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XANTHOGRANULOMATOUS INFLAMMATION (XGI) OF THE TERMINAL ILEUM, CAECUM, AND APPENDIX MIMICKED AS APPENDICULAR MASS: A CASE REPORT AND LITERATURE REVIEW

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Introduction

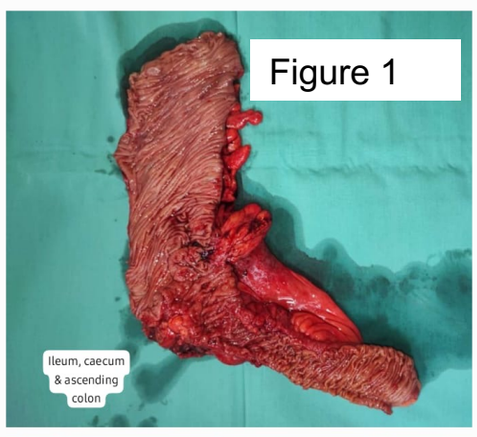
Xanthogranulomatous inflammation (XGI) is a rare condition characterized by the accumulation of lipid-laden macrophages. While it is commonly seen in the genitourinary tract, the kidney, and gallbladder, involvement of the small bowel is rare. To date, only five cases have been reported, and this is the first known case of XGI affecting the terminal ileum, appendix, and caecum with fistulation to the anterior abdominal wall.

Case Report

A 77-year-old male with Type II Diabetes Mellitus and hypertension, presented with 10 days of right iliac fossa pain. He had no fever or changes in bowel habits. Examination revealed a right iliac fossa mass

Contrast-enhanced CT (CECT) revealed a large, well-defined, rim-enhancing multiloculated collection in the right lower anterior abdomen, measuring approximately 11.6 x 6.2 x 8.8 cm. This collection, located in the extraperitoneal space and right anterior abdominal wall muscle, was associated with thickening of the terminal ileum, ileocecal junction, cecum, and proximal ascending colon, along with surrounding fat streakiness. Fistulation towards the right anterior abdominal muscle was observed. Ultrasound-guided drainage of the collection was performed, and the patient received intravenous cefobid and flagyl for 2 weeks. Blood cultures were negative, but pus cultures showed mixed growth of five organisms, including several gram-negative bacteria, without a predominant colony.

Despite good health and normal septic parameters, a follow-up CECT showed a reduced intramuscular collection and improving inflammatory changes. The patient underwent a right hemicolectomy with side-to-side stapler anastomosis, right abdominal wall incision and drainage, and right inguinal hernia repair. Intraoperative findings included a perforated appendix with inflammatory phlegmon and fistulation into the right abdominal wall. Debridement of slough and necrotic tissue was performed. Histopathology confirmed xanthogranulomatous inflammation with CD68-positive foamy macrophages, lymphocytes, plasma cells, and neutrophils in the cecum, terminal ileum, and adjacent fatty tissue. The patient was discharged on postoperative day 4 in good condition.



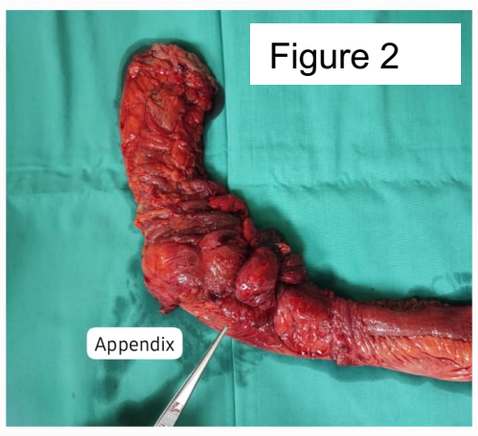


Figure 1 and 2: Post operative specimen of right hemicolectomy with macroscopic appearance of xanthogranulomatous inflammation

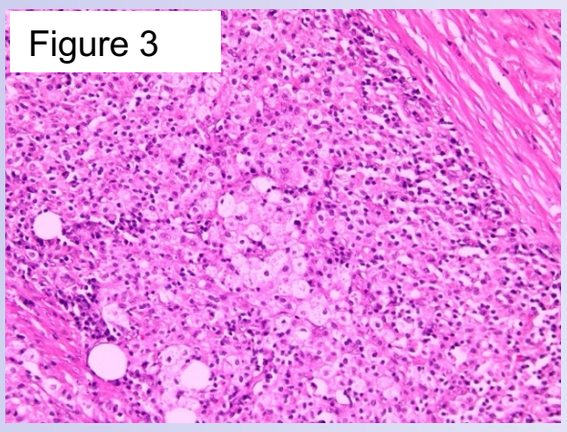


Figure 3: Low yield microscopic appearance of granuloma and granulomatous inflammation (rimmed by lymphocytes)

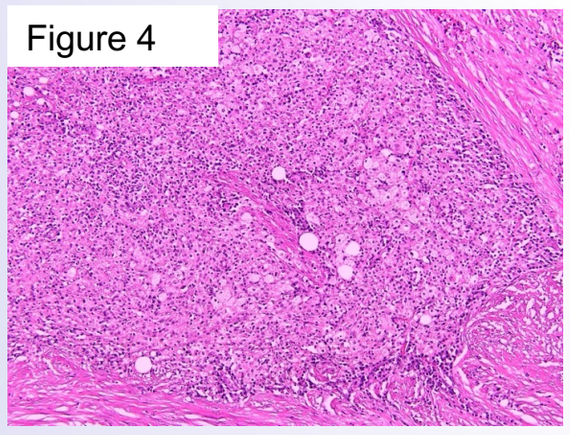


Figure 4: High microscopic appearance showing foamy machrophages

Discussion

Xanthogranulomatous inflammation (XGI) is a rare chronic condition characterized by the accumulation of lipid-laden foamy macrophages. It most commonly affects the gallbladder but has also been reported in the kidney, gastrointestinal tract, female genital tract, and head and neck.

Clinically, XGI can mimic infiltrative cancer due to its presentation as an irregular, mass-like lesion with surrounding fibrosis and inflammation. The exact pathogenesis is unclear but may involve chronic infections, obstruction, immunologic disorders, or defective lipid transport. In the gastrointestinal tract, XGI presents with chronic suppurative inflammation, tissue destruction, and lipid-rich macrophage proliferation, potentially exacerbated by recurrent inflammation from foreign bodies or obstruction.

In this case, an ileocecal mass suspected of being invasive cancer was excised via hemicolectomy and primary side-to-side anastomosis. Histological examination confirmed the mass as XGI. Despite its resemblance to malignant neoplasms, XGI lesions require wide-margin excision similar to advanced cancers. Histological analysis showed no direct link between XGI and adenocarcinoma. Preoperative endoscopic biopsy may be insufficient for ruling out malignancy due to the submucosal nature of lesions; however, intraoperative frozen section analysis can help avoid unnecessary radical surgery.

Conclusion

This report aimed to emphasize ileal, appendix and ileal involvement of XGI, although rare, as one of the differential diagnoses of mass lesions in the small bowel mimicking malignant neoplasms.

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