ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 09 | September - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A RARE CASE OF CO-EXISTING CROHN'S DISEASE WITH GASTROINTESTINAL TUBERCULOSIS : A CASE REPORT

General Medicine

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ABSTRACT

Introduction: Crohn's disease and gastrointestinal tuberculosis both have similar presentations because of which dilemma is faced in differentiating them. Here we present a rare case of a 22 year old female having coexistence of gastrointestinal tuberculosis with crohn's disease. **Case presentation:** We report a case of 22 years old female patient resident of Biswa, Sitapur district, Uttar Pradesh presenting with chief complaints of increased frequency of stools since 8 years, intermittent abdominal pain since last 5 years, blackish red colored stool associated with foul smell and flatus since 3 years, swelling in the left axilla since 2 years. On investigating the patient, she had anemia with leucocytosis, raised C-reactive protein level, erythrocyte sedimentation rate. On stool routine and microscopic examination red blood cells of 4 - 5 per high power field were observed. Mantoux test and interferon gamma release assay(Tb Gold- IGRA) were positive. On radiological examination ultrasonography of whole abdomen, left axilla and CT enterography favored an tubercular etiology whereas on colonic biopsy with histopathological examination crohn's disease was suspected. **Discussion:** Crohn's disease and gastrointestinal tuberculosis are chronic granulomatous diseases with overlapping symptomatology, radiological and histopathological findings. Not many cases have been reported with the coexistence of both. India being a tuberculosis endemic area (infectious disease) is currently seeing a rise of inflammatory bowel disease like crohn's disease (non-infectious disease) which was earlier known to be a disease of the west. **Conclusion:** To differentiate between the two is a difficult condition. They both have different pathogenesis leading to different therapeutic approaches for which there conclusive diagnosis is a must.

KEYWORDS

Gastrointestinal tuberculosis, Crohn's disease, Active colitis

INTRODUCTION

South Asia is currently seeing a decline in number of infectious disease cases and an increase in non-infectious disease cases[1,2]. To state this in reference of infectious disease like gastrointestinal tuberculosis is seeing a decline whereas cases of non-infectious disease like crohn's disease are on a rise. As both have similar presentations, they are difficult to differentiate from each other[3]. Concerning is the fact that inflammatory bowel disease(IBD) cases are showing a rise in tuberculosis prevalent areas like India[4,5]. According to a recent report India has the second highest burden of IBD after USA in world which is an alarming concern for a developing nation like ours[6]. Gastroenterologist face a lot of issues while differentiating these disease as gold standard tests used to diagnose gastrointestinal tuberculosis have poor sensitivity. This has also been proved by various studies conducted in the past[7].

Case report

22 year old female from north India region presented to the OPD with complaints of increased frequency of stools since 8 years, intermittent abdominal pain since 5 years, blackish red colored stool associated with foul smell and flatus since 3 years, swelling in the left axillary region since 2 years. There was no similar family history present.

On examination, patient was conscious, cooperative, oriented to time, place and person with a BMI of 17 kg/m^2. The patient was afebrile with normal sinus rhythm, blood pressure of 106/62 mm Hg, respiratory rate of 22 breathes per minute and SpO2 of 99% in room air. Multiple matted lymph nodes were palpated in the left axillary region with a rubbery consistency. There was no jaundice, clubbing, cyanosis. On systemic examinations there were no remarkable findings.

On investigating the patient haemoglobin was 7.4; TLC- 13,000; DLC - P84/L01/M12/E00; ESR - 24 mm/hour; CRP - 67 mg/L with other blood parameters within normal range. Stool for occult blood was positive; Stool R/M revealed the color to be yellowish with presence of pus cells and scanty RBCs of 4-5/hpf; Mantoux test and Interferon gamma release assay (IGRA) were positive.

On radiological examination like abdominal ultrasound (Fig. 1) homogeneous diffuse bowel wall thickening involving the ileocaecal junction and caecum causing mild luminal narrowing along with extensive fat stranding and multiple enlarged adjacent mesentric lymph nodes with few small subcentrimetric non-enhancing hypo-dense lesions in parenchyma with mild ascites gave an impression of infective etiology possibly tubercular.

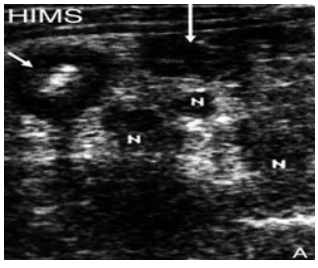

Fig. 1 - Transverse sonogram of right lower abdomen showing diffuse thickening of small wall of caecum (short arrow) and terminal part of ileum (long arrow), enlarged lymph nodes (N) and thickened mesentry around lymph nodes.

