

Intestinal Obstruction, as the First Presentation of Crohn's Disease, in an Adolescent

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Abbreviations:

ANA: Antinuclear Antibodies; ASCA: Anti Cerevisiae Antibodies; CD: Crohn's Disease; CRP: Creactive Protein; ESR: Erythrocyte Sedimentation Rate; GI: Gastrointestinal; IBD: Inflammatory Bowel Disease; MRI: Magnetic Resonance Imaging; pANCA: Perinuclear Anti-Neutrophil Cytoplasmic Antibodies; RX: Radiography

1. Abstract

Crohn's disease can be presented with atypical clinical picture, or even complications as the first presentation of the disease. We present a 15years old male, with previous unremarkable history, who was admitted because of abdominal pain and cholic vomiting. Initial radiological evaluation has showed obstruction of small bowel and increased wall thickening of terminal ileum. Laboratory findings were within normal limits. Patient's situation not allowed investigation with endoscopy. MRI of abdomen revealed inflammation, stenosis and prostenotic dilatation of terminal ileum. Colonoscopy and final diagnosis of Crohn's disease were performed two weeks after initiation of treatment. Intestinal obstruction was the single and first presentation of Crohn's disease in our patient. There should be increased suspicion for its diagnosis in patients with unexplained intestinal obstruction.

2. Case Report

Crohn's disease usually manifests itself with gastrointestinal symptoms however in some cases the patients presents with atypical clinical picture, extraintestinal manifestations or even complications as the first presentation of the disease [1].

Male, adolescent 15 years old was transferred from a peripheral Hospital in our tertiary hospital because of the abdominal pain and cholic vomiting in the last 30 hours.

On clinical examination, he was afebrile with normal vital signs. He was pale, in bad medical condition, with vomiting and nausea, elevated bowel sounds with diffuse sensibility in the palpation of abdomen without organomegaly. First radiological evaluation revealed small bowel obstruction (Figure 1). CT scan performed in the peripheral hospital showed thickening of the wall of terminal ileum, and no other pathological signs of compression (masses, organomegaly or other pathological findings). Nasogastric tube was placed to disengage the gastric/bilious content, with amelioration of vomiting and nausea but one week after he was continuing to have vomiting in any attempt of per mouth feeding /drinking.

His history was unremarkable although a decreased in his weight percentile >2 percentiles was observed since last year (Figure 2). The decrease in his weight percentiles was not noticed from the parents because he was getting height, with normal activities for his age.



Figure 1: X ray of Abdomen indicating intestinal obstruction

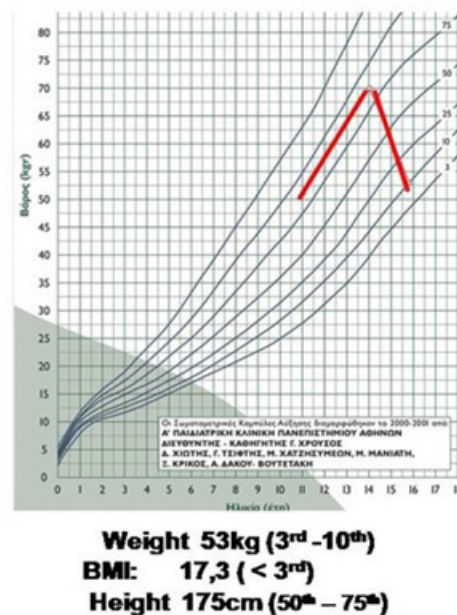


Figure 2: Growth chat

Laboratory results revealed a slight anemia and a slight increase of amylase with normal inflammation markers, normal electrolytes, normal albumin, liver enzymes, bilirubine. An increased INR was noticed and vitamin K was administrated.

In differential diagnosis Crohn's disease and lymphoma of the intestine were the most probable diagnoses. MRI enterography (with medium contrast) could not be done at that time, because of intestinal obstruction. MRI of abdomen revealed inflammation of terminal ileum with stenosis of the lumen and prostenotic dilatation without lymph nodes or other signs of malignancy (Figure 3, 4).

Fecal calprotectin was elevated as well as ASCA antibodies. Laboratory parameters appears in (Table 1).

Endoscopy was initially contraindicated because of the situation

of the patient, with intestinal obstruction, who had again vomiting in any new attempt to be fed. Corticosteroids were started and after two weeks on steroids he was able to be fed with exclusive polymeric diet without vomiting and also in that time endoscopic evaluation and diagnosis of Crohn's disease were made. The patient received corticosteroids and immunomodulators and exclusive polymeric diet because he could not tolerate normal feeding yet. One month later in abdominal ultrasound signs of persistent inflammation were observed despite medication and a new MRI enterography performed where the stenosis has disappeared but two fistulas were observed (Figure 5).

