

## Introduction

- Inflammatory bowel Disease is an idiopathic disease caused by dysregulated immune responses to host intestinal microflora
- Crohn's Disease and ulcerative colitis (predominant forms of IBD) occur in approximately 1% of the population.
- Crohn's Disease can affect any area of the gastrointestinal tract from the mouth to the anus in the form of skip lesions, "cobble stoning", ulceration, and strictures.
- Genetic predispositions & associated environmental factors have been identified.
- Crohn's disease usually presents with fever & gastrointestinal symptoms (diarrhea, abdominal pain, rectal bleed)

## Case report

A 25-year-old woman presented with the following complaints:-

6-7 months	3 months	3 days
<ul style="list-style-type: none"> <li>- acute onset abdominal pain</li> <li>- blood-tinged stools</li> <li>- amenorrhea</li> <li>- weight loss of 50kgs</li> </ul>	<ul style="list-style-type: none"> <li>- bilateral lower limb weakness</li> <li>- difficulty getting up from the floor</li> </ul> <p style="text-align: center;">↓</p> <ul style="list-style-type: none"> <li>- Difficulty walking unable to stand without support</li> </ul>	<ul style="list-style-type: none"> <li>- Fever</li> <li>- Ear pain</li> </ul>

## Physical examination

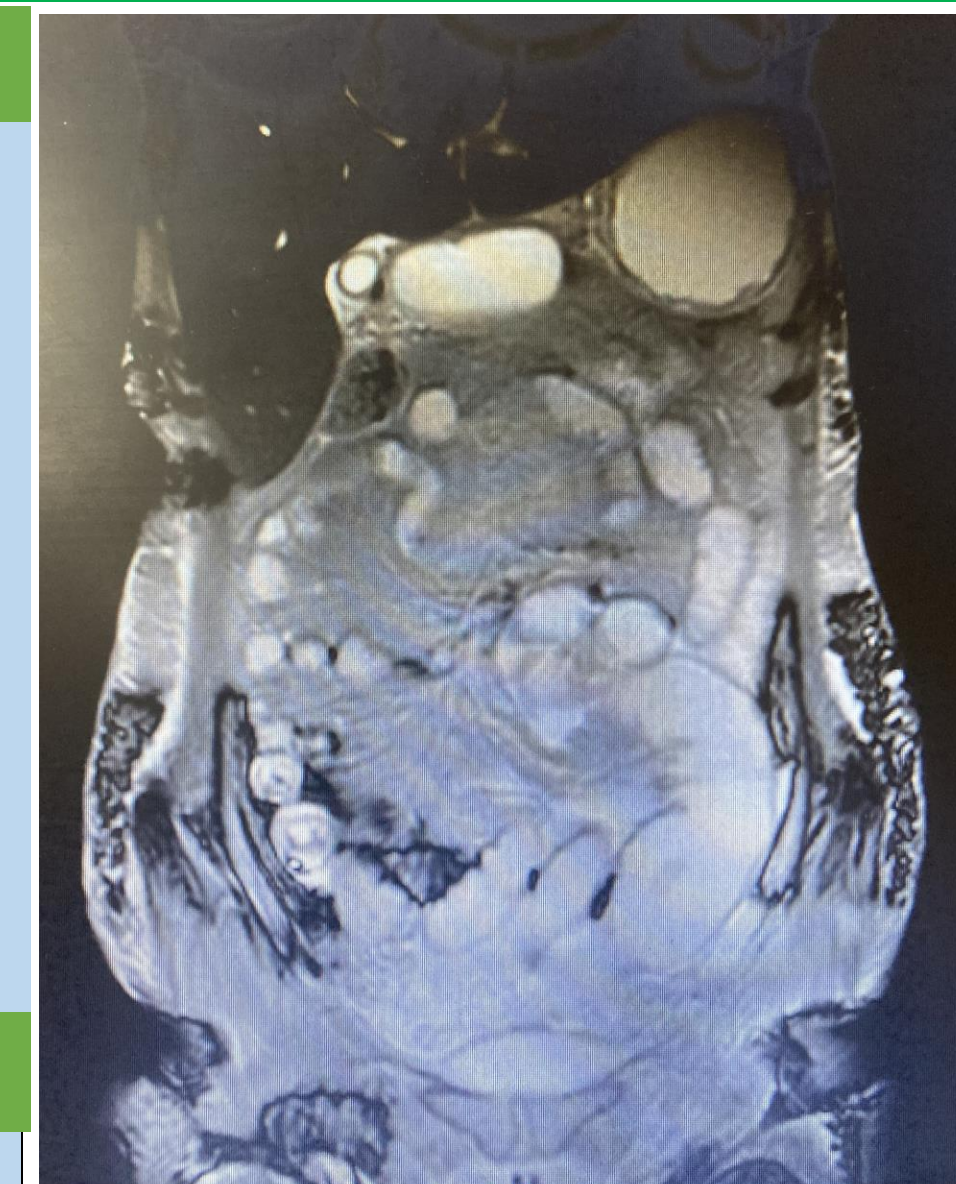
General examination	CNS examination
<ul style="list-style-type: none"> <li>- Pallor (visible in the patient's hands &amp; feet)</li> <li>- Bilateral pitting edema</li> </ul>	<ul style="list-style-type: none"> <li>- bilateral weakness of lower limbs manifesting proximally</li> <li>- ↓ hip abduction &amp; ↓ hip adduction</li> <li>- extensor plantar reflexes</li> <li>- absence of knee &amp; ankle reflexes without the involvement of upper limbs</li> </ul>

