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## International Journal of Biological & Medical Research

Journal homepage: [www.biomedscidirect.com](http://www.biomedscidirect.com)



### Case report

## Lord of the rings: Tuberculoma in a cured carcinoma Larynx patient

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#### ARTICLE INFO

##### Keywords:

Anti Tubercular Therapy  
Miliary Tuberculosis  
Carcinoma Larynx

#### ABSTRACT

A middle aged chronic smoker for more than 2 decades, who was recently diagnosed and treated for carcinoma larynx presented with fever of unknown origin with progressive decline in his sensorium. On clinical and laboratory evaluation he had multiple ring enhancing lesions in Brain and military tuberculosis on chest X ray. He was subsequently treated with Anti Tubercular Therapy (ATT) and he showed significant improvement.

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### 1. Introduction

A 45 year old male patient, chronic smoker for 25 to 30 years, with past history of Carcinoma Larynx presented with history of fever for 2 months duration with evening rise of temperature, head ache of 1 month duration, urinary incontinence and altered sensorium for 1 week. Past history revealed that he had suffered from carcinoma Larynx of squamous cell type, stage III and treated with radiotherapy 1 year ago and was declared cured.

There was no history of Pulmonary Tuberculosis in the past. He was not a known case of diabetes mellitus or hypertension.

There was no history of Tuberculosis in the family.

#### Clinical examination:

Clinically vitals was stable, patient was emaciated, drowsy, moving all 4 limbs on painful stimulus. Patient was febrile, Central Nervous System examination revealed features of meningeal irritation without any focal neurological signs. Fundoscopic examination was normal. Respiratory system revealed bilateral scattered fine crepitations. Cardio Vascular System was normal and Per Abdomen examination was showed mild hepatomegaly. No neck lymphnodes were palpable.

#### Clinical diagnosis:

A probable diagnosis of Bilateral pneumonia and chronic meningitis? Tubercular in etiology was made and investigations were done to search for the cause and to rule out possibility of lung and CNS metastasis. Patient was treated with empirical antibiotics, anti oedema and supportive measures.

#### Investigations:

Complete blood count was normal except for an elevated ESR (50mm/1st hr). Blood sugars, Renal function tests, liver function tests were normal. Chest X ray revealed Bilateral miliary reticulonodular pattern. (Figure: 1)

MRI – Brain revealed Multiple granulomatous lesions in the cortical, subcortical areas, brainstem and cerebellar hemispheres with ring enhancement on contrast. (Figure: 2, 3, 4, 5)

Cerebro spinal fluid analysis was done in which CSF pressure was normal, glucose 28 mg/dl, protein 130 mg/dl, cell counts of 398 cells/cumm with predominant lymphocytosis (90%), CSF PCR was positive for Mycobacterium tuberculosis, Adenosine Deaminase (ADA) level was 15 U/L(positive). Ultrasonography of abdomen showed mild hepatomegaly.

CT neck did not reveal any metastatic deposits.

HRCT chest showed multiple millet sized granulomatous infiltrates in the lung parenchyma bilaterally.

HIV-1,2, HbsAg, Anti HCV, VDRL was negative.

Sputum for Acid Fast Bacilli was negative.

Other blood investigations including serological tests for fever workup was negative.

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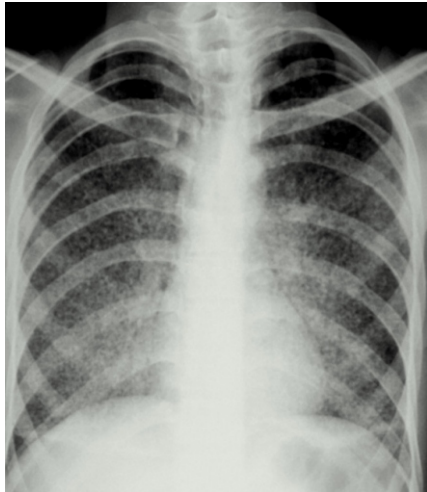