The medication was switched in biological agent in combination with immunomodulator. Since then he is in complete remission, with normal MRI enterography three months later (Figure 6).

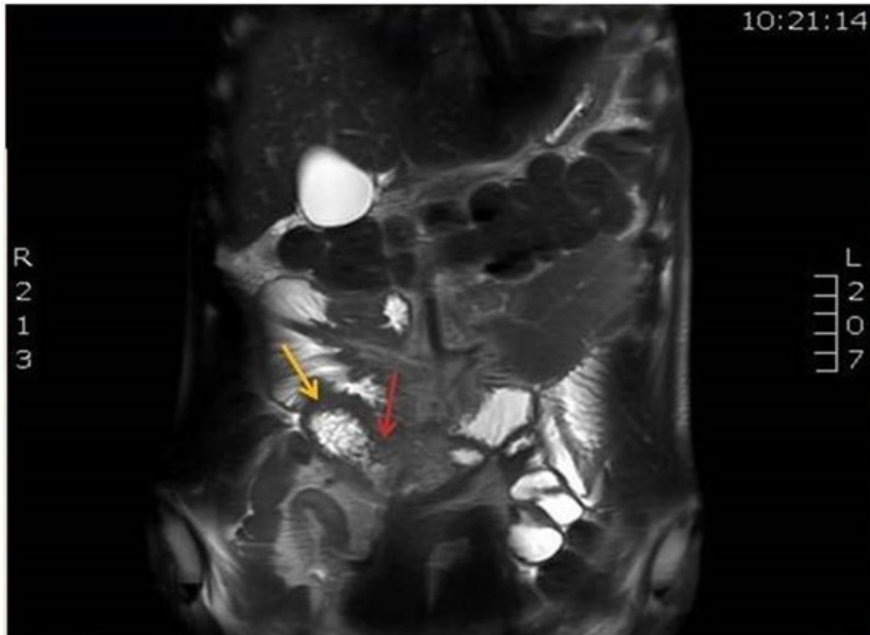


Figure 3: Red arrow: intestinal stenosis, Yellow arrow: prostenotic dilatation

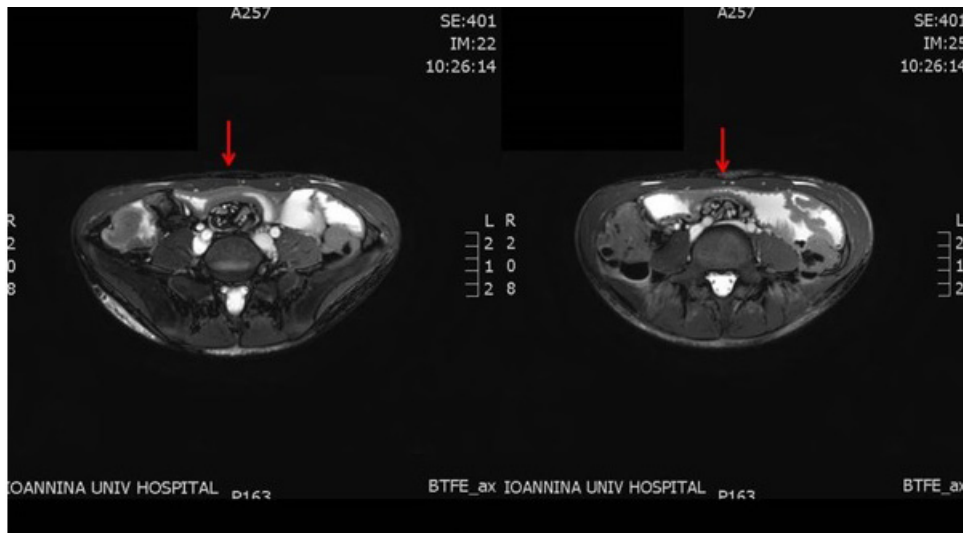


Figure 4: Stenosis with thickening of intestinal wall

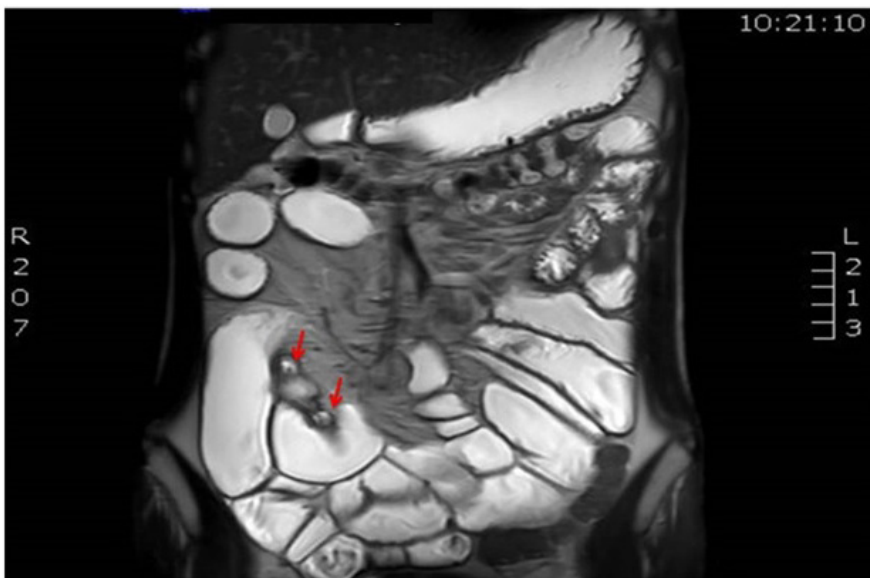


Figure 5: MRI enterography, red arrows: fistulas



Figure 6: MRI enterography, 3 months after initiation of treatment without fistulas or stenosis, suspicion of adhesions

Table 1: Laboratory Findings

WBC	5720/mm ³
N	61,5%
EOS	2,6%
HCT	38,5%
HGB	11,6 g/dl (13)
MCV/MCH	66 fl / 20,4 pg
PLT	289.000
FE	21 µg/dl (50-150)
FERR	7 mg/ml (21-450)
TKE / CRP	15 / 3 mg/L
Pr Tot / Alb	7,3 / 3,8
K/Na	3,8 / 135 meq/L
LDH	138 U/L
INR	1,5 (<1,2)
TSH	1,8 mIU/L
SGOT/SGPT/γ-GT	35 / 40 / 22 U/L
BILT / BIL CONJ	1,1 / 0,2
Uric Acid	5,8 mg/dl
Amylase	259 U/ml

Mantoux: (-), Quantiferron (-)
Rx Thorax Normal

Stool Cultures (-)
Cl.difficile (-)

Abs for celiac disease (-)
Abs for Yersinia(-)

Viral infections (CMV, EBV, HAV, HBV, HIV, HCV): (-)

ANA- cANCA - pANCA : (-)

Blood cytometry : Normal

Calprotectin: 680 µg/gr (NV<50)
ASCA IgA 18 (ΦT. <=20 Units)
ASCA IgG 56 (ΦT. <=20 Units)

3. Discussion

Our patient presented with a severe clinical manifestation of Crohn's disease with stenotic and fistulizing phenotype, without other symptoms before with exception of weight gain last year. Another interesting and unusual point in our patient was that he never had elevation of ESR or CRP as indices of inflammation. It is known that laboratory markers have been investigated in Inflammatory Bowel Disease (IBD) for diagnostic and differential diagnostic purposes, for assessment of disease activity and risk of complications, for prediction of relapse, and for monitoring the effect of therapy. They are useful and should be part of the global management of IBD patients, however they should be seen as an additive tool to clinical observation and physical examination rather than a replacement [2].

