Ixekizumab-associated new-onset Inflammatory Bowel Disease: A Case Report

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Background

- Inhibition of IL-17 (a pro-inflammatory cytokine secreted by a variety of immune cells) by ixekizumab has been shown to be beneficial in the treatment of plaque psoriasis [1].
- Interestingly, IL-17 has also been shown to have higher expression in the intestinal mucosa of patients with IBD [2].
- Clinical trials investigating IL-17 inhibition in IBD have not only failed to demonstrate clinical efficacy, but also suggest that it may cause relapse in patients with IBD [3,4].
- Post-marketing reporting of ixekizumab-associated exacerbation or induction of IBD is needed to better understand the relationship between IL-17 inhibition and IBD.

Case Report

A **48 year old female** presented with a **2 day history of abdominal pain and vomiting without any infectious stigmata.**

Past Medical History:

1. **Psoriasis –** started taking **ixekizumab 12 weeks prior to presentation.**
   - Previously failed treatment with calcipotriol and betamethasone ointments, phototherapy, cyclosporine and methotrexate.
2. **Arthritis NYD –** patient described intermittent warmth, erythema, swelling of small joints of bilateral hands
   - Improved since starting ixekizumab

Social/Family History:

- No family history of IBD
- Current smoker, 15 pack-year history

Pertinent Investigations:

- WBC =13700/$mm^{3,}$ CRP = 84.1 mg/L, ESR = 32 mm/hr.
- **CT abdomen –** mural thickening in the terminal ileum and proximal cecum.
- **Colonoscopy** – mild erythema and punctate ulcerations in the terminal ileum **(Figure 1).**
- **Biopsies** – active inflammation with presence of granuloma, negative for fungus and mycobacteria **(Figure 2).**
- **Stool Cultures, O&P, C.Diff -** negative

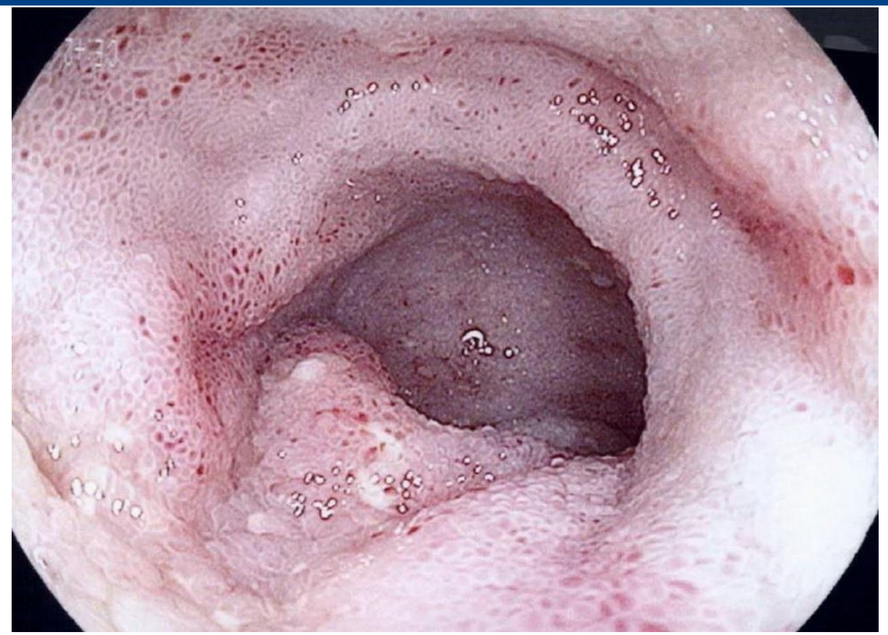

Figure 1: Colonoscopy image demonstrating mild erythema and punctate ulcerations in the terminal ileum.

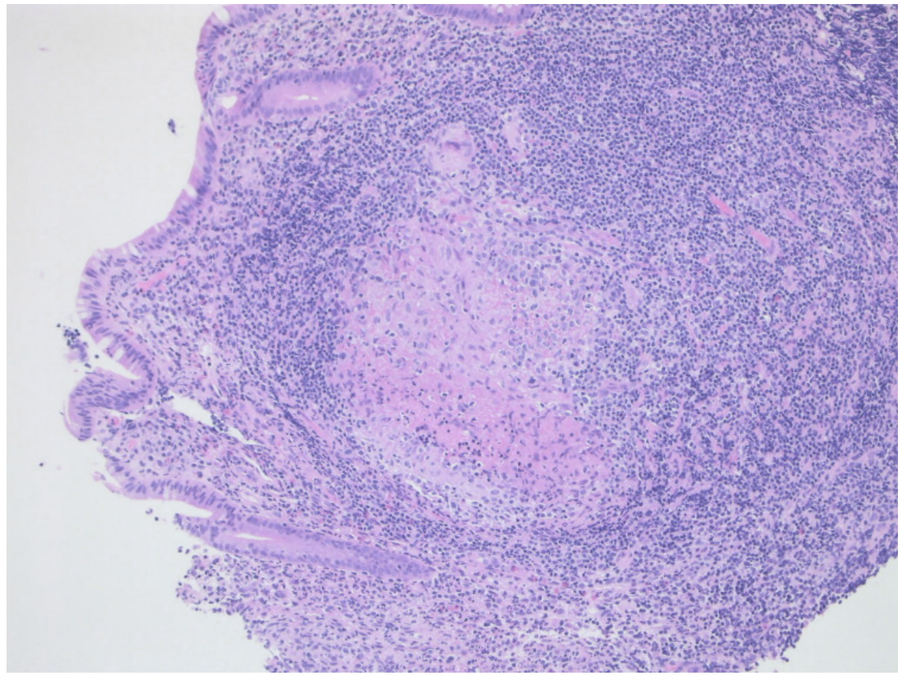

Figure 2: Biopsy specimen form the terminal ileum demonstrating active inflammation with presence of granuloma.

Case Resolution:

- The patient was diagnosed with Crohn's disease
- Ixekizumab was stopped and budesonide was started as a bridge to definitive therapy
- Thereafter, patient experienced resolution of her abdominal pain and vomiting and CRP declined to 19.6 mg/L (84.1 on admission).

After Discharge from hospital:

- Patient was seen in the rheumatology clinic and diagnosed with psoriatic arthritis
- Started on adalimumab, which resulted in significant improvement in her Crohn's disease, plaque psoriasis, and psoriatic arthritis

At 3 month follow-up:

- patient remained symptom-free from all 3 conditions and had a CRP of 1.9 mg/L.

Discussion

- In patients with symptoms suggestive of IBD, in addition to thorough investigations to test for and treat other etiologies which may present similarly to acute IBD, a thorough medication history should always be taken, taking into consideration previous exposure to anti-IL-17 agents as a known but rare cause of induction of IBD.
- close follow up of these patients should always include continued consideration of other etiologies because clinical and histopathologic chronicity are often features that differentiate IBD from other causes of terminal ileitis.

References

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