

Psoas Abscess and Pott's Disease as a result of undiagnosed Latent Tuberculosis: A Case Report.

Samir Talib, MD^{1*}, Bilal Ashkar, MD¹, Mustafa Alaziz, MBBS, MS², Faseeha Rahman, MD¹

¹Raritan Bay Medical Center, Perth Amboy, New Jersey 08861, USA

²Wright State University. USA

*Corresponding Author: Samir Talib, MD, Raritan Bay Medical Center, Perth Amboy, New Jersey 08861, USA

Received date: 25 August 2021; Accepted date: 03 September 2021; Published date: 08 September 2021

Citation: Talib S, Ashkar B, Alaziz M, Rahman F (2021) Psoas Abscess and Pott's Disease as a result of undiagnosed Latent Tuberculosis: A Case Report. J Med Case Rep Case Series 2(10): <https://doi.org/10.38207/JMCRCS/2021/0208145>

Copyright: © 2021 Samir Talib, MD. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Introduction: Extrapulmonary TB can be developed in multiple ways, most commonly via activation of latent foci. Reactivation of untreated latent tuberculosis infection is associated with increased mortality and morbidity, in addition to economic burden to the individual patient and the health care system. The reactivation of latent tuberculosis can affect various organs, such progressive lung disease, spleen, liver, adrenal gland, joints and long bone, vertebra (Pott's disease), soft tissue, meninges, and bacteraemia.

Case Presentation: Thirty-two-year-old Hispanic male with undiagnosed tuberculosis presented with progressive right side lower back pain radiating to the right lower limb for one week; he described the pain started as 2/10 and increased to 10/10; the patient denied any recent trauma. A neurological exam showed pain on passive and active range of motion of his back, SLR was positive on the right side, Patellar and ankle reflexes were +2, gait exam was normal, sensation to pain and light touch in the lower extremities was normal, associated with weakness of the right lower extremity. Lab work revealed a positive interferon-gamma release assay. Imaging studies show spinal tuberculosis (Pott's disease) and Psoas abscess due to untreated tuberculosis.

Conclusion: The goal to achieve global free TB required an expansion of identification and treatment measures of latent tuberculosis infection. Early diagnosis and treatment of latent tuberculosis minimize the risk of complications, especially in immunocompromised patients.

Keywords: Latent Tuberculosis Infection (LTBI), Pott's disease, Psoas abscess, Interferon Gamma release assay.

Introduction

Extrapulmonary Tuberculosis (TB) can be developed in several ways: the most common way is to reactivate latent foci in different organs. The other way for extrapulmonary tuberculosis to evolve is when the primary infection is extrapulmonary such as in the bowel, skin, lymph node, or soft tissue. Lastly, extrapulmonary TB can be developed due to progressive, untreated, or drug-resistant pulmonary TB [1].

While primary TB infection may often pass unnoticed in otherwise healthy individuals, several risk factors are associated with the reactivation of latent TB. The risk factors for TB reactivation can be divided into three categories, high-risk factors such as HIV infection, chronic renal failure, organ transplantation, and the use of TNF – alpha-blocker; moderate-risk factors include health care personal, immigrants from the epidemic areas, prisoners, homeless and illegal drug users, low-risk factors include diabetes, smokers, malnourished, and steroid users. [1,2]

The consequence of extrapulmonary tuberculosis can result in severe complications to the individual patient, like increased risk of mortality and morbidity, in addition to economic impacts, such as prolonged hospitalization, extended periods of absence from work, high costs of medical and surgical treatment, and chronic disability. Therefore, early diagnosis and effective prevention of complicated TB can help

to reduce the personal hardship associated with TB and mitigate the economic burden of difficult TB [1,3].

The preventative measures against LTBI include the following: in high incidence areas, the key is to treat the active cases, while in low incidence areas, the goal consists of prophylactic treatment for LTBI [2]. These preventive measures have reduced morbidity and mortality of TB. According to the Centres for Disease Control and Prevention (CDC), as of 2019, there are 8916 TB cases in the United States and a 2.7 incidence rate per 100,000 persons. Although the US has achieved significant progress in controlling TB; for example, the decline in case count is 66.6 %, and the reduction in incidence rate is 73.9 % since the TB resurgence in 1992, the annual rate of decline in cases (1.2 %) and incidence rate (1.7 %) remains below the average of the past two decades and is currently inadequate to achieve total control of TB in the US [5].

The control of TB spread requires interventions that cut the transmission, such as testing [4], and complement efforts that minimize the progression of LTBI. Such measures may include better preventive chemotherapy, a new vaccine that prevents progression from infection to disease, and exposure reduction [6].

We present a case of a Thirty-two-year-old patient who presented with LTBI complicated by psoas abscess and Pott's disease, which resulted in a severe economic burden to the patient.

Case Presentation

Thirty-two years old male patients, who immigrated to the United States from the Dominican Republic 3 years ago, presented to the emergency room with severe progressive back pain radiating to the right lower limb, associated with weakness of the right lower extremity. Lab work reveals (elevated WBC, ESR, CRP, Gamma interferon was positive). An imaging study MRI showed right psoas abscess, epidural abscess at L2 and L3 vertebra with discitis, and osteomyelitis of L2 and L3. The patient was diagnosed with spinal tuberculosis (Pott's disease) and Psoas abscess due to untreated tuberculosis.

