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Original Research Paper

Medicine

KLEBSEILLA PNEUMONIAE INVASIVE SYNDROME (KPIS) ORIGINATING FROM A VERTEBRAL ABSCESS PRESENTING AS AN EMBOLIC STROKE

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ABSTRACT

Klebsiella Pneumoniae Invasive Syndrome Originating from a Vertebral Abscess is a rare but life-threatening condition caused by hypervirulent strains of K. pneumoniae, particularly in patients with diabetes or immunosuppression. The condition typically presents with back pain, fever, neurological deficits, and systemic symptoms due to bacteremia or metastatic infections. Diagnosis involves MRI for imaging, blood cultures, and abscess aspiration for microbiological confirmation. Prompt treatment with targeted antibiotics, such as carbapenems or cephalosporins, is critical, often supplemented by surgical drainage in refractory cases. Early intervention is crucial to prevent complications such as permanent neurological damage, sepsis, or metastatic abscesses, leading to improved outcomes.

KEYWORDS :

INTRODUCTION

K pneumoniae: common organisms involved in nosocomial infections, accounting for 38% of all Hospital acquired infections, Liver and Lung are the most common sites involved.

KPIS: Rare entity has been linked to bacteremia, brain abscesses, necrotizing fasciitis, meningitis, endophthalmitis and liver abscess.

Some cases have been reported from Southeast Asia but there is no reported case from India till date.

Case Report:

A 45 year old male, presented with complaints of fever since 20 days, pain in lower back, left knee and elbow since 15 days.
Right sided weakness in body associated with slurring of speech and deviation of face to the left side since 1 day.

Clinical Findings:

On admission, the patient was conscious, oriented, and vitally stable. Laboratory results were as follows

Parameter	Value
Total count	18600/mm^3
DLC	N-84/L-8/M-6/E-2
CRP	320 mg/l
Procalcitonin	1.4mcg/dl
ESR	82 mm/h
S. Ferritin	1690mcg/l

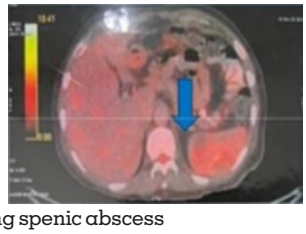
Investigations:

CEMRI (Brain and Spine): Multiple hemorrhagic foci at the grey-white matter junction of left fronto-parietal region with perilesional edema and mass effect.
1) Hyper-metabolic osteolytic lesion involving C5-C6, L5-S1 vertebrae with pre and paravertebral collection extending along the Iliopsoas.
2) Multiple hypodense lesions in the spleen, right kidney and a collection was observed around the left knee joint.

Culture of the paravertebral collection: Positive for Klebsiella pneumoniae; negative for acid fast bacilli

T2 weighted MRI showing Collection around L5-51

PET CT showing septic collection around left knee



PET CT showing spenic abscess

Differential Diagnosis:

- Disseminated Tuberculosis
- Metastatic Malignancy
- Infective Endocarditis

Final Diagnosis:

Klebsiella pneumoniae Invasive Syndrome (KPIS) presenting as embolic stroke

Treatment And Follow Up:

- **Antibiotics:** Ceftriaxone (empirically) Later - Amoxicillin + Clavulanic acid and Linezolid according to the culture sensitivity report).
- **Supportive treatment:** Mannitol and Glycerol anti cerebral edema measures) and physiotherapy.
- Patient responded well to the above IV antibiotics.
- Decrease all septic collections after 2 weeks.

DISCUSSION:

- Hypervirulent strains (KI and K2) of K pneumoniae can cause septic emboli to the brain in 2% Of cases leading to stroke and meningitis.
- Invasive infections have a poor prognosis and a high mortality (8-24%).
- In any patient presenting with multiorgan abscesses, invasive Klebsiella infection should be considered as an important differential.

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