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Mimicry in the Abdomen: When Colonic Lymphoma and Tuberculosis Collide: A Case Report

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Abstract **Case Report**

***Background*:** Colonic lymphoma is a rare malignancy, accounting for less than 1% of all gastrointestinal neoplasms. Concurrent lymph node tuberculosis (TB) in the setting of colonic lymphoma is extremely uncommon and poses diagnostic and therapeutic challenges. ***Case Presentation*:** We report the case of a 30-year-old male with no significant medical history, referred for suspected acute appendicitis. The patient presented with recurrent episodes of right iliac fossa pain over five months, accompanied by alternating constipation and diarrhea. Physical examination revealed tenderness and a mass effect in the right iliac fossa. Abdominal ultrasound demonstrated a circumferential thickening of the ascending colon (32 mm) with necrotic lymphadenopathy and mild pelvic fluid collection. Contrast-enhanced CT confirmed a non-stenosing circumferential thickening (35 mm) of the ascending colon extending over 10 cm, with deep infra- and juxtacentimetric lymph nodes, some showing central necrosis. Colonoscopy revealed a passable, rigid, circumferential stenosis of the ascending colon. Histopathological and immunohistochemical analyses of colonic biopsies confirmed B-cell lymphoma. The patient underwent a right hemicolectomy, and histological examination of the deep lymph nodes revealed epithelioid granulomas with caseous necrosis, confirming tuberculous lymphadenopathy. The patient was treated with a combination of standard antituberculous therapy and chemotherapy under hematology-oncology supervision. ***Conclusion*:** This case highlights the diagnostic complexity of colonic lymphoma coexisting with lymph node TB. Advanced imaging, histopathology, and molecular studies are crucial for differentiating these entities and guiding appropriate management.

Keywords: Colonic Lymphoma, Lymph Node Tuberculosis, Concurrent Malignancy and Infection, Right Iliac Fossa Pain, Diagnostic Challenge.

INTRODUCTION

Primary colonic lymphoma is an uncommon disease, representing approximately 0.2% to 1.2% of all colorectal malignancies [1]. Among the non-Hodgkin lymphomas (NHL) affecting the gastrointestinal tract, the colon is involved in less than 10% of cases, with the cecum and ascending colon being the most frequent sites [2].

Tuberculous lymphadenopathy is the most common form of extrapulmonary TB, particularly in endemic regions [3]. While TB and lymphoma can coexist, their simultaneous involvement in the same anatomical region is extremely rare, with only a few reported cases in the literature [4]. This overlap presents a diagnostic dilemma due to their similar clinical and radiological features, often leading to delayed or misdiagnosed cases.

Here, we report a rare case of colonic B-cell lymphoma associated with necrotic tuberculous lymphadenopathy, emphasizing the importance of a multimodal diagnostic approach to differentiate between these two pathologies.

CASE PRESENTATION

Patient History and Clinical Findings

A 30-year-old male with no previous medical history was referred for evaluation of suspected acute appendicitis. He had been experiencing episodic right iliac fossa pain for five months, accompanied by alternating constipation and diarrhea. There was no

history of fever, weight loss, night sweats, or pulmonary symptoms.

On physical examination, the patient was in good general condition. Palpation revealed tenderness and a mass effect in the right iliac fossa without signs of peritoneal irritation.

