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A Case of Melioidosis (Localised Infection with Sepsis Type) in a Background of Uncontrolled Type 2 Diabetes Mellitus

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Abstract
Melioidosis, caused by Burkholderia pseudomallei, is an emerging infectious disease in tropical regions, often presenting with varied clinical manifestations. Patients with uncontrolled diabetes mellitus are at increased risk due to compromised immunity. We report a case of a 52-year-old male with uncontrolled type 2 diabetes mellitus who presented with high-grade fever, localized swelling in the right axilla, and signs of sepsis. Laboratory investigations revealed leukocytosis, deranged glycemic control, and positive blood cultures for B. pseudomallei. Imaging demonstrated a localized abscess without evidence of disseminated infection. The patient was managed with intravenous ceftazidime followed by eradication therapy using oral co-trimoxazole. Strict glycemic control was instituted concurrently. The patient showed significant clinical improvement with resolution of sepsis and localized infection. This case highlights the importance of early recognition of melioidosis in diabetic patients presenting with localized abscess and sepsis-like features. Prompt diagnosis, appropriate antimicrobial therapy, and strict control of underlying diabetes are crucial for favorable outcomes.

INTRODUCTION

Melioidosis, a disease of tropical climates, is caused by an environmental Gram negative bacterium Burkholderia pseudomallei. In the presence of known risk factors like Diabetes mellitus (most common, ? risk by 100 folds), CKD, steroids, CLD, clinical clues include presentation during the monsoon months and a history of soil exposure with/without skin abrasion. Clinical episodes of pneumonia, septicemia, multiple abscesses (spleen, prostate, submandibular and cervical lymph nodes) are prevalent. Melioidosis is attributed to nearly 20% of community-acquired bacteremia. The usual culture report of 'Pseudomonas like organisms resistant to aminoglycosides, polymyxin or colistin in a patient unresponsive to conventional treatment in an endemic countries is a suspect.

Patient's presentation: This 49 year old gentleman, sedentary worker, resident of urban area was admitted in the month of July with h/o fever with chills and rigor for 14 days along with burning micturition and gradual swelling of Rt lateral neck mass with neck pain and difficulty in swallowing.

Initially he was diagnosed as a case of urosepsis in a govt hospital 2 weeks back and was treated with IV antibiotics and other supportive measures.

On examination: Pallor +, No icterus, No cyanosis, No clubbing, No palpable lymph nodes, No edema. Chest-B/L VBS+, CVS- S1,S2 audible, ABD- Soft, Non tender, IPS+, CNS: GCS 15/15, Power 5/5(B/L UL & LL), Tone normal, B/L plantar flexion.

Clinical Course: After admission he was treated conservatively with IVF, Antibiotics, Supportive medication.

Blood Examination: Fever profile –ve, Viral serology – ve ,Widal slide agglutination test – ve, Hb- 8.5, TLC-14,370, CRP- 249.70, FBS- 310, HbA1c- 10.6%, Cr- 1.3. Urine routine examination: WNL.132ewq5

In the govt hospital (14days back) urine R/E report: Pus cells- 10-12/HPF, Bacteria + ve. urine C/S report: Enterococcus species +ve, Colony count >105CFU/ml USG guided diagnostic aspiration from neck mass ? Approx 25-30 cc chalky thick pus aspirated from Rt neck abscess and send for C/S? Report revealed growth of Burkholderia pseudomallei. Z/N stain –No AFB present. GENE XPERT-No mycobacterium tuberculosis detected. I/D of Rt sided neck abscess was done ? GA and thick milky pus was drained out. He was treated with IV Meropenem, IV Gentamycin, Inj Toujeo and other supportive medications? Gradually his condition improved and later discharged in stable condition(with combination of Co-amoxiclav and Doxycycline. The patient was well after 6 months without any relapses.

CECT thorax report shows Large necrotic nodal mass at retrotracheal location of superior mediastinum cranially extending to Right supraclavicular location, Large necrotic collection at supraclavicular fossa invading right IJV (thrombus noted), Splaying of right lobe of thyroid anteriorly by the collection, Cuff of soft tissue thickening around right ICA, Few reactive mediastinal and cervical nodes, Interlobular mild septal thickening in both lungs.

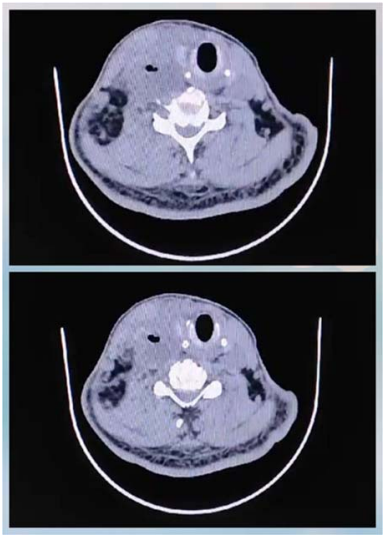

Fig. 1: CT scan Report

Cect Neck and Thorax

Technique: CECT neck and thorax performed with appropriate reconstructions.

Findings:

- Large necrotic nodal mass at retrotracheal location of superior mediastinum cranially extending to right supraclavicular location measuring 9 x 6 x 4 cm (CC x ML x AP)
- The large necrotic collection is noted at the supraclavicular fossa invading the right IJV (internal jugular vein)
- Right IJV thrombus is noted
- Splaying of right lobe of thyroid is noted anteriorly by the necrotic collection
- Cuff of soft tissue thickening around right ICA (internal carotid artery)
- Few reactive mediastinal and cervical nodes
- Interlobular mild septal thickening in both lungs

Bacterial Culture Aerobic:

Specimen: Pus from Neck Abscess

Method: Culture and Sensitivity by VITEK 2

Routine Culture Aerobic: burkholderia pseudomallei

DISCUSSION

Melioidosis is an emerging infection in South Asia. It may present with recurrent abscesses. Therefore it is very important to send pus for culture whenever an

abscess is drained.However it should be noted that the reporting laboratory may be unfamiliar with this bacterium and the isolate may misidentified as pseudomonas/ even E.coli. Melioidosis should be suspected when an isolate with typical antibiotic sensitivity pattern of ceftazidime sensitivity and gentamycin resistant is cultured, especially in a patient with Diabetes Mellitus. This will expedite diagnosis and proper treatment leading to an excellent prognosis. On local examination, Rt sided neck mass tense and tender, not moving on deglutition, no signs of meningism & no neck rigidity.

CONCLUSION

Melioidosis in the head and neck region is uncommon. It is a potentially life threatening infection. Thus early diagnosis and proper management are very important. Death from melioidosis occur in 12- 40% of cases, as a result of sepsis & its complication. The most common complication in survivors is relapse from a persistent focus.

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