Neurosurgery was consulted the decision was to take the patient to surgery. The patient underwent laminectomy, and epidural abscess drainage tissue culture was positive for acid-fast bacilli; however, the post-op course was complicated by phlegmon with persistent spinal canal stenosis due to Pott's disease. Spinal MRI demonstrates the following: an extensive discitis/osteomyelitis at L2-L3 with associated epidural phlegmon. Also, an extensive right psoas abscess is contiguous with the lower pole of the right kidney.

A Percutaneous drainage catheter was placed to drain the abscess. A Follow-up CT scan of the abdomen and pelvis showed right psoas multi-septated abscess and discitis/osteomyelitis of L2-L3 with adjacent large right psoas abscess. Surgical evacuation for psoas abscess was offered; however, the patient did not want further surgical interventions, and he will pursue conservative management with antimicrobials treatment.

Discussion

The identification and treating LTBI reduces the risk of progression into complicated active TB [7]. LTBI is an infection with Mycobacterium Tuberculosis (positive interferon-gamma release

assay or positive skin test) without evidence of clinical signs or symptoms and a normal chest radiograph [7] with proper treatment, the risk of progression of LTBI to active TB can be substantially reduced, especially among high-risk patients [8,9].

Before initiating treatment of LTBI, patients with evidence of LTBI should be evaluated for the presence of pulmonary and extrapulmonary TB disease. This is done by reviewing signs and symptoms, physical examination, and a chest x-ray [8,9,10]. If the chest X-ray is abnormal or pulmonary symptoms are present, then a sputum sample for smear and culture should be obtained for acid-fast bacilli, and further treatment should be conducted accordingly [10,11].

The most acceptable treatment of LTBI includes one of the following: a short course of Rifampin for four months, long-duration for 6 -9 months with isoniazid, or isoniazid plus rifapentine weekly for three months [12,13].

Systematic identification and management of LTBI is recommended for immunocompromised individuals, health care workers, prisoners, immigrants from high TB incidence countries, homeless persons, and illicit drug users. In addition, HIV-infected personnel have required a priority to identify HIV-seropositive individuals are infected with TB because HIV infection is a potential risk factor for the progression of LTBI to active disease and is associated with the increased likelihood of disseminated extrapulmonary illness [14].

Conclusion

The measures for testing and treatment of LTBI need to be optimized to achieve the current goal of global free TB. Untreated LTBI is associated with the risk of progression to active disease, especially in high-risk groups. Progression of LTBI is associated with increased mortality and morbidity, in addition to the associated economic burden. Several regimens are available for TB treatment; however, the effectiveness of each treatment depends on the potential side effect and adherence to treatment.

References

1. Trautmann M, Ruhnke M, Held T, Weinke T (1994) Complicated tuberculosis and residual disease. *Immunobiology*. 191(4-5): 344-50.
2. Wen Ai J, Ruan QL, Liu QH, Zhang WH (2016) Updates on the risk factors for latent tuberculosis reactivation and their management. *Emerg Microbes Infect*. 5(2): e10.
3. Collins D, Hafidz F, Mustikawati D (2017) The economic burden of tuberculosis in Indonesia. *Int J Tuberc Lung Dis*. 21(9): 1041-1048.
4. World Health Organization. Global Tuberculosis Report 2020. Geneva: WHO.
5. Centers for Disease Control and Prevention. Reported Tuberculosis in the United States, 2019. Atlanta, Georgia: CDC.
6. Lönnroth K, Jaramillo E, Williams BG, Dye C, Ravigliione M (2009) Drivers of tuberculosis epidemics: the role of risk factors and social determinants. *Soc Sci Med*. 68(12): 2240-6.
7. Haley CA (2017) Treatment of Latent Tuberculosis Infection. *Microbiol Spectr*. 5(2).
8. Getahun H, Matteelli A, Abubakar I, Aziz MA, Baddeley A, et al. (2015) Management of latent Mycobacterium

- tuberculosis infection: WHO guidelines for low tuberculosis burden countries. *Eur Respir J.* 46(6): 1563–1576.
9. American Thoracic Society, Centers for Disease Control and Prevention (2000) Targeted tuberculin testing and treatment of latent tuberculosis infection. *Am J Respir Crit Care Med.* 161(4 pt 2): S221–S247.
 10. Nahid P, Dorman SE, Alipanah N, Barry PM, Brozek JL, et al. (2016) Official American Thoracic Society/Centers for Disease Control and Prevention/Infectious Diseases Society of America clinical practice guidelines: treatment of drug-susceptible tuberculosis. *Clin Infect Dis.* 63(7): e147–e195.
 11. Lewinsohn DM, Leonard MK, LoBue PA, Cohn DL, Daley CL, et al. (2016) Official American Thoracic Society/Infectious Diseases Society of America/Centers for Disease Control and Prevention clinical practice guidelines: diagnosis of tuberculosis in adults and children. *Clin Infect Dis.* 64(2): 111–115.
 12. Kahwati LC, Feltner C, Halpern M, Woodell CL, Boland E, et al. (2016) Primary care screening and treatment for latent tuberculosis infection in adults: evidence report and systematic review for the US Preventive Services Task Force. *JAMA.* 316(9): 970–983.
 13. US Preventive Services Task Force. (2016) Screening for latent tuberculosis infection in adults: US Preventive Services Task Force recommendation statement. *JAMA.* 316(9): 962–969.
 14. Taylor Z, Nolan CM, Blumberg HM, American Thoracic Society, Centers for Disease Control and Prevention, Infectious Diseases Society of America. (2005) Controlling tuberculosis in the United States. Recommendations from the American Thoracic Society, CDC, and the Infectious Diseases Society of America. *MMWR Recommend Rep.* 54(RR-12): 1–81.