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Pott's Spine (Tuberculous Spondylodiscitis): A Case Report

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ABSTRACT

Pott's spine is a condition where one or more vertebra and intervertebral disc spaces are inflamed due to Mycobacterium tuberculosis. Spinal Tuberculosis or Pott's spine is the most common extrapulmonary manifestation of Tuberculosis. It is an infectious disease spreads through hematogenous route from lungs to the paravertebral tissue of spine. Clinically Pott's spine occur about 59% of cases per year; 10 million new cases every year with 56% are MDR-TB. Patients may usually experience back pain, tenderness and thoracolumbar spine deformity. The infection spreads to spine resulting in osteolysis and osteoporosis. This causes vertebral collapse, Kyphosis and neurologic deficit (paraplegia, paresthesia and weakness of limbs). Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) scan will demonstrate the disc collapse with posterior elements erosion, while MRI is the gold standard diagnostic tool. Further biopsy helps in histopathological findings. Various treatment options available are Anti-Tubercular Therapy (Gold standard), Surgical Spinal cord decompression, Abscess drainage and spinal fusion.

Keywords: Anti-tubercular drugs, Pott's disease, spinal disc collapse, Tuberculosis.

INTRODUCTION

Tuberculosis is an infectious disease caused by bacteria (M. Tuberculosis) that most often affects lungs and rarely extrapulmonary. [(1)] The incidence of Spine tuberculosis is increasing enormously. Pott's disease accounts for less than 1-2% worldwide. [(2)] Tuberculous spondylitis accounts for 0.5-1% of all TB cases, and it is estimated that there are probably 5000 MDR-TB spondylitis cases each year worldwide. [(3)] This involves haematogenous spread of infection from lungs to the anterior end plates and next to the intervertebral disc causing osteolysis and osteoporosis which results in vertebral body collapse and later neurological complications like Paresthesia, weakness and paraplegia. The thoracic region of vertebral column is most frequently affected. For diagnosis of Pott's disease, Magnetic Resonance Imaging is more sensitive than any other imaging tests. Neuroimaging-guided needle biopsy from the affected site in the center of the vertebral body is the gold standard technique for early histopathological diagnosis. Anti-Tuberculous Therapy is the 1st line treatment and surgery may be required in selected case where neurological deficit and abscess are observed. [(4)] Here we present a case with tuberculosis in thoracic region who presented with severe back pain, neurological deficit with epidural abscess.

CASE REPORT

A 23 year old female patient, presented to us on 27-05-2019 with neck pain and back pain for past 20 days and weakness in lower limb for past 7 days. She was recently diagnosed with Tuberculosis.

On examination she had tender back, spinal spasm with decreased sensation and paresthesia of lower limbs. Her routine blood investigation showed elevated WBC ($11.6x10^9$/L), ESR(80mm/hr) and CRP (53.34mg/L) levels and she was slightly anemic(Hb-10.9g/dl), X-ray of spine showed T_1-T_2 spondylodiscitis with T_2 pathological collapse, CT scan showed T_2 pathological collapse with T_1Posterior elements erosion, MRI scan showed T_1- T_2 spondylodiscitis with epidural abscess and T_2 Pathological collapse.PCR report showed molecular genetic detection of Mycobacterium Tuberculosis and rifampin resistance associated mutation of Rpob gene in PCR method with detection range from 106.2CFU.

Patient was diagnosed as Tuberculous Spondylodiscitis (Pott's Spine) and Anti-Tubercular Therapy, Category I AKURIT-4(T.ISONIAZID-75mg+ T.RIFAMPICIN-150mg+ T.ETHAMBUTOL- 275mg+T. PYRAZINAMIDE- 400mg) was initiated. Surgery was performed C_7-T_5 posterior instrumented stabilization and T2 disc tissue biopsy was obtained.AKURITT-4 three tablets once daily and few NSAID's like Inj.Ketorolac 30mg twice daily for 5 days , Inj. Paracetamol 1gm thrice daily and Inj.Tramadol 50mg twice daily after surgery for 3 days and Inj.Paracetamol was orally deescalated to T.Paracetamol 1gm thrice daily. 0.5% Carboxymethylcellulose eye drops was advised from 3rd day of admission. T.Pyridoxine 40mg half daily and Syrup.Cremaffin 15ml at night was prescribed. Inj. Streptomycin 1gm imonce daily on alternative days was initiated after the PCR test showing Rifampin resistance.

DISCUSSION

Pott's disease is an extrapulmonary granulomatous infection that spreads through haematogenous route. The most common cause symptoms include back pain followed by fever. [(5)] The most common complication of Pott's spine are neurological deficit and spinal instability. [(6)] The neurological deficits depend on the degree of spinal cord involvement from single nerve palsy to paraplegia. The patient was operated because of neurological deficit on 3rd day of admission and biopsy was collected. The prescription was rational with Inj.Ketorolac for 5 consecutive days [(7)] and Inj.Paracetamol was shifted to oral after 3 days. Since the patient experienced severe pain after surgery, Inj.Tramadol was initiated and stopped after pain reduction. These NSAID's were given as adjunctive in this patient. [(8)] T.Pyridoxine was given to prevent the Peripheral Neuropathy caused by T.Isoniazid. [(9)]

Refresh tear drops containing 0.5% Carboxymethylcellulose eye drops was given to patient as she reported eye irritation and dryness which may be the side effect of Inj.Ketorolac. [(10)] After surgery, the body will undergo stress and opioid may induce constipation. [(11)] Hence Syrup. Cremaffin 15ml was given at night. Since the patient developed short term resistance to rifampicin, the AKURIT-4 regimen was continued along with initiation of Inj.Streptomycin. Inj.Streptomycin was administered on alternative days to reduce Streptomycin induced nephrotoxicity and ototoxicity. [(12)] It was requested to administer for next 2 months. Outcome of the patient improved due to effective medical and surgical treatment. Once the patient comes for review, the physician may advise PCR again, check for resistance and treat appropriately. More than 80% of patients recover to medical treatment alone. Surgical intervention in the presence of spine deformity or neurological deficit is required in approximately 50% of the patients. [(13)]

CONCLUSION

Tuberculosis is a preventable disease, hence early diagnosis and treatment can improve prognosis. Pott's spine with prolonged back pain may lead to neurological deficit which may delay recovery. Anti-Tuberculous chemotherapy is generally effective. Surgical interventions

are necessary only with marked spine involvement, presence of abscess and deformities.

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