Left axillary ultrasound (Fig. 2) showed multiple enlarged conglomerated necrotic lymph nodes suggestive of conglomerated necrotic axillary lymphadenopathy (tubercular etiology).

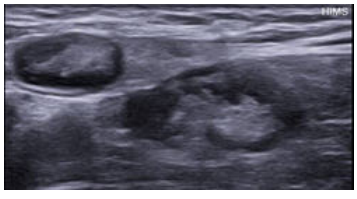

Fig. 2 - Left axillary sonogram showing multiple conglomerated necrotic lymphadenopathy of various sizes

CT enterography revealed luminal narrowing with short segments of circumferential irregular enhancing wall thickening involving distal terminal ileal loops and ileocaecal junction in lower abdomen, multiple prominent small bowels, significant adjacent mesentric fat strandings with multiple enlarged necrotic mesentric lymph node pointing towards tubercular pathology. Chest X-ray and X-ray erect abdomen done to rule out any other radiological finding.

On histopathological examination after colon biopsy (Fig. 3) mild distortion of crypt architecture, crypt loss, crypt shortening, crypt branching and mucodepletion, focal cryptitis, colonic granuloma seen with lamina propria showing mild mixed inflammation comprising of neutrophil, eosinophils, lymphocytes and plasma cells thus giving the impression of mild chronic active colitis favoring crohn's disease.

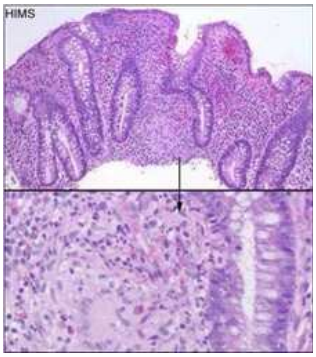

Fig. 3 - Histopathology of colon biopsy sample showing colonic granuloma (Crohn's Disease)

Patient was admitted in medicine department and diagnosed with ileocaecal tuberculosis with crohn's disease. She was managed symptomatically and treated according to the protocols of Crohn's disease with mesalamine, antibiotics and NTEP guidelines for extra-pulmonary tuberculosis. Same patient was followed up for adequate treatment, compliance and side effects of various therapies given. Currently the patient is under remission of Crohn's disease and has completed the ATT course without any further complications.

DISCUSSION

Crohn's disease is an IBD with a chronic inflammatory process involving any part of the gastrointestinal tract. Both genetic (NOD2, LRRK2, IRGM, JAK2 and ATG16L1)[8,9] and environmental factors(cigarette smoking, drugs like contraceptive pills, early exposure to antibiotics in childhood, low dietary fiber diet or diet rich in saturated fats)[10,11,12] have an interplay in its pathogenesis. It leads to altered immune response with gut dysbiosis. It commonly presents as abdominal pain, chronic diarrhea and weight loss[13]. On involvement of colon, bleeding per rectum has been reported[14].

Tuberculosis, an infectious disease is caused by Mycobacterium tuberculosis. It primarily involves the lungs but can also involve any other organ[15]. Gastrointestinal tuberculosis(GITB) is a chronic intestinal inflammation which has granuloma formation which can either be a primary infection or a dissemination of pulmonary disease[15,16]. GITB primarily involves the terminal ileum and ileocaecal junction but other parts of GIT may also be involved. It clinically presents as abdominal pain, fever, loss of appetite and weight, diarrhea and bleeding per rectum[17]. This case presents a rare coexistence of crohn's disease and GITB.

Our patient had overlapping clinical features of both crohn's disease and GITB. To differentiate them both blood investigations, radiological examination and colon biopsy was performed.

Features favoring GITB were anemia, leucocytosis, ESR, CRP (marker of inflammation), positive mantoux test and IGRA, abdominal, left axillary ultrasound and CT enterography. Whereas leucocytosis, CRP, ESR, stool positive for occult blood with histopathological findings following colon biopsy favoured the diagnosis of crohn's disease.

CONCLUSION

Both crohn's disease and GITB are chronic granulomatous diseases with overlapping symptomatology, radiological, histopathological and endoscopic findings. They both have different pathogenesis leading to different therapeutic approaches for which there conclusive diagnosis is a must. Both if left untreated may lead to further complications which may hinder the daily activities of the patients. Further studies are needed to study the coexistence of both the disease and their relative outcome in a developing nations like ours.

Ethical approval
Not required
Funding
None

Consent for publication
Written informed consent was obtained from the patient's father for publication of this case report and accompanying images. A copy of written consent is submitted.

Conflict of interest
None

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