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UNUSUAL PRESENTATION OF SPINAL TUBERCULAR FISTULOUS TRACT INVOLVING PARASPINAL MUSCLES, EXTRADURAL SPACE AND FURTHER EXTENDING INTO SUBCUTANEOUS PLANE

Radiodiagnosis

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ABSTRACT

Tubercular spondylodiscitis (Pott's Spine) is the commonest extrapulmonary manifestation of Tuberculosis. It spreads via hematogenous route. Patients present with back pain, paraplegia or paraparesis, and kyphotic or scoliotic deformities. Lower thoracic and lumbar vertebrae are the most common sites of spinal TB followed by middle thoracic and cervical vertebrae. We present an unusual case of spinal tuberculosis; the case was investigated mainly by MRI.It is extremely common to find spinal tuberculosis, extradural component of tubercular pathology and subcutaneous collection of cold abscess. However, it is extremely uncommon to find tuberculosis of vertebral body and disc entering into extradural space and then further exiting from extradural space into the posterior spinal space to form a subcutaneous collection. This type of complication is uncommon and there are no similar cases presented earlier to our information.

KEYWORDS

Tubercular Spondylodiscitis, Pott's Spine.

INTRODUCTION

Clinical Presentation

A 32-year-old male patient came with complaints of Breathlessness, Cough with expectoration,Swelling over the lower back since 2 months andchest pain since 20 days. It is Associated with evening rise of temperature and pain in the lower back which radiates to both the lower limbs which aggravated since 2 months.History of fall from bike followed by trauma to lower back 5 years back.

Known case of pulmonary koch's since 2 months but is not on regular treatment.No history of diabetes mellitus, hypertension, bronchial asthma. He is a Chronic tobacco chewer since 10 years. Sputum for Acid Fast Bacilli was positive.Total leucocyte counts were raised.Haemoglobin level, platelet count, renal function tests, liver function tests, blood sugar level all were within normal limits.HIV, HCV AND HBsAG were non-reactive. No history of any intervention or surgery.

CHEST RADIOGRAPHY

Figure 1:Multiple millet shaped opacities uniformly noted in bilateral lung fields,Suggesting Miliary tuberculosis

MAGNETIC RESONANCE IMAGING

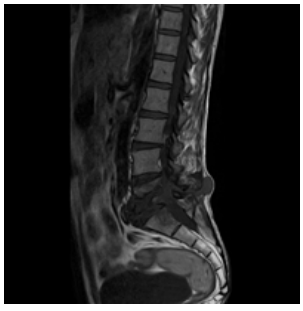

Figure 2:T1 SAGITTAL

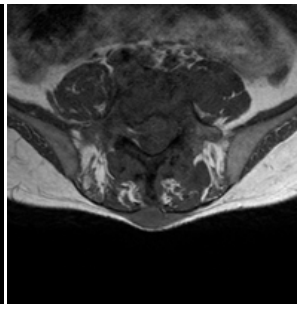

Figure 3:T1 AXIAL

The Lesion is hypointense on T1 weighted images.

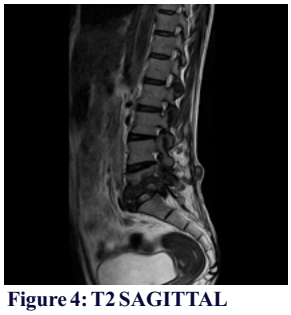

Figure 4: T2 SAGITTAL

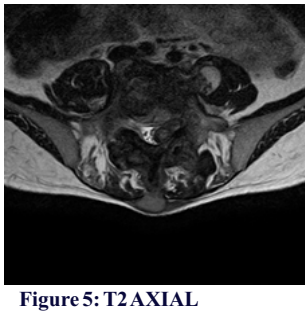

Figure 5: T2 AXIAL

The lesion is of mixed signal intensity on T2 weighted images.

Figure 6: STIR SAGITTAL

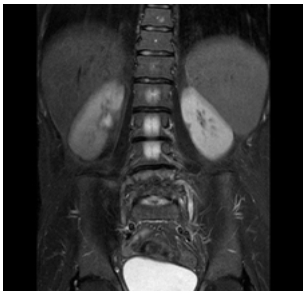

Figure 7: STIR CORONAL

The lesion is of mixed signal intensity on STIR.

