



## Synchronized Infection by Tuberculosis and Klebsiella: A Case Report

Authors

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### Abstract

*Tuberculosis is a major global health problem. this disease is reemerging widely nowadays at Syria .and form a major health problem after Syrian crisis .especially at areas that are out of control of the government. lymph nodes TB is usually present at the neck and it is unusual to be superinfection ,but in our case there was a synchronized infection and both TB and klebsiella were found at the same site and the proper management need eradication of both organisms and treatment of only one of them will not lead to improvement at all. By review of medical literature there is no publication found about synchronized TB infection and this may be the first paper about this problem.*

### Introduction

Tuberculous lymphadenopathy is a most common form of extrapulmonary tuberculosis<sup>(1)</sup> and one must remember this cause for cervical abscesses as its treatment is quite different .TB is usually present as single causative organism but in our case super infection by klebsiella was found and lead to failure of treatment.

### Case Presentation

This is a case of 40 years old male. He is a Syrian and was presented with neck mass. This mass was hard, painful and fixed. The mass enlarged within 20 days. The patient also was complaining of fever and chills. And he was otherwise normal. No past medical or surgical history was presented. Blood analysis for WBCs count and CRP were within normal.

Echography was shown enlarged of cervical lymph nodes and one of them had necrosis and forming a small abscess about 1x1 cm and can't be aspirated throw large hole needle as it was thick pus.

Suspicion for tuberculosis was made and tuberculin skin test was done and the result was negative.

A regime of 14 days wide spectrum Antibiotic was applied and it failed to promote healing or to the mass size so surgery was indicated under general anesthesia. Abscess was drained and samples for culture and pathology was obtained. After 48 hours the result was positive culture for klebsiella with more than 100000 colonies and treatment directed according to it .after 5 days no improvement had occurred and discharges continued from the wound after that pathology result was obtained and was positive for TB and four drugs regime was started.

### Discussion

Tuberculosis is a major global health problem. Tuberculous lymphadenopathy is a most common form of extrapulmonary tuberculosis (EPTB), constitutes 35% of all cases of EPTB<sup>(1)</sup>. Tuberculosis is reemerging condition at developing countries and it forms a health care problem nowadays at Syria.

Tuberculosis disease is most likely to develop in the apex of the lung, but can also occur in the kidneys, the brain, and bone. Tubercle bacilli can also spread through lymphatic channels to the lymph nodes.<sup>(2)(3)</sup>

Diagnosis is difficult often requiring biopsy. A thorough history and physical examination, staining for acid-fast bacilli, fine-needle aspiration and PCR are helpful in obtaining an early diagnosis. A high index of suspicion is needed for the diagnosis of mycobacterial cervical lymphadenitis. A unilateral single or multiple painless lump, mostly located in posterior cervical or supraclavicular region can occur.

Tuberculosis infection, which can be detected by a tuberculosis test two to eight weeks after infection<sup>(3)</sup>. People at high risk for exposure to or infection with *Mycobacterium tuberculosis* include<sup>(3)</sup>:

- Close contacts of a person with infectious tuberculosis disease
- Persons who are from, or who frequently travel to, areas of the world with high rates of tuberculosis
- Persons who live or work in high-risk congregate settings (for example, nursing homes, homeless shelters, or correctional facilities)(health care workers who serve patients who are at increased risk for tuberculosis disease
- People at high risk for developing tuberculosis disease after infection with *M. tuberculosis* include:
  - Children younger than 5 years of age
  - Persons with any of the following:
    - HIV infection
    - Substance Abuse
    - Silicosis
    - Diabetes Mellitus
    - Severe Kidney Disease
    - Low Body Weight
    - Organ Transplant
    - Head And Neck Cancer
    - Gastrectomy/Gastric Bypass

- Persons receiving immunosuppressive therapy, including medical treatments with tumor necrosis factor- $\alpha$  antagonists or corticosteroids, or specialized treatment for rheumatoid arthritis or Crohn's disease
- Cigarette smokers and persons who abuse drugs or alcohol
- Persons recently infected with *M. tuberculosis* (within the past 23years)(persons with a history of untreated or inadequately treated tuberculosis disease

There are many methods that aid at diagnosis of TB including mantox skin test and culture for *Mycobacterium tuberculosis* on special media.

There are two kinds of tests that can detect *M. tuberculosis* in the body: the tuberculin skin test (TST) and tuberculosis blood tests. A positive TST or tuberculosis blood test only indicates infection with *M. tuberculosis*; further tests are required to rule out tuberculosis disease.<sup>(3)</sup>

The TST is administered using the Mantoux technique by injecting 0.1 mL (5 tuberculin units) of purified protein derivative solution intradermally, usually on the forearm<sup>(4)</sup>

Some who are infected with *M. tuberculosis* may have a negative reaction to the TST if many years have passed since infection occurred.<sup>(3)</sup> Pathology is a confirming test for the disease as it show casiated granulomas .

Abscess is unique disease usually caused by bacteria but also can be caused by TB and so called cold abscess .Abscess usually treated by draining and culture and sensitivity are usually not required and indicated only at special situations like Cellulitis and immunosuppression

Based on 31 eligible studies evaluating 29,839 TB cultures, A Systematic Review study found that 2% (95% confidence intervals [CI] 1-2%) of all positive TB cultures represent false-positive results secondary to laboratory cross-contamination<sup>(5)</sup> and A study shows that the diagnosis by fine-needle aspiration is as effective as open biopsy if fluid/pus is aspirated.<sup>(6)</sup> and other larg study Conclude that It is recommended

that all patients with suspected tuberculous lymphadenitis in Africa, undergo wide-needle aspiration before surgical biopsy or empirical treatment.<sup>(7)</sup>

In our case the patient present with cervical abscess. this patient was normal without past medical or surgical history or immunosuppression so this was unusual and our country is endemic for TB so when we drain the abscess we take biopsy for pathology indeed of culture.

Biopsy is not always indicated but this case was unusual so it was done.

### Conclusion

Synchronized infection is possible in abscesses so We advise to take biopsy from unusual abscesses .

### References

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