

**REPORTING A RARE CASE OF BRUCELLOSIS PRESENTING AS INFECTIVE
ENDOCARDITIS****¹*Dr. Vasumathi M., ²Dr. M.L. Kavitha Latha, ³Dr. Jyothilakshmi G. and ⁴Dr. Syed Fahada Zia**¹M.D, Post Graduate, Department of Microbiology Osmania Medical College, Koti, Hyderabad, Telangana, India 500095.²M.D., Associate Professor, Department of Microbiology, Osmania Medical College, Koti, Hyderabad, Telangana, India 500095.³M.D., Professor and Head of the Department, Department of Microbiology, Osmania Medical College, Koti, Hyderabad, Telangana, India 500095.⁴M.D., Assistant Professor, Department of Microbiology, Osmania Medical College, Koti, Hyderabad, Telangana, India 500095.***Corresponding Author: Dr. M. L. Kavitha Latha**

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ABSTRACT

Brucellosis is a bacterial zoonosis caused by *Brucella* species. Human Brucellosis is usually associated with occupational or domestic exposure to infected animals or their products. We report a case of 40 year old animal handler presenting with intermittent fever and on evaluation found to have endocarditis with vegetation affecting the aortic valve and diagnosed with Brucellosis based on serological tests ELISA, Rose Bengal Test(RBT) and Standard tube agglutination test (SAT). *Brucella* endocarditis is one of the rarest and serious complications of this infection. Early diagnosis and treatment helps in reducing the mortality of the disease.

KEYWORDS: Brucellosis, Rose Bengal test, Serological test for Brucellosis.**INTRODUCTION**

Brucellosis is the commonest zoonotic disease of worldwide distribution. It is mainly seen in the individuals who come in contact with animals directly.^[1,2,3] Cattle rearing is commonly practiced in rural parts of India and individuals are at high risk of developing Brucellosis.^[1] The reported average prevalence rate of brucellosis in high risk population is found to be 8.5%.^[1,4,5] Due to inordinate exposure to animals and their products and ignorance regarding zoonotic diseases, high prevalence of brucellosis, though expected, is not much studied in India.^[1] There are six species of *Brucella*, four of which are known to infect human are *Brucella melitensis*, *Brucella abortus* (*B. abortus*), *Brucella suis* (*B. suis*) and *Brucella canis* (*B. canis*). *B. abortus* is found principally in cattle, *B. melitensis* in goats and sheep, *B. suis* in swine and *B. canis* in kennel-raised dogs.^[6,7]

Brucella is a gram-negative, aerobic non sporing coccobacillus is a free-living, soil-dwelling organism that usually infects cattle and sheep. It is an intracellular bacteria. In infected hosts it affect the reticuloendothelial system. *Brucella* infective endocarditis has a much higher mortality rate than endocarditis caused by other pathogens due to its rapid and wide tissue destruction. The high mortality rate might be due to late diagnosis of

the infection.^[7] It commonly presents as an acute febrile illness, sometimes its clinical manifestation varies and definitive diagnostic signs may be lacking. Therefore clinical diagnosis must be supported by the results of bacteriological or serological tests.

CASE REPORT

A 40 year old man was admitted to hospital with history of fever for past 20 days. Fever was high grade, intermittent associated with profuse sweating. History of myalgia and arthralgia was present. Patient also gave history of difficulty in walking for the same duration. Patient had a history of spontaneous bleeding from nose and mouth. His occupation was cattle (goat, sheep) rearing. No history of similar complaints among other family members. On physical examination, pedal edema seen with pan systolic murmur over the aortic area and mitral area. On investigation his hemoglobin was 6.1 g/dl and platelet count was 52000/cu mm, blood urea level was 159 mg/dl and creatinine was 7.67mg/dl. Peripheral smear revealed microcytic hypochromic anemia with a giant platelets. On echocardiography examination, vegetation was present on aortic valve. Preliminary diagnosis of acute febrile illness with thrombocytopenia with native aortic valve infective endocarditis was made. On further evaluation patient was positive for *Brucella* IgM ELISA. On CT Coronary angiography aortic valve

calcification with vegetations and infarct in lower pole of spleen and right kidney was recorded. Patient was diagnosed with Brucellosis with infective endocarditis and Acute kidney injury. Patient started on Doxycycline 100mg twice daily and Rifampicin once daily for 6 weeks. For further confirmation of Brucellosis patient's serum sample was sent to National Institute of Veterinary Epidemiology and Disease Informatics, Bangalore. Standard tube agglutination test titre was significant 1:2560(Fig1) and positive for Rose Bengal Test(Fig2). Patient was on dialysis, once his creatinine levels are normal heart valve operation is planned.

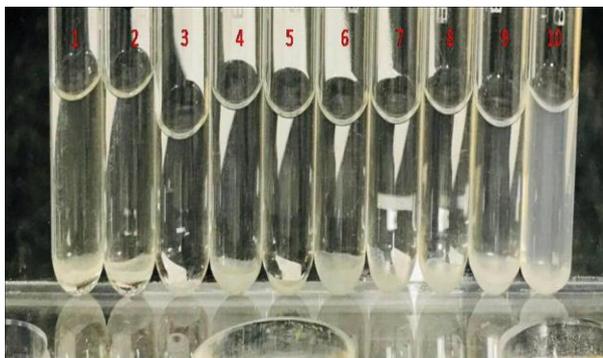


Fig 1: Standard tube agglutination test.



Fig 2: Rose bengal plate test A. Patient sample positive for agglutination B. Control.

DISCUSSION

Brucellosis is a disease which is usually under or diagnosed late.^[7] It is transmitted to humans by contact with infected secretions, inhalation of contaminated aerosols or ingestion of unpasteurised dairy products. Brucellosis invariably causes fever associated with profuse sweats, especially at night and in one half of patients it is associated with musculoskeletal signs and symptoms. In endemic area almost 50% cases have similar illness. In Brucellosis infective endocarditis accounts for fewer than 2% of the cases, but it is the main cause of mortality. A serious suspicion and clinical story is needed not to overlook the rare complication of infective endocarditis. Blood culture and serology are important for diagnosis. Blood culture is the gold standard diagnostic test in diagnosis of brucellosis, but unfortunately it has a relatively low diagnostic yield and cultures should be handled in BSC level III. In a study by Esmailpour *et al*, only 22.2% of cases with *Brucella* endocarditis had a positive blood culture.^[