The absence of elevation of ESR and CRP has made us skeptic for existence of inflammation or of a malignant proliferation process. We were faced before a diagnostic and therapeutic dilemma because the situation of patient had not allowed us to do ileocolonoscopy and rectosigmoidoscopy performed did not revealed pathology. The MRI enterography was very helpful [3] and showed signs of inflammation and no any sign of other malignant proliferation. Based in radiological findings we started corticosteroids with gradual improvement of symptoms and finally we were able to do safely the endoscopy and to have the diagnosis of Crohn's disease two weeks later. Patient finally avoided the exploratory laparotomy or intestinal dissection. Crohn's Disease (CD) causes inflammation of the digestive tract. It can affect any area of the GI tract, however it most commonly affects the ileum [4].

Affected children may have delayed growth. Severe cases of CD may have most common complication like intestinal blockage with thickening and fibrosis of the affected segment [5].

In spite of the vast diagnostic modalities a clear diagnosis of CD remains obscure and no single “gold standard” indicator of this disease has been established [6]. Intestinal obstruction represents a severe complication and a potential emergency in inflammatory bowel disease. In particular, intestinal fibrostenosis in Crohn’s Disease (CD) is a frequent complication resulting in small bowel obstruction, but eventually in repeated bowel resection and short bowel syndrome [7].

Particularly in children, such intestinal complications are of great importance and may require urgent surgical management [8]. Intestinal obstruction represents an important percentage of causes required emergency surgery in patients with Inflammatory bowel disease [9, 10].

4. Conclusion

We present this interesting case with atypical, severe first presentation of Crohn's disease. In case of unexplained intestinal obstruction, there should be high suspicion for Crohn's Disease for its early recognition and diagnosis. Multidisciplinary team can help in the management of these patients.

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