Altered signal intensity noted in pre, para and post spinal area involving L4, L5 vertebral bodies and inter vertebral disc between L4

& L5 which is predominantly hypointense on T1W, mixed intensity on T2W and STIR with erosion of end plates of L4, L5 & collapse of vertebral bodies. Soft tissue component of this is extending anteriorly and inferior involving pre spinal region upto superior end plate of S1 causing anterior displacement of anterior longitudinal ligament and posterior soft tissue component is extended in between spinous process of L4 & L5, going upto subcutaneous plane with involvement of posterior arches. This lesion is going into spinal canal (intra spinal extradural) with compression of thecal sac on left side with compression of both exiting and traversing nerve roots at L4-L5 level and compression of left exiting and traversing nerve roots at L5 – S1 level. **All these findings are suggestive of Tubercular Spondylodiscitis at L4-L5 level.**

DIFFERENTIAL DIAGNOSIS

1.Brucellar spondylitis
2. Pyogenic spondylitis
3. Osteoporosis
4. Metastasis
5. Multiple myeloma
6. Lymphoma

Brucellar spondylitis is commonly found in middle-age group. Lumbar spine is frequently involved followed by thoracic and cervical spine. Disc involvement and small paraspinal soft tissue component can be seen; however,gibbus formation is not found in cases of brucellar spondylitis.

Pyogenic spondylitis can be found at any age; usually lumbar and cervical spines are affected. Destruction of vertebral bodies, intervertebral disc, markedly enhancing lesion, and epidural abscesses can be seen.In pyogenic spondylitis, there is sparing of posterior elements and usually no gibbus deformity seen.

In **osteoporosis**, thoracic vertebrae are frequently involved with sparing of the pedicles.Destruction of multiple vertebral bodies, reduced bone density is usually seen in **osteoporotic** vertebrae.

In **Metastatic** disease, thoracic region is most commonly involved. Posterior wall of the vertebral body (60%), pedicles and lamina (50%) are involved in metastatic disease; however, intervertebral disc heights are preserved. In elderly patients with vertebral collapse, metastatic disease of the spine should always be considered.Intervertebral discs may be affected **in lymphoma and multiple myeloma.**

DISCUSSION

Tubercular Spondylodiscitis is the commonest extrapulmonary manifestation of Tuberculosis. It spreads through hematogenous route. Clinically, it presents with back pain, tenderness, paraplegia or paraparesis, and kyphotic or scoliotic deformities. Pott's spine is usually secondary to lung or abdominal involvement and may also be the first manifestation of TB.Percival Pott was the first person to present the classic description of spinal tuberculosis (TB) in 1779; hence, it was called 'Pott's Disease[1-4].

Plain radiographs are usually the initial investigation in patients with spinal Tuberculosis. In paradiscal type of lesion, the earliest radiological features are narrowing of the joint space and indistinct paradiscal margin of vertebral bodies. Central type of lesion presents as destruction, ballooning of vertebral bodies, and concentric collapse.

Features of spinal tuberculosis that can be seen on CT scans include anterior vertebral body destruction, vertebral body collapse, disk space narrowing, and large paraspinal softtissue masses representing abscess formation [5,6]

MRI characteristic findings included destruction of two adjacent vertebral bodies and opposing end plates; destruction of intervening disc; vertebral body edema; and occurrence of prevertebral, paravertebral, and epidural abscesses [7-10].

COMPLICATIONS

Paraplegia and sometimes quadriplegia are serious complications of the tuberculous spine seen in approximately 10% of patients [11]. Copious epidural pus and granulation tissue alone or in combination with vertebral collapse, subluxation, or dislocation produce cord compression. Rarely, the pus penetrates the dura resulting in severe meningomyelitis[12]. Other complications include Cold abscess, Sinus formation, Spinal deformity, sensory disturbances, bladder and bowel disturbances and Fatality.

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