

Introduction

- Colonic perforation comprises 3-10% of the initial presentation of Colorectal Cancer (CRC)^[1].
- Signet Ring Cell Carcinoma (SRCC) and Mucinous Adenocarcinoma are two distinct subtypes which occur with a very low incidence of 10-20% and 0.9-4%, respectively^[2].
- Both are usually diagnosed at an advanced stage and therefore, have an overall worse prognosis than other types of CRC.
- Here we present a rare case of colonic mucinous adenocarcinoma with signet ring cell features manifesting as a contained perforated intra-abdominal mass with a fistulizing connection to the small bowel necessitating surgery.

Case Description

- A 60 year old male with no past medical history presented with fatigue, shortness of breath and anemia with hemoglobin of 4.8 g/dL.
- A computed tomography (CT) scan of the abdomen and pelvis with contrast was obtained to rule out an underlying colorectal malignancy and this showed an intraperitoneal mass with a central necrotic component and air, suggesting communication to the small bowel.
- Due to the initial concern of a possible contained perforation, the decision was made to defer colonoscopy despite the patient never having had a colonoscopy.
- Ultimately, the patient underwent a diagnostic laparoscopy which showed a large intra-abdominal mass with a mucinous surface involving multiple parts of the small bowel and sigmoid colon.
- This mass was removed along with a small bowel and sigmoid colon resection.
- Pathology was notable for moderately differentiated mucinous adenocarcinoma of the sigmoid colon with focal signet ring features with negative margins and no evidence of lymphovascular invasion.
- The patient's postoperative course was complicated by a small bowel obstruction which was managed conservatively. He was eventually discharged with instructions to follow up with Oncology for further treatment.

Figures

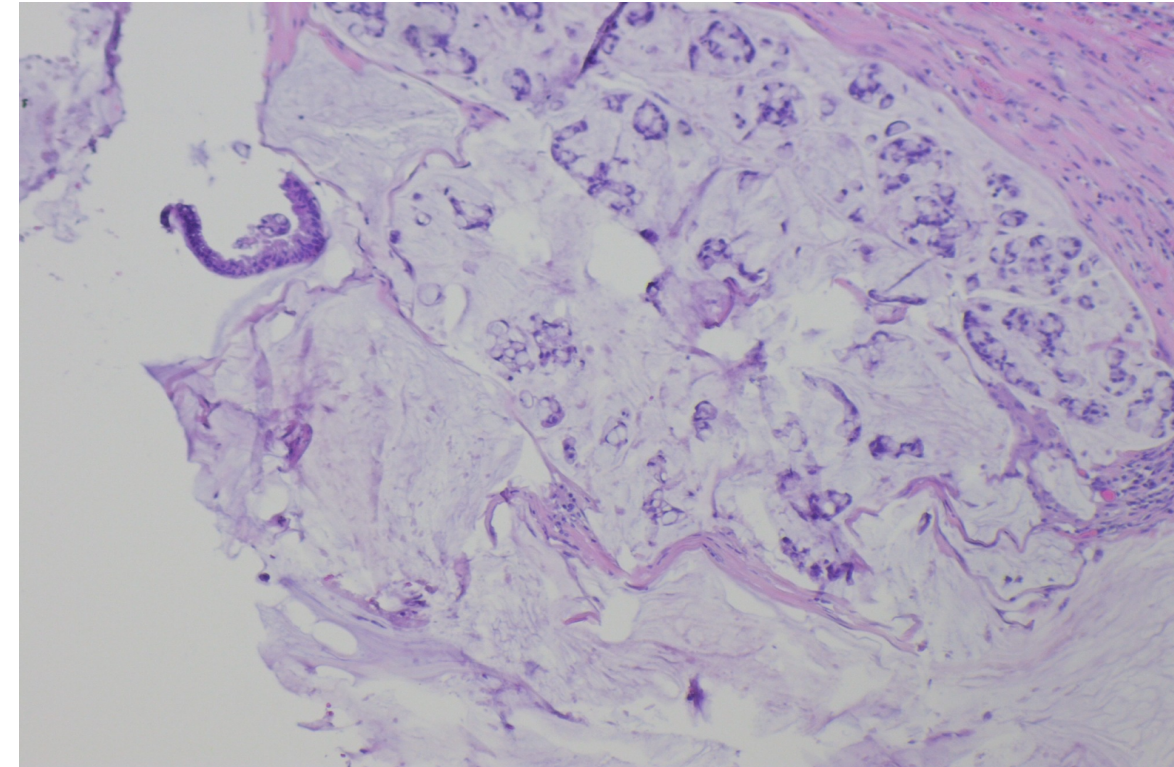


Figure 1. Signet Ring Cells in background of mucus (from sigmoid colon)



Figure 2. Computed Tomography (CT) scan showing an intra-abdominal mass with a contained perforation

Discussion

- Mucinous adenocarcinoma is characterized by the presence of abundant extracellular mucin which accounts for at least 50% of the tumor volume.
- Signet ring cells have copious amounts of mucin in the cytoplasm and nuclei located at the cell periphery.
- These lesions are usually located in the right colon and share similar characteristics on CT imaging including segments of concentric bowel wall thickening, ulcerations, and perirectal or pericolic infiltrations^[3].
- Studies have shown that even a minor (50% or less) signet-ring cell component in CRC was associated with higher patient mortality^[4].
- This becomes evident as these tumors diffusely infiltrate the submucosa with full thickness involvement of the bowel wall and have a high propensity for pelvic, peritoneal and ovarian metastasis.
- Treatment centers on surgical resection with adjuvant chemotherapy showing some benefit.
- Our case highlights an atypical presentation of a rare subtype of CRC for which gastroenterologists should maintain a high index of suspicion.

References

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