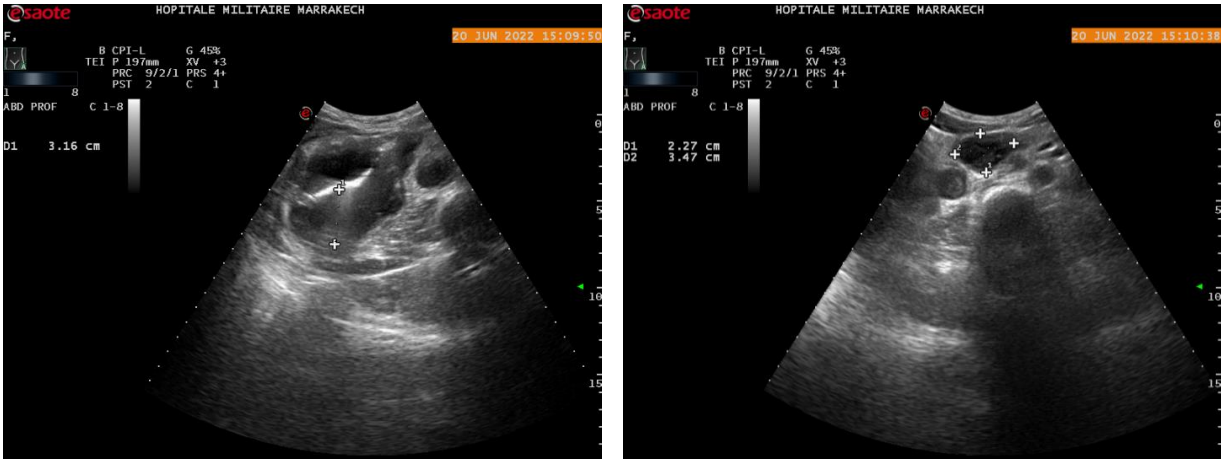

Figure 1: Abdominal ultrasound showing thickening of the ascending colon wall (Left) and the presence of loco-regional lymph nodes with a heterogeneous and necrotic appearance (Right)

Figure 2: Abdominal CT scan after contrast injection in axial (A) and coronal (B) sections showing significant circumferential thickening of the ascending colon wall and its extensive involvement.

Imaging Studies

- Abdominal ultrasound revealed a circumferential thickening of the ascending colon (32 mm) with multiple deep necrotic lymph nodes and a small pelvic fluid collection. (Fig.1)
- Contrast-enhanced CT scan confirmed a circumferential non-stenosing thickening (35 mm) of the ascending colon, extending over 10 cm, along with necrotic deep lymphadenopathy. (Fig.2)
- Colonoscopy demonstrated a rigid, passable, circumferential stenosis in the ascending colon.

Histopathological and Microbiological Findings

- **Colonic biopsies**: Histopathological and immunohistochemical analysis confirmed B-cell lymphoma.
- **Surgical specimens (right hemicolectomy)**: Examination of deep lymph node samples identified epithelioid granulomas with caseous necrosis, confirming tuberculous lymphadenopathy.

Management and Outcome

The patient underwent right hemicolectomy, followed by referral to the hematology-oncology department for further treatment. Antituberculous therapy was initiated alongside oncologic management.

DISCUSSION

Colonic lymphoma is a rare entity that is frequently misdiagnosed due to its nonspecific clinical presentation. Similarly, tuberculous lymphadenopathy can mimic neoplastic conditions due to its lymphatic involvement and necrotic features. This coexistence is

exceptionally rare and poses significant diagnostic challenges.

Pathophysiological Considerations

1. **Lymphoma as a Risk Factor for TB**
   - Immunosuppression associated with lymphoma increases susceptibility to opportunistic infections, including TB, due to altered cellular immunity [5].

2. **TB Mimicking Lymphoma**
   - TB can mimic malignancy due to its chronic inflammatory process, necrotic lymphadenopathy, and intestinal involvement.
   - Imaging findings, such as circumferential colonic thickening and necrotic lymph nodes, can be seen in both conditions, making differentiation challenging [6].

3. **Differentiating Lymphoma from TB**
   - Histopathology remains the gold standard.
   - Immunohistochemistry is essential for confirming lymphoma subtypes.
   - Ziehl-Neelsen staining, TB cultures, and PCR testing are required for TB confirmation.

Management Approach

- **Lymphoma Treatment**: Chemotherapy with rituximab-based regimens (e.g., R-CHOP) remains the standard treatment for B-cell lymphoma [7].
- **Tuberculosis Treatment**: Standard antituberculous therapy (HRZE: isoniazid, rifampin, pyrazinamide, ethambutol) is required for at least six months [8].
- **Multidisciplinary Collaboration**: Close monitoring is essential to balance oncologic therapy with TB treatment, considering potential drug interactions and complications [9].

Given the overlapping radiological and endoscopic features of tuberculosis and lymphoma, a high index of suspicion is required to avoid misdiagnosis and ensure appropriate treatment.

CONCLUSION

This case underscores the diagnostic complexity of colonic lymphoma coexisting with tuberculous lymphadenopathy. A comprehensive multimodal approach integrating imaging, histopathology, and microbiological testing is essential to establish an accurate diagnosis and guide optimal management.

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