

Acute Dermato-Lymphangio-Adenitis Following Administration of Infliximab for Crohn's Disease

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ABSTRACT

Tumor necrosis factor- α inhibitor (TNF- α) is frequently used for Crohn's disease and other autoimmune conditions. Increased risk of infection is an accepted adverse effect of TNF- α , and routine screening for potential infections are carried out before initiation of therapy. We report the case of a patient who developed a localized painful swelling near the injection site, which was diagnosed as acute dermato-lymphangio-adenitis due to filarial infection. This adds to the limited number of case reports on parasitic complications following TNF- α therapy.

INTRODUCTION

Biological agents are important members in the armamentarium of drugs against inflammatory bowel disease (IBD).^{1,2} When used carefully, biologics are safe and effective treatment options for complicated IBD.³ Some of the most frequently used biologics in IBD are anti-tumor necrosis factor (TNF) agents, which include infliximab and adalimumab.^{1,2} Anti-TNF agents are associated with increased risk of infections.⁴ Tuberculosis, human immunodeficiency virus (HIV), and hepatitis B and C are some of the significant infections that need to be considered. Therefore, routine screening is advocated to exclude these infections before commencing anti-TNF agents.⁵ We report the case of a 34-year-old man who developed an unusual infection after initiation of infliximab for Crohn's disease (CD).

CASE REPORT

A 34-year-old ethnic Sinhala male patient was diagnosed with indeterminate colitis at the age of 19 years. His condition was initially well controlled with 5-aminosalicylic acid-containing drugs and later with immunomodulation using azathioprine. Later, he developed severe sigmoid colitis, unresponsive to medical management and required sigmoid colectomy at the age of 29 years. Histology of resected specimen was found to be in favor of CD (complete histology report was not available to the authors as it was performed in a different institution). He developed pancytopenia, which was attributed to azathioprine, resulting in withdrawal of the drug. He continued to have clinically and endoscopically confirmed moderate disease activity (Simple Endoscopic Score for CD: 7, Harvey Bradshaw Index: 9). He was started on infliximab at a dose of 5 mg/kg; starting at 0, 2, and 6 weeks and was to be continued for 8 weeks, thereafter. Infliximab was started after routine screening for tuberculosis, HIV, and hepatitis B and C, according to local and international protocols. The patient tolerated the first dose of infliximab well. His bowel frequency reduced and systemic symptoms including malaise, lethargy, and joint pains improved.

Two days after the administration of the second dose of infliximab, the patient developed a painful swelling in the left forearm. Over the next day, the pain and swelling increased causing significant disability (Figure 1).

Pending an ultrasound scan of the forearm, he was treated with empirical antibiotics (co-amoxycylav 625 mg 8 hourly) for suspected localized cellulitis. The ultrasound scan revealed a small lesion measuring $8 \times 3 \text{ mm}^2$, in the cubital fossa, deep inside the brachialis



Figure 1. Swelling proximal to the cubital fossa captured 1 day after treatment.

muscle, with moving live worms inside (Figure 2). It further showed multiple lymph nodes in the cubital fossa and along the brachial artery in the surrounding area. The full blood count did not show a leukocytosis (white blood cell $5,900 \text{ per mm}^3$) and

absolute eosinophil count was elevated (720 per mm^3 , 17%). Inflammatory markers were elevated with an erythrocyte sedimentation rate of 60 mm in 1 hour and C-reactive protein of 47 mg/dL.

Filarial antigen test was negative. The patient was treated with albendazole 400 mg once daily, and co-amoxycylav was administered intravenously, 1.2 g 3 times daily for the next 3 days. Swelling and fever settled in 2 days, and inflammatory markers were normalized. The patient did not have recurrences and maintained remission of CD. He has received 6 doses of infliximab to date.

