

## Concurrent Tubercular Supraclavicular Lymphadenopathy and Dengue Infection: A Case Report



### Medical Science

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### ABSTRACT

*Co-infection of tuberculosis and other tropical diseases in humans is an important public problem in co-endemic areas in developing countries. Both the diseases are associated with extremely high mortality in the absence of timely recognition and prompt therapy. The present case report is a rare case report of concurrent dengue and tubercular supraclavicular lymphadenopathy from India. A 26 year old female patient was diagnosed with dengue infection and admitted to the hospital. The patient had complaints of weight loss. Hence, further investigations were done which revealed mediastinal tuberculosis. Early suspicion, diagnosis, and treatment of these tropical infections are needed to prevent any further complications resulting from infections.*

### Introduction:

Both tuberculosis (TB) and dengue infections in humans are infectious diseases that exhibit an extensive distribution, causing serious harm to humans. The World Health Organization (WHO) estimated that there was about one third of the global population infected by TB, and in 2010, there were an estimated 8.8 million incident cases of TB globally, mostly occurring in Asia (59%) and Africa (26%). Dengue viruses too are the most common arboviral cause of illness and death in the tropics and subtropics<sup>(1)</sup>. Over the past 50 years, geographic expansion of areas where transmission occurs and increased transmission intensity has led to a 30 fold increase in the reported incidence of dengue globally<sup>(2)</sup>. Now, nearly two fifths of the world's population is at risk of infection from one of the four dengue serotypes. Furthermore, the increased incidence has been accompanied by an increase in clinically severe disease<sup>(3)</sup>.

The author presents a case report of unusual presentation of concurrent extrapulmonary tuberculosis and dengue infection. The objective of the case report is to raise awareness to the possibility of dengue infection in patients diagnosed with tuberculosis presenting a similar clinical picture leading to the possibility of not being diagnosed.

### Case report:

A 26 years old female came with complaints of fever with chills, weight loss & rashes on hand since 13 days, a case of PUO (Pyrexia of unknown origin) to our hospital. She was misdiagnosed as chicken pox from a local practitioner 13 days before admission. Dengue NSI antigen test done outside later, was positive. The complete blood count done outside showed the classical triad of dengue infection i.e. thrombocytopenia, atypical lymphocytosis and hemoconcentration. The patient was presumptively diagnosed to have dengue infection and admitted to the hospital. But the patient also had complaints of weight loss. Hence, Mantoux test was done which was positive followed by High resolution computed tomography (HRCT) of chest which showed paratracheal and supraclavicular lymph node enlargement with calcification. Chest X ray showed middle lobe consolidation. The patient did not had sputum expectoration. There was no evidence of any bleeding manifestations. The supraclavicular lymph nodes were enlarged which on biopsy revealed granulomatous inflammation on H and E stain and acid fast bacilli on ZN stain. The lymph node aspirated fluid was sent for Tuberculosis Mycobacteria growth indicator test (MGIT) test which confirmed *Mycobacterium tuberculosis*. She was diagnosed as Mediastinal Koch's & started on standard antituberculosis treatment.

### Laboratory Report on admission:

Laboratory tests	Results
Hemoglobin	13.2
Platelets	185000

Total wbc count	8500
ALT	12.0
Bilirubin Total	0.3
RFI: Creatinine/BUN	0.6/12.0
FNAC supraclavicular node	MGIT-positive
Histopathology of node	Granulomatous inflammation with presence of AFB
Mantoux test	20X20 mm induration

### Discussion:

Dengue infections are often asymptomatic, but many result in dengue fever, a flu-like illness with fever, headache, joint and muscle pain, and rash, and some result in severe disease which may include extensive bleeding, plasma leakage, and death<sup>(4)</sup>. The more severe manifestations of dengue are associated with secondary dengue infections of heterologous serotypes<sup>(5)</sup>. Similar to dengue infections, about 90% of those infected with *M. tuberculosis* are asymptomatic<sup>(6)</sup>, and have latent TB infections, with only a 10% lifetime chance that the latent infection will progress to overt, active tuberculous disease<sup>(7)</sup>. If effective treatment is not given, the death rate for active TB cases is up to 66%. Occasionally, people may cough up blood in small amounts, and in very rare cases, the infection may erode into the pulmonary artery or a Rasmussen's aneurysm, resulting in massive bleeding<sup>(8)</sup>.

Since, both the tropical diseases share common clinical features, there is possibility of the infections being not diagnosed. Co-infection of tuberculosis and other tropical diseases in humans is an important public problem in co-endemic areas in developing countries. Both the diseases are associated with extremely high mortality in the absence of timely recognition and prompt therapy. However, there is a paucity of studies on co-infection and even fewer reviews. The present case report is a rare case report of concurrent dengue and extrapulmonary tuberculosis from India.

### Conclusion:

1. The concurrent infection between dengue and tuberculosis is possible and should be kept in mind by the practitioner.
2. The abrupt high fever without explanation in tuberculosis patient undergoing antituberculosis treatment might imply new problem including to dengue.
3. The bleeding complication as lung bleeding can be seen in dengue and might be a possible first clinical presentation of concurrent infection with tuberculosis.

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