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A CASE REPORT ON SPINE KOCH'S DISEASE

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ABSTRACT

Tuberculosis of spine or TB spine or spinal TB was first described by Percivall Pott. He noted this as a painful kyphotic deformity of the spine associated with paraplegia, hence the condition is also referred to as Pott's disease or Pott's spine. It is also called vertebral tuberculosis. Since tuberculosis is also called Koch's lesion, the term spinal Koch's is also used. Another term used is caries spine or spinal caries. Pain, neurological deficit, cold abscess, and kyphotic deformity are the characteristic features of spine koch disease. CBC, ESR, CT, MRI, and biopsy can help in its diagnosis. A 70-year-old female patient was diagnosed with spine Koch's disease and was treated with ATT4, posterior percutaneous transpendicular fixation and was advised for complete bed rest.

Key Words:- Spine Koch's Disease, Potts Disease, Tuberculosis.

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INTRODUCTION

Tuberculosis (TB) is a chronic granulomatous infection, and spinal involvement is a destructive form of TB. The infection is caused by a highly aerobic, alcohol-acid-resistant, non-proteolytic enzyme-producing bacillus, the *Mycobacterium tuberculosis*, also known as Koch's *bacillus* (Rezai *et al.,* 1995). Hence the name spine koch's disease. There are two distinct types of spinal TB, the classic form or spondylodiscitis, and an increasingly common atypical form which is spondylitis without disc involvement (Turgut M, 2001). Pain, neurological deficit, cold abscess, and kyphotic deformity are the characteristic features of spine kochs disease (Mohammed R, 2012). Constitutional symptoms of malaise, fatigue, loss of weight and appetite, evening rise in temperature and night sweats may also be present but are more typical of pulmonary TB (Emedicine.medscape.com, 2018).Positive skin test (its value declines in endemic areas), and an elevated erythrocyte sedimentation rate (ESR) may be useful in the diagnosis of spinal TB. Biopsy plays a valuable role in the diagnosis of spinal TB infection. The use of DNA amplification techniques (polymerase chain reaction or PCR) may facilitate rapid and accurate diagnosis of the disease. Culturing the organisms is slow and may be inaccurate. Nevertheless, it is still a precious diagnostic method in order to recognize the causative germs. In a small number of cases with imaging and clinical findings suggestive of spinal infection, no organism can be cultured despite multiple attempts. Mycobacterial infection, as well as fungal involvement should be considered in these cases. Computed tomography (CT) provides bony detail, while MRI evaluates the involvement of soft tissue and abscess formation (Esteves S, 2017).

It most commonly affects the thoracolumbar junction (Johansen I, 2015). Spinal TB is also known to

have neurological complications in about 10%–43% of the cases. Early diagnosis and treatment is mandatory in order to avoid neurological complications and spinal deformity. Systemic treatment with anti-tuberculosis medications before and after the surgical debridement and the careful debridement of the entire focus of infection are the successful method to reconstruct spinal stability.

CASE REPORT

A 70-year-old female patient, non-vegetarian, menopause, was admitted in the gastroenterology department of a tertiary care hospital in Trivandrum, India. She was presented with chief complaints of vomiting since four days, abdominal pain, & decreased food intake. There was no history of fever. The patient complaints of nausea, vomiting over the previous four days. The patient had a medical history of, hypertension (15 years), Diabetes mellitus (20 years). The patient was under the treatment with metformin, insulin, and amlodipine. She had no history of previous TB or TB exposure. On admission, the patient was awake, alert and oriented. Her blood pressure (BP), Pulse rate (PR), Respiratory rate (RR) were as follows: BP:135/90mmHg, PR:95 beats per minute, and RR:20 breaths per minute. On physical examination, there was a local tenderness in the lower thoracic and lumbar vertebrae. The neurological examination like deep tendon reflex and sensation was normal.

Investigations

On admission routine blood analysis were done with an emphasis on LFT, RFT, electrolyte levels, blood sugar estimation and platelet count. The laboratory results reveals that Hb : 10.9 g/dl, alkaline phosphatase: 221 U/L, T. Bilirubin: 3.6 mg/dl, D.Bilirubin:2.5mg/dl, SGOT: 71 U/L, albumin: 2.3mg/dl, Uric acid:10.4 mg/dl). Other laboratory tests were within in the reference range. On local examination, the movement of flexion and extension were painful and restricted. There was a mild prominence on dorsal spine. The results of chest x-ray did not show any abnormal findings. The MRI of the spine was carried out and which reveals that there was tenderness over the D6-D12 vertebrae and a mild compression fracture of the D9 vertebral body. The patient was diagnosed with spinal koch's with spondylodiscitis of D7-D12 vertebrae.

DISCUSSION

Spine Koch's disease (SKD) is a rare disease, it should be diagnosed immediately to prevent neurological complications. The conservative treatment was anti-TB drugs. The standard treatment guidelines for SKD includes isoniazid, rifampicin, ethambutol, and pyrazinamide. The national and international guidelines recommend treatment period of 6 months, which may prolong to 9-12 in complicated cases. Short-term treatment may result in adherence and lower rates of morbidity and have a high risk of relapses during follow up period (Thwaites G, 2009). Surgical interventions are indicated only when there is a: 1.neurological deficit, 2. Spinal deformity with pain or instability, 3. Large paraspinal abscess, 4. No response to medical therapy, 5. No diagnostic percutaneous needle biopsy sample. (Ramachandran S., *et al*, 2005). In this case, the chest x-ray shows no active pulmonary TB. The outcome for the patient with SKD was due to the effective medical treatment and surgical interventions.

MANAGEMENT

Due to the instability of spine with tenderness, posterior percutaneous transpendicular fixation was performed. Along with this patient was advised to continue with ATT (4 drug regimen) and complete bed rest. The patient was discharged after three weeks of hospitalization and outpatient treatment continued for six months. MRI was performed after three months of treatment initiation, which reveals posterior transpendicular fixation of D7, D8, D9, D10, & D11 vertebrae, D9 vertebral body showed mild compression fracture, marrow signal changes in the D8 vertebral body without fracture and mild lumbar spondylosis. Due to this anti-TB treatment was continued for three months.

STATEMENT OF HUMAN AND ANIMAL RIGHTS

All procedures performed in human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with animals performed by any of the authors.

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Nil.

CONFLICT OF INTEREST

None

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