Journal of Infectious Diseases and Therapy
ISSN: 2332-0877

Vijayan and Shetty, J Infect Dis Ther 2015, 3:5
DOI: 10.4172/2332-0877.1000232

Case Report Open Access

Pyrexia of Unknown Origin "Misleading First Impressions"

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Received date: June 21, 2015, **Accepted date:** September 4, 2015, **Published date:** September 10, 2015

Introduction

48 year old foundry worker from Kumta district, Karnataka (India) presented with 3 weeks history of fever, body ache, cough, weight loss (10 kg) and anorexia. Recently detected to have type 2 DM. No significant illness in the past. No history of any recent travel outside the district. O/E Temp 101.F, PR 112/min, RR-22/min BP 100/70 mm Hg Toxic looking. No pallor, icterus, clubbing, lymphadenopathy, skin lesions. Sparse crepitations heard over right lung base. Mild hepatomegaly present. No focal neurological deficit. With the above findings provisional diagnosis of

- Pneumonia
- Tuberculosis
- Enteric fever
- Brucellosis was made.

Material and Methods

Day-1

TLC – 15,400/cu mm with neutrophilia, ESR – 140 mm/hr, RBS - 247 mg%, HIV, HbsAg, HCV status was negative. Tests for Dengue, Malaria, Typhoid, Leptospira, Brucella was negative. USG abdomen showed hepatomegaly and ECHO showed no vegetations.Blood and urine cultures were sent which were awaited, started on broad spectrum antibiotics in view of probable right lower lobe pneumonia (Figures 1 and 2).

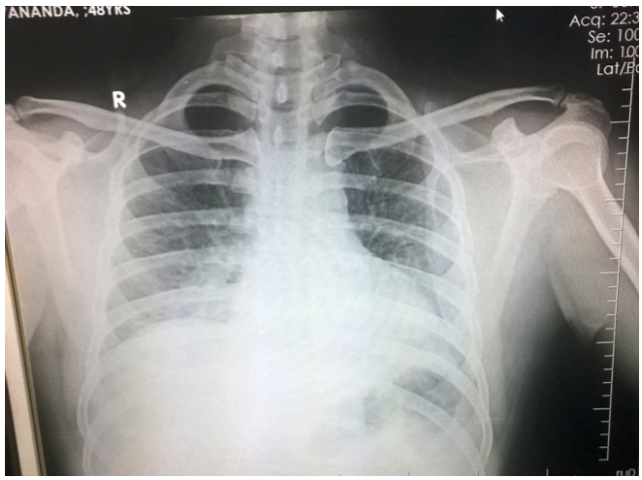

Figure 1: Chest Xray showed a non-homogenous opacity right lower zone.

Day-2

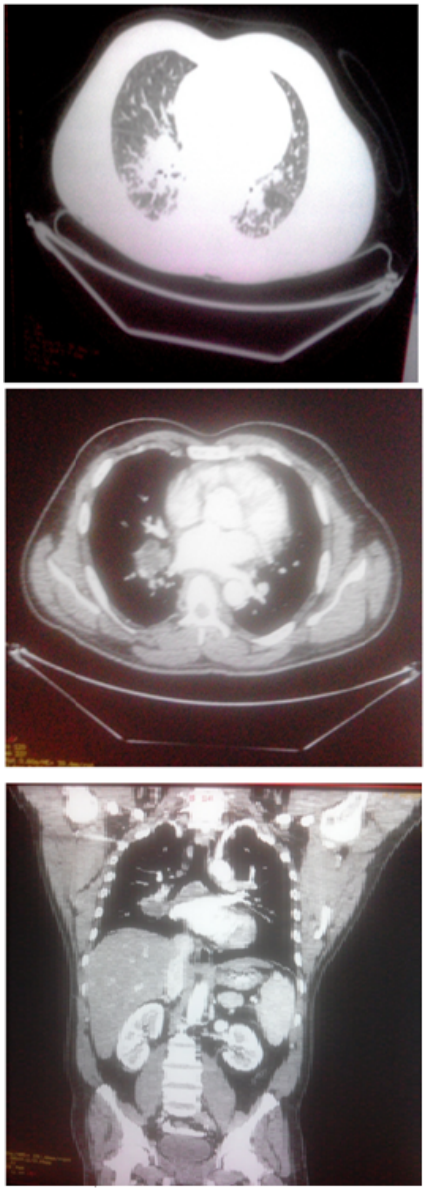

Figure 2: CT chest with abdomen was done, showed Right hilar nodal mass with mediastinal lymphadenopathy, parenchymal opacity in right lower lobe, fibrosis in left lower lobe and lingular segment.

Impression: tuberculosis/malignancy: Bronchoscopy showed only inflammatory cells, no endobronchial lesion, bronchial washings sent for gram stain, C&S, AFB.

Day-3

He developed sudden onset of flaccid paraplegia with absent sensation below T8 level and urinary retention. Now the possibilties of acute myelitis, Spinal Abscess or Potts spine were considered (Figures 3 and 4).

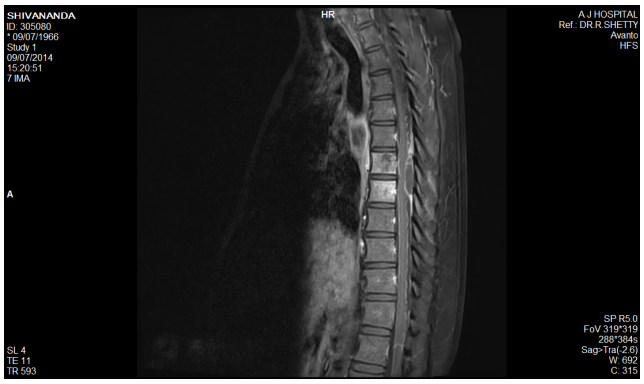

Figure 3: MRI dorsal spine (plain and contrast). Hetrogenously enhancing altered marrow signal at D6 and D7 vertebral bodies involving pedicle, pre and paravertebral collection at D4 to D8 levels, epidural collection at D6 and D7 levels compressing the theca and cord displacing it anteriorly .

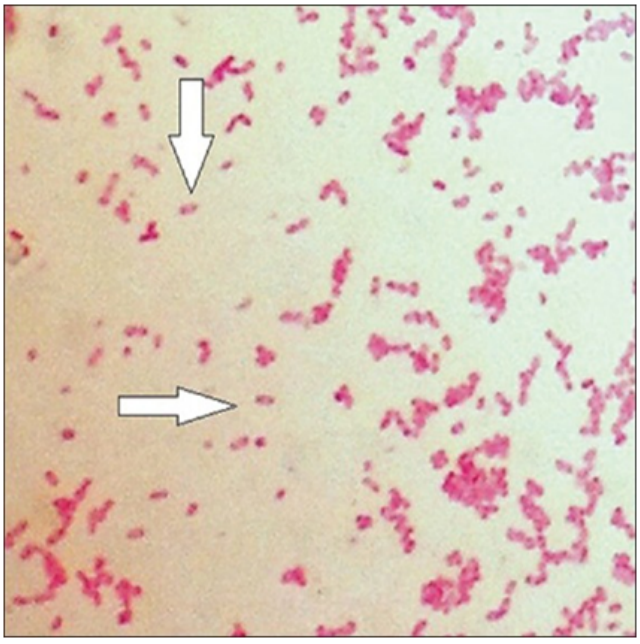

Figure 4: Direct microscopy of bronchial secretions,blood and pus - Gram negative bacilli with safety pin appearance.

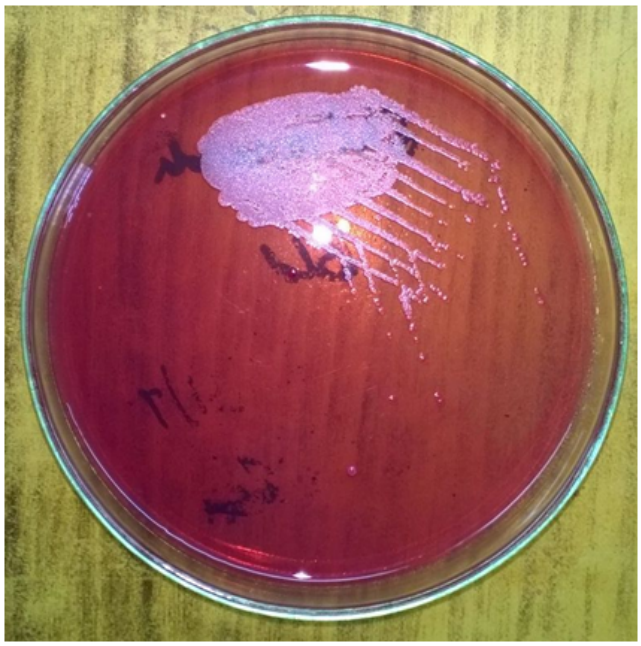

Figure 5: Blood agar using Ashdown's medium —hemolytic colony (oxidase +ve, polymyxin B resistant).

Impression: epidural abscess

He underwent an emergency T6-T10 laminectomy along with drainage of the epidural abscess, frank pus, sent for gram stain, C&S. Other tests: DNA PCR for *Mycobacterium tuberculosis*: -ve, Bronchial wash AFB : -ve. Meanwhile blood C&S, bronchial wash C&S and pus C&S were obtained (Figure 5).

The organism finally captured is *Bukholderia pseudomallei*. No other serology tests or immunological tests were done for confirmation as culture from blood, bronchial waasings and pus yeilded the organism.

Result

The was started on Inj Ceftazidime 2g iv Q6H for 2 weeks together with oral co-trimoxazole BD and Tab Doxy 100 mg BD given for six months. He gradually improved in motor power, sensations were regained.

Discussion

Melioidosis caused by *Bukholderia pseudomallei*, a widely distributed environmental saprophyte in soil and fresh surface water in endemic regions. Predominant modes of transmission are percutaneous inoculation and inhalation. Thailand has reported the largest number of cases,with an estimated 2000 to 3000 cases of melioidosis each year followed by Northern Territory of Australia, Increasingly seen in India and other Asian countries [1-3]. In India approximately 300-500 cases have been reported yearly. Central nervous system melioidosis is an unusual infection in humans. A similar case of thoracic epidural abscess was reported in Nizams Institute of Medical Sciences,Hyderabad, Andhra pradesh in 2011 [4].

The retrospective melioidosis study at University Malaya Medical Centre has documented 3 cases of CNS melioidosis out of more than 160 cases of melioidosis since 1978. There were two patients with brain abscess and one with spinal epidural abscess [5]. Of 14 cases of spinal pyogenic infection reported by Nather et al. only one was caused by *B. pseudomallei* [6].

Although healthy people may get melioidosis [7], the major risk factors are diabetes, excessive alcohol use, liver disease, chronic renal disease, chronic lung disease, urolithiasis, thalassemia, cancer or another immunosuppressing condition not related to human immunodeficiency virus (HIV) and occupational exposure. Morbidity and mortality of melioidosis are also higher in people with major risk factors. Isolates are generally susceptible to imipenem, piperacillin, amoxycillin-clavulanic acid, doxycycline, ceftazidime, aztreonam and chloramphenicol. These are found to be resistant to colistin and gentamicin. Chetchotisakd et al. [3] showed that combination of cefoperazone– sulbactam plus co-trimoxazole is an effective alternative to the use of ceftazidime and co-trimoxazole [8]. There is currently no effective vaccine against this disease. The usage of ceftazidime during the initial phase has been shown to reduce the mortality rate to almost half [9]. Generally, patients with melioidosis involving the CNS may have a good outcome if there is early diagnosis, early treatment, appropriate surgical intervention and 6 months of appropriate antibiotic therapy. If treated incorrectly, the mortality rate for melioidosis was 95%.

Conclusion

An increased awareness, high index of suspicion, early diagnosis and initiation of appropriate therapy is necessary for a favorable outcome. In all the reported cases, the abscess occurs in lower dorsal area, including in our case, reason for this needs evaluation.

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