

# Intestinal Tuberculosis vs. Crohn's Disease: A Case Study

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## BACKGROUND

Diagnosing intestinal tuberculosis (TB) from Crohn's Disease can be difficult for healthcare professionals especially when patients are from countries, such as India, where TB continues to be endemic and the prevalence of Crohn's Disease is on the rise. Both are chronic granulomatous disorders with similarities in their clinical features and pathology. These features include constitutional symptoms (fever, anorexia, and weight loss) and symptoms due to mucosal ulceration (diarrhea, hematochezia, and malabsorption).

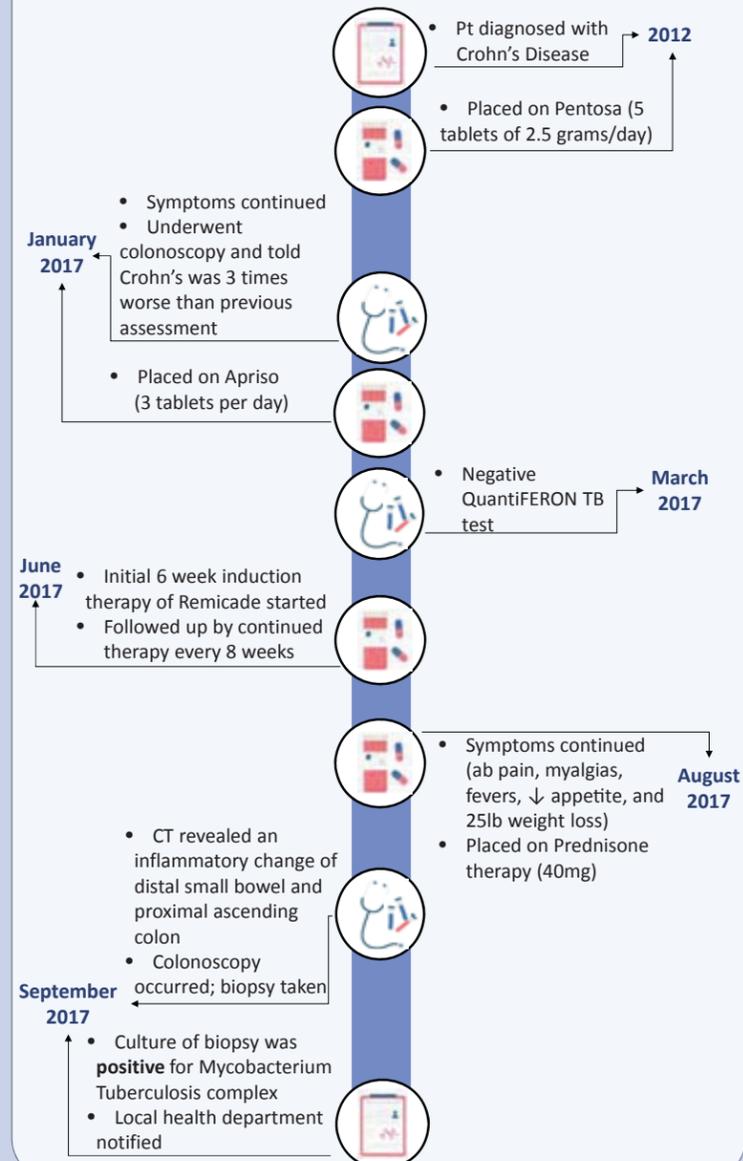


Digitally colorized SEM image of *Mycobacterium tuberculosis*<sup>1</sup>

## METHODS

A case study was performed to obtain an overall view of the patient's medical history. This includes the previous diagnoses, test results, procedure findings, patient interview, and treatment.

## TIMELINE



## RESULTS

A 27-year old female from India, diagnosed with Crohn's Disease in 2012, was treated for several years with no complications. Approximately five years after treatment initiation, symptoms of nausea, abdominal cramping, and myalgia increased.

A Colonoscopy was performed and physician diagnosed the patient with worsening Crohn's Disease. At this time Remicade was added to treatment plan but symptoms continued to worsen. Prednisone therapy was initiated and condition continued to deteriorate resulting in hospitalization.

An additional colonoscopy was performed in 2017. Results showed inflammation at the cecum with stricture formation secondary to Crohn's with ileitis and colitis. Due to a worsening diagnosis, additional tests were ordered. As the patient had poor response to therapy the physician felt the situation was more consistent with a serum-like illness. Biopsies were obtained during colonoscopy and tested for CMV and AFB. M. tuberculosis complex was identified, acid-fast smear was negative, nucleic acid amplification test (NAATs) by real-time PCR was positive for M. tuberculosis complex. Infectious Disease was consulted and rifampin, isoniazid, pyrazinamide, ethambutol and pyridoxine were initiated. GI symptoms improved after 1<sup>st</sup> month of initial phase and continue to improve to date.

## PUBLIC HEALTH RESPONSE

Upon notification of the case to the local health department an investigation was started. The patient was placed on TB meds five days later and treatment was continued through directly observed therapy (DOT). The contact investigation identified two household contact. Both of these individuals had two negative QuantiFERON tests.

## CONCLUSIONS

With the changing epidemiology of Crohn's disease and intestinal tuberculosis, we are in an era where physicians face a difficulty in distinguishing between the two diseases. A misdiagnosis can lead to delays in initiating effective therapy which ultimately can result in an increase in morbidity and mortality. Therefore it is important that a patients past travel/residence history to determine if there are potential differential diagnoses.

## REFERENCES

1. National Institute of Allergy and Infectious Diseases (NIAID). "18139". *Public Health Image Library*. CDC. <https://phil.cdc.gov/Details.aspx?pid=18139>. 15 May 2018.

## ACKNOWLEDGEMENTS

We would like to thank the local healthcare providers, SNTC, and the Kentucky Department of Public Health especially Emily Anderson, Maria Dalbey, and Dr. Robert Brawley for their assistance with this case.

