Malignant Carcinoid within Crohn’s Ileitis
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Introduction
The association between inflammatory bowel disease and adenocarcinoma has been well established. Although rare, carcinoid tumors have also been described in association with Crohn’s disease. Most commonly carcinoid tumors have been described in areas of the gastrointestinal tract uninvolved by active Crohn’s disease. We present a case of carcinoid tumor diagnosed within a segment of small bowel with active Crohn’s ileitis. To our knowledge less then 10 cases have been reported in the literature.

Case Presentation
A 41-year old female with a 7-year history of chronic post-prandial right lower quadrant pain and diarrhea presented with worsening abdominal pain and weight loss. Laboratory studies were remarkable for a microcytic anemia with a hemoglobin of 9, an elevated C-reactive protein level of 14.5, and an albumin level of 1.5. The patient’s white blood cell count and electrolytes were within normal limits.

A CT scan of the abdomen and pelvis showed circumferential thickening of the distal terminal ileum with an adjacent 6.8 x 4.7 x 7.8 cm poorly marginated lobular mesenteric mass within the left upper pelvis overlying the left external iliac vessels. Enlargement of numerous mesenteric lymph nodes were also noted. These radiologic findings raised the concern not only for the presence of inflammatory bowel disease but also a likely separate malignancy such as a carcinoid tumor or lymphoma. A colonoscopy was completed with no colonic pathology identified. The terminal ileum could not be cannulated for biopsy secondary to inflammation.

Methods
A diagnostic laparoscopy was performed. Inflammation was noted in the distal and terminal ileum with evidence of creeping fat consistent with the suspicion for Crohn’s disease. Initially, we were unable to completely run the small bowel from the ligament of treitz distally due to the extensive inflammation within the distal ileum and presence of interloop adhesions along with adhesions of these loops to the sigmoid colon. We were able to gently free up most of these adhesions laparoscopically, with the exception of one loop which was adherent to the sacral promontory. There was no involvement of the left external iliac vessels. One of our port sites was then converted to a mini-laparotomy incision to palpate and evaluate the remaining loop of adherent small bowel. This loop was able to be freed using blunt finger dissection. No discrete mass could be palpated, although there were multiple enlarged lymph nodes identified in the mesentery. The involved segment of bowel was resected. An end ileostomy was created.

Discussion
Both Crohn’s disease and carcinoid tumors are uncommon and the presence of both diseases is exceedingly rare (1-6). It is hypothesized that inflammation creates a favorable environment for carcinoid tumors. This is based on the observation that more carcinoids have been found in inflamed appendices than in normal appearing appendices on autopsy (2). Although most reported cases of carcinoid tumors in patients with Crohn’s disease are found in non-inflamed areas, this may be a consequence of immunomodulator therapy used in the treatment of Crohn’s disease.

The true incidence of carcinoid tumors in Crohn’s disease is unknown (1-6). Most are found incidentally at the time of surgery. Both diseases can be associated with symptoms of nausea, diarrhea, abdominal pain, and weight loss. Carcinoid tumors may also resemble Crohn’s disease radiographically and histologically. Therefore, it is possible that carcinoid tumors may be misdiagnosed and the incidence of carcinoid tumors in Crohn’s disease is higher than reported.

Conclusion
Patients with Crohn’s disease are increased risk for developing malignant lesions. Its association with adenocarcinoma of the small and large intestines is well recognized. The coexistence of carcinoid tumor and Crohn’s disease has rarely been described, particularly in areas of active Crohn’s disease. Thus, a relationship between the two disease processes has not been conclusively established. This case report emphasizes the importance the thorough pathologic examination to avoid missing the atypical tumor.

References
2. West, N et al. Inflammatory Bowel Disease. 2007; 13(9): 1129-1132.