Shisto or No? A Rare Case of Signet Ring Cell Carcinoma of the Rectum

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Background

- Signet ring cell carcinoma (SRCC) of the rectum is a rare type of colorectal cancer with an incidence of less than 2%.[1] SRCC is associated with poor prognosis, and often diagnosed at an advance stage.[1,2]
- Literature reports an association between Schistosomiasis and genitourinary manifestations.[3] However, there is only one case report to date describing SRCC of the rectum in a patient with Schistosomiasis.[4] We report a rare case of newly found SRCC of the rectum.

Case Description

A 38 year old male Cuban immigrant with a history of hypertension who presented with a 3-month history of urinary retention, intermittent fevers, and hematuria. Two weeks prior to presentation, he had worsening urinary retention requiring placement of indwelling foley. Physical exam and vital signs were normal, with exception of a foley catheter. Labs showed Hb 8.5 G/DL, MCV 85 fl, Creatinine 1.7 mg/dL. CT of the abdomen and pelvis with IV contrast revealed severe bilateral hydroureteronephrosis, concentric bladder wall thickening, splenomegaly, enlarged bilateral inguinal lymph nodes, and concentric submucosal thickening of the distal sigmoid/rectum with calcifications (Figure A). Colonoscopy revealed severe, diffuse, circumferential inflammation, narrowing, and ulceration from anus to sigmoid (Figure B). Rectosigmoid biopsy showed mucinous adenocarcinoma with signet ring cell features. Schistosoma IgG Ab 0.01 OD. The patient was advised to undergo further workup, however he decided to leave the hospital against medical advice.

Imaging

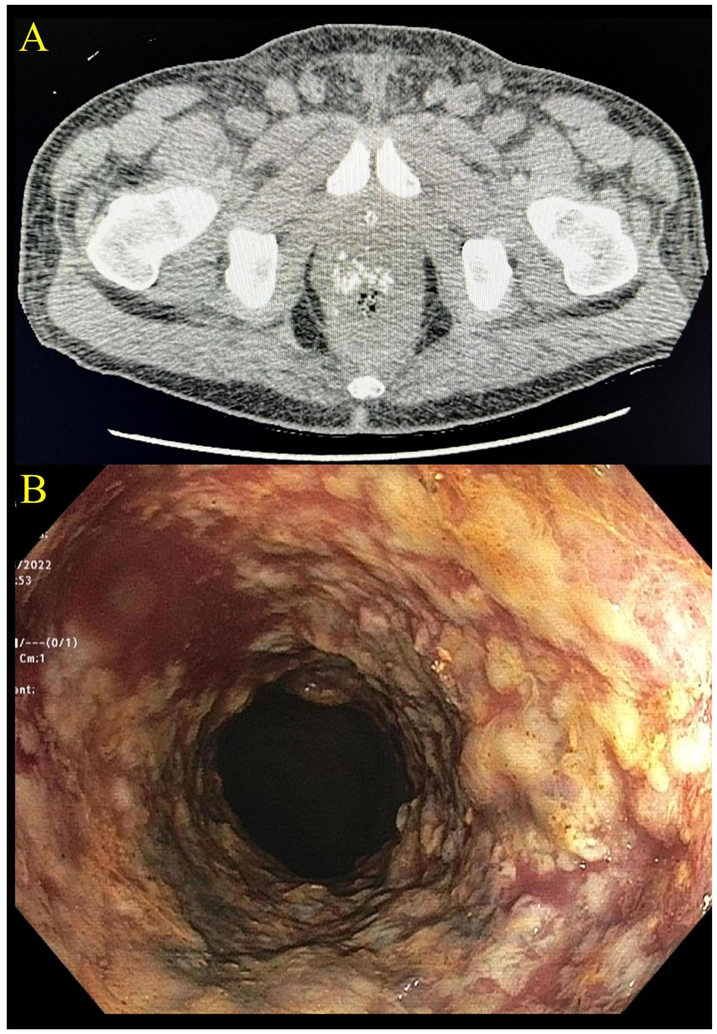

Figure A: CT of the pelvis with IV contrast showing concentric submucosal thickening of the distal sigmoid/rectum with calcifications. **Figure B:** Colonoscopy showing severe circumferential inflammation, narrowing, and ulceration of the sigmoid colon.

Discussion

Schistosomiasis is a parasitic disease known to have an association with bladder neoplasia.[3] Our patient presented with features suspicious of Schistosomiasis including: genitourinary manifestations, travel to endemic regions, and rectal calcifications. Although our patient's antibody titer was negative, this case highlights the rarity of the SRCC of the rectum and the heterogeneity of presentation.

The majority of SRCC arise in the stomach with high propensity for lymph node invasion, and metastasis. Histologically, the presence of > 50% signet cells is diagnostic.[5] Treatment with targeted therapy and chemotherapy have limited effect on improving survival. Further comparative studies of novel treatment modalities need to be conducted.

Conclusion

In conclusion, though SRCC of the rectum is rare, clinicians should consider this as a differential in patients presenting with risk factors for schistosomiasis and SRCC of the rectum.

References

1. Belli S, Aytac HO, Karagulle E, Yabanoglu H, Kayaselcuk F, Yildirim S. Outcomes of surgical treatment of primary signet ring cell carcinoma of the colon and rectum: 22 cases reviewed with literature. *Int Surg*. 2014;99(6):691-698. doi:10.9738/INTSURG-D-14-00067.
2. Morales-Cruz M, Salgado-Nesme N, Trolle-Silva AM, Rodríguez-Quintero JH. Signet ring cell carcinoma of the rectum: atypical metastatic presentation. *BMJ Case Rep*. 2019;12(4):e229135. Published 2019 Apr 30. doi:10.1136/bcr-2018-229135
3. Darre T, Djiwa T, Dare S, Alassani F, Napo-Koura G. Difficult Causality Relationship between Colorectal Cancer and Schistosomiasis. *Pathol Oncol Res*. 2020;26(1):597-598. doi:10.1007/s12253-018-00566-0
4. Canepa M, Fanta PT, Weidner N, Peterson MR. Schistosomiasis and signet ring cell carcinoma of the rectum. *Ann Diagn Pathol*. 2012;16(5):385-387. doi:10.1016/j.anndiagpath.2010.12.008
5. Benesch MGK, Mathieson A. Epidemiology of Signet Ring Cell Adenocarcinomas. *Cancers (Basel)*. 2020;12(6):1544. Published 2020 Jun 11. doi:10.3390/cancers12061544

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