jejunum: a case report and literature review. *World Journal of Surgical Oncology*. 2016 Dec;14:1-6.
2. Tahmasbi H, Kashani P, Toutounchi AH, Sadeghmousavi S, Hasanzade A, Aghaei M. Jejunal adenocarcinoma; a case report and literature review. *International Journal of Surgery Case Reports*. 2024 Feb 14:109372.
3. Cimpeanu E, Zafar W, Circiumaru I, Prozumenshikov A, Salman S. Rare presentation of small bowel adenocarcinoma with neuroendocrine differentiation in the jejunum: A case report and summary of diagnostic and management options. *Molecular and Clinical Oncology*. 2019 Nov 1;11(5):461-4.
4. Bouali M, Sylvestre K, Benghait H, El Bakouri A, El Hattabi K, Bensardi FZ, Fadil A. Small bowel adenocarcinoma a rare cause of upper gastrointestinal obstruction (a case report and literature review). *International Journal of Surgery Case Reports*. 2022 Feb 1;91:106763.
5. Aparicio T, Zaanani A, Svrcek M, Laurent-Puig P, Carrere N, Manfredi S, Locher C, Afchain P. Small bowel adenocarcinoma: epidemiology, risk factors, diagnosis and treatment. *Digestive and liver disease*. 2014 Feb 1;46(2):97-104.
6. Colina A, Hwang H, Wang H, Katz MH, Sun R, Lee JE, Thomas J, Tzeng CW, Wolff RA, Raghav K, Overman MJ. Natural history and prognostic factors for localised small bowel adenocarcinoma. *ESMO open*. 2020 Jan 1;5(6):e000960.
7. Nousherwani MD, Waseem T, Khattak UM, Tariq H, Ashfaq M, Babur M. Small Bowel Adenocarcinoma: A Rare Case of Iron Deficiency Anemia. *Cureus*. 2022 Dec 20;14(12).
8. Popa B, Constantinescu G, Ilie M, Badila E, Beuran M, Turculeț C. Ileum adenocarcinoma, a missed cause of anemia. *J Gastrointest Liver Dis*. 2014 Dec 1;23(4):362.
9. Azim D, Kumar S, Rai L, Samo KA, Memon AS. Jejunal adenocarcinoma as a rare cause of small bowel obstruction: a case report. *Cureus*. 2020 Oct 2;12(10).
10. Pereira R, Tojal A, Gomes A, Casimiro C, Moreira S, Vieira F, Rodrigues P. Adenocarcinoma of the jejunum: management of a rare small bowel neoplasm. *Journal of Surgical Case Reports*. 2021 Apr;2021(4):rjab124.
11. Locher C, Batumona B, Afchain P, Carrère N, Samalin E, Cellier C, Aparicio T, Becouarn Y, Bedenne L, Michel P, Parc Y. Small bowel adenocarcinoma: French intergroup clinical practice guidelines for diagnosis, treatments and follow-up (SNFGE, FFCD, GERCOR, UNICANCER, SFCD, SFED, SFRO). *Digestive and Liver Disease*. 2018 Jan 1;50(1):15-9.