DISCUSSION

Our diagnosis of this patient was lymphatic filariasis with acute dermato-lymphangio-adenitis (ADLA). ADLA occurs when bacteria gain access to lymphatics that are damaged and dysfunctional due to filarial infection. These attacks frequently resemble cellulitis or erysipelas and can occasionally be the first presentation of lymphatic filariasis in asymptomatic individuals.^{6,7} Recurrent episodes of these acute attacks play an important role in the development of lymphedema, which later becomes irreversible.⁸ It is treated with antibiotics for local infection, followed by antifilarial treatment.⁷

Lymphatic filariasis caused by *Wuchereria bancrofti* was endemic in some areas of Sri Lanka for many decades with an occasionally reported case of *Brugia malayi*. Following several mass drug administration programs with diethylcarbamazine citrate and albendazole in the past 2 decades, the disease is well controlled.⁹ Currently, lymphatic filariasis is considered to have been eliminated as a public health problem from Sri Lanka, but occasional cases are seen in some of the previously endemic areas.¹⁰ The causative filarial parasite in this patient is most probably *W. bancrofti*.

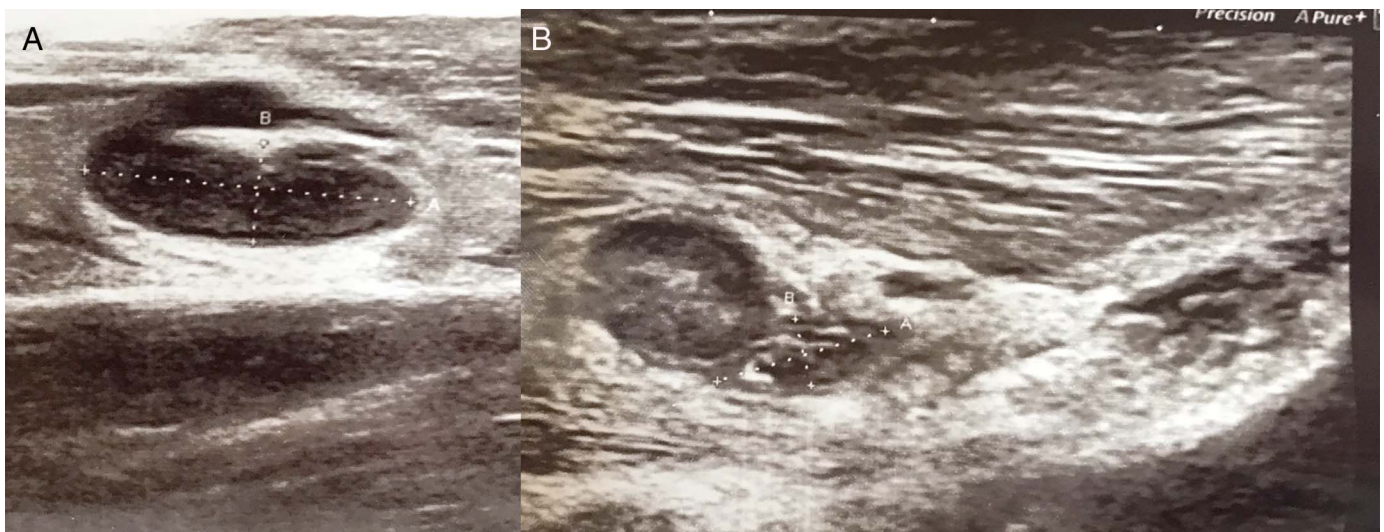


Figure 2. (A and B) Ultrasound images of $8 \times 3 \text{ mm}$ lesion with moving worms inside.

Many cutaneous and skin infections have been reported to be associated with anti-TNF agent use.¹¹ There are only a few reports of severe or disseminated parasitic infections occurring in patients on TNF- α blockers.^{12,13} As worsening of parasitic infections is an uncommon complication of infliximab therapy, routine screening for parasitic infections is not practiced or recommended. This relative “negligence” of parasitic infections may be because parasitic infections are extremely rare in developed countries where TNF- α blocking agents are commonly used.¹⁴ However, use of drugs such as infliximab is increasing in developing countries, where parasitic infections are still common. It may be prudent to screen for parasitic infections before therapy with TNF- α blocking agents in high-risk patients, especially in the developing world, as highlighted by this case report.

DISCLOSURES

Author contributions: All authors contributed to the preparation of this manuscript. IK Liyanage is the article guarantor.

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