## Lab investigations

Hemogram	Biochemistry
<ul style="list-style-type: none"> <li>- Bicytopenia</li> <li>- Hemoglobin (9gm/dl)</li> <li>- TIBC (103mcg/dl)</li> </ul>	<ul style="list-style-type: none"> <li>- ↑ Lactate dehydrogenase (312 U/L)</li> <li>- hypocalcemia (7.2ng/dl)</li> <li>- hypophosphatemia (2.2mg/dl)</li> <li>- hypoalbuminemia (1.6mg/dl)</li> <li>- vitamin D deficiency (16.4ng/dl)</li> <li>- ↑ stool calprotectin (&gt;50)</li> </ul>

- Neurology consultation → weakness- nutritional secondary to malabsorption syndrome.
- MR spine study → no abnormalities (brain cuts showed partially empty sella)
- Nerve conduction study → Bilateral Lower limb sensory-motor axonal neuropathy with bilateral ulnar motor axonal affection

- MR enteroclysis → Long circumferential wall thickening with homogenous post contrast enhancement involving distal ileum (2 skip segments) & ileocaecal junction with significant luminal narrowing of ICJ causing dilatation of distal ileal loops and prominence of middle loops
- Colonoscopy → IC valve & cecum appeared deformed with a terminal ileal stricture across. No active ulcerations noted



Cecum



Terminal Ileal Stricture

## Management

- In this patient, the neurological extra intestinal manifestations were due to malabsorption related nutritional deficiencies. Therefore she was treated with a course of Vitamin B1, Folic acid, Vitamin C, Vitamin D3 and Iron supplementation.
  - A course of Metronidazole over 7 days was given.
  - The patient was also protein deficient so she was started on a high protein diet and was given 20g of albumin.
  - Due to low platelet count the patient was made to wear DVT stockings.
  - She underwent daily sessions of physiotherapy.
- After the course of medications, the patient's blood counts improved, her fever subsided and she reported to have improved control of her lower limbs.

## Discussion

Involvement of the ileum (ulceration or stricture) can cause malabsorption, and thereby vitamin deficiency, protein loss, diarrhea & hypoalbuminemia. Ulceration can also lead to bleeding and therefore iron deficiency anemia.

Diagnosis of Crohn's disease is based on thorough history, physical examination, laboratory studies, and endoscopic evaluation in order to: -

- identify extra intestinal complications
  - Confirm the diagnosis and extent of the disease
- Depending on its severity, treating Crohn's disease involves
- Medications -Corticosteroids & 5 aminosalicylic acid derivatives (to treat flare ups)
    - Antibiotics (like Metronidazole)
    - Biologic agents (TNF inhibitors/anti-integrin antibodies)
    - immunomodulators (to induce and maintain remission)
  - Maintaining Enteral nutrition
  - Counselling patients on risk factors (smoking, lifestyle, and hygiene) & complications (E.g.:- Cancer, osteoporosis, Anemia, nutritional deficiencies, infections, depression, thrombotic events, etc.)

## References

- Veauthier B, Hornecker JR. Crohn's Disease: Diagnosis and Management. Am Fam Physician. 2018 Dec 1;98(11):661-669. PMID: 30485038.
- Bruner LP, White AM, Proksell S. Inflammatory Bowel Disease. Prim Care. 2023 Sep;50(3):411-427. Doi: 10.1016/j.pop.2023.03.009. Epub 2023 May 10. PMID: 37516511.
- Singh N, Bernstein CN. Environmental risk factors for inflammatory bowel disease. United European Gastroenterol J. 2022 Dec;10(10):1047-1053. Doi: 10.1002/ueg2.12319. Epub 2022 Oct 19. PMID: 36262056; PMCID: PMC9752273.