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A Case of Brucellosis Diagnose on Blood Culture

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Abstract: ***Human Brucellosis is a zoonotic disease caused by Brucella species. The disease transmission in humans usually occurs by direct contact with infected animals or by consuming unpasteurized milk or milk products. Bucellosis is an underrated and often neglected re - emerging zoonotic disease in India with significantly poor public health outcomes. Purpose of this case is isolation and identification of brucella and to know the antibiotic sensitivity pattern of brucella and to light an uncommon case of brucellosis infection. A case of brucellosis in 2 year old female child who presented primarily with fever lasting from 4 - 6 weeks and loss of appetite with history of unpasteurized cow milk in gestion since birth. Blood culture was done using BacTALERT3D and the organism isolated was identified using VITEK 2. The organism was identified as Brucella melitensis with excellent identification (99% probability). Brucella IgM antibodies were also detected in serology.***

Keywords: brucellosis, brucellamelitensis, brucella, zoonosis

1. Introduction

Human Brucellosis is a potentially life - threatening zoonotic disease caused by Brucella species. It is characterized by systemic infection affecting multiple body organs or system with wide range of clinical symptoms. The disease transmission to human usually occurs by direct contact with infected animals or by consuming unpasteurized milk or milk productor by inhalation of aerosol. [1]

Brucella is endemic in southern part of India. At present, B. Mellitensis is principle cause of brucellosis in India. [2]. Brucellosis is ignored in humans and in most cases it goes undiagnosed and untreated, leading to considerable suffering to those affected. [2]

2. Case History

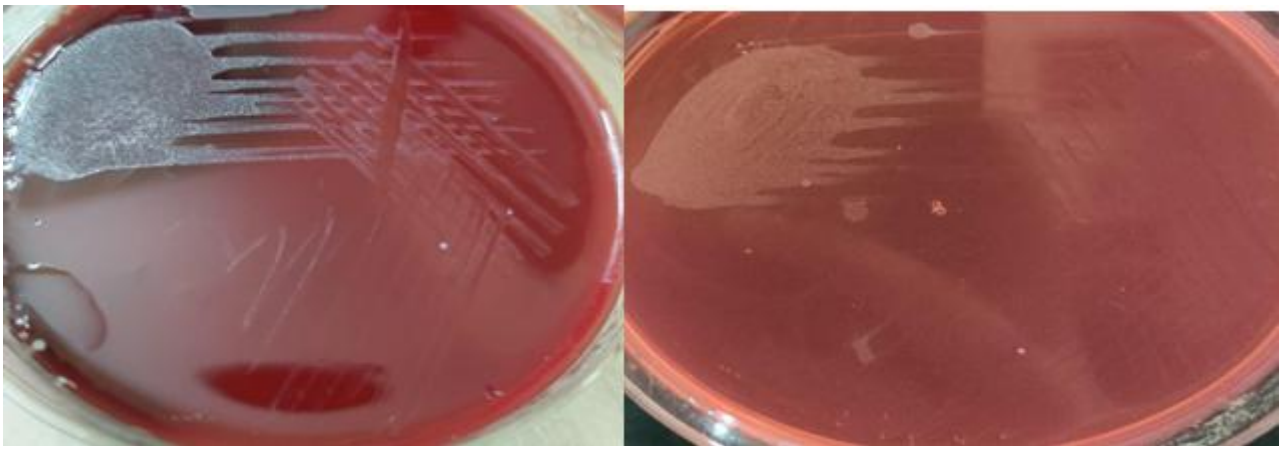
A 2 year old female child presented primarily with fever since 4 – 6 weeks mild cough and cold and loss of appetite. Initially she was treated symptomatically by the physician considering the symptoms to be of seasonal viral infection. She again had an episode of fever few days after symptomatic treatment and on detailed history it was revealed that patient had history of unpasteurized cow milk ingestion since birth. Blood sample was collected in blood culture bottle and sent to Microbiology Department for culture and sensitivity.

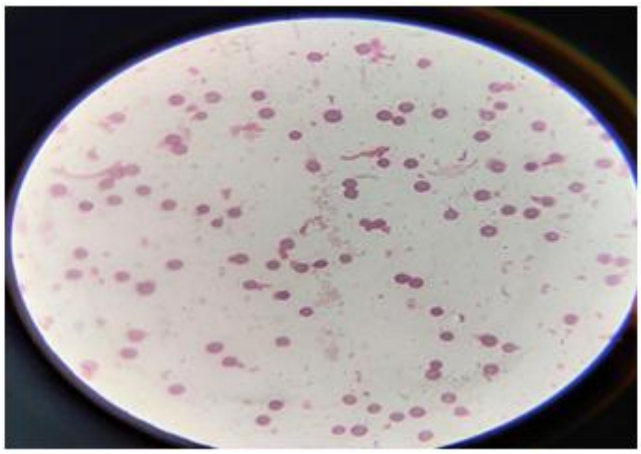
Blood culture was done using BacT ALERT 3D and the bottle was flagged positive on the next day. Microscopy of the blood showed gram negative coccobacilli on gram stain. Isolation was done on MacConkey agar and Blood agar using four flame. The Identification of the isolated organism was done using VITEK 2. And the organism was identified as Brucella melitensis with excellent identification (99%probability). Antibiotic sensitivity testing was done through disk diffusion method.

Brucella Ig Mantibodies were also detected in serology. On USG abdomen mild splenomegaly and paraumbilical lymhnode enlargement were detected.

3. Results

All antibiotics were sensitive to brucella melitensis including doxycycline. Patient was successfully treated with a combination of two drugs; doxycycline 4mg/kg/day and rifampicin 10mg/kg/day orally.





Investigations	Results
Hb	7.4 g/dl
WBC	7500/cumm
HIV	Non - reactive
P/S for M. P.	M. P. not detected
USG Abdomen	Splenomegaly Few subcmlymphnodes on paraumbilical region.
Brucella Ig G	0.65 index
Brucella Ig M	4.97

4. Discussion

Human brucellosis is a major zoonotic infection in the world. Identification of isolates from culture is the gold standard in diagnosis of brucellosis in human. The Infection is treated effectively with combined regimen that is recommended by WHO.

The disease is normally associated with people who are in close contact with animals like shepherds and veterinarian and those who have habit of consumption of raw milk of sheep, cow, goat etc.

Facilities and expertise is required for isolation and characterization so as to help in prompt diagnosis and treatment.

Acknowledgement
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