Figure: 1

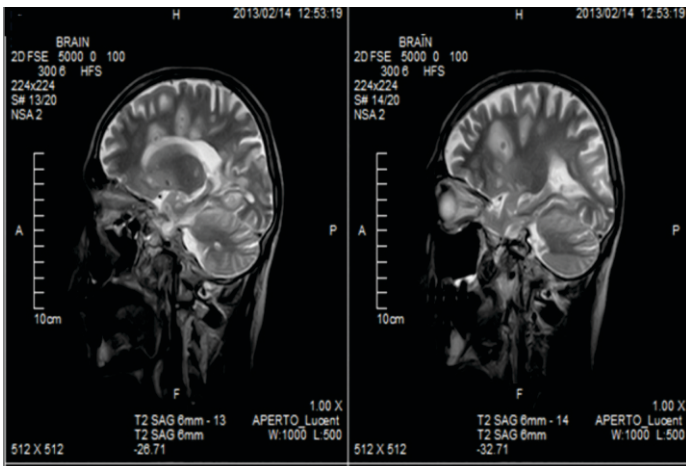


Figure: 2,3.



Figure: 4, 5.

**Treatment:**

Patient was started on Category I Anti Tubercular Therapy with steroids and supportive measures were continued, after a week fever reduced and his sensorium improved. His general condition and neurological status progressively improved. Lung signs started resolving and liver size regressed to normal.

**Discussion:**

The incidence of oral and Carcinoma Larynx has increased as a result of inadvertent use of tobacco in either chewable or smokable form. In spite of advances in the treatment of malignancies, it sometimes becomes difficult to treat these illnesses as a result of late presentation. These diseases often are encountered in younger individuals and produce a significant financial burden on their family members.

Even after surgically or medically correcting the malignancy, it produces significant morbidity. It imparts a state of immune suppression of varied severity. They are at risk of secondary infections. In this case report we are seeing a middle aged man who consumed tobacco in smoking form for more than 20 to 25 years and developed carcinoma Larynx of squamous variety which was treated with radiotherapy. He was apparently normal for a year, later developed fever and associated neurological symptoms over a period of 2 months. With the investigations primarily targeting to rule out any curable illness, a diagnosis of military tuberculosis with dissemination was made. On starting Anti Tubercular Therapy patient improved significantly and now he on a regular follow up.

Tuberculosis is a chronic communicable disease caused by *Mycobacterium tuberculosis*. The bacilli is largely disseminated as aerosol in the air when an infected patient coughs. Tuberculosis occurs in all age groups, with little predominance towards elderly, immunocompromised and malnourished individuals. With the emergence of Acquired Immuno Deficiency Syndrome, tuberculosis became one of the commonest life threatening opportunistic infection. Tuberculosis is often a fatal disease if unrecognised and untreated. The presentation may not be classical as noticed in immune competent individuals.

Extra pulmonary tuberculosis in the form of Tubercular lymphadenitis, Tubercular pleural effusion, Tubercular Meningitis and Tuberculoma are often encountered in immune compromised individuals. Tuberculoma is an uncommon manifestation of tuberculosis and presents as one or more space occupying lesions and usually causes seizures and focal signs. Tuberculomas may be solitary or multiple and may grow intraparenchymally, or have a combined meningeal and parenchymal course. Other than Tuberculoma there are various conditions that produce ring enhancement on contrast neuro imaging, these include -

**1.Infections**

- a.Bacterial
  - i.Pyogenic abscess
  - ii.Tuberculoma and tuberculous abscess
  - iii.Syphilis

**b.fungal**

- i.Histoplasmosis
- ii.Aspergillosis
- iii.Cryptococcosis

**c.parasitic**

- I.Neurocysticercosis
- ii.Toxoplasmosis
- iii.Amoebic brain abscess
- iv.Echinococcosis

**2.Neoplastic conditions**

- a.Metastases
- b.Primary brain tumor
- c.Primary CNS lymphoma

**1.Inflammatory and demyelinating diseases**

- a.Multiple sclerosis
- b.Acute disseminated encephalomyelitis
- c.Sarcoidosis
- d.Systemic Lupus Erythematosus (SLE)

Only a strong clinical suspicion guides towards early diagnosis and effective treatment of Tuberculosis, especially in immune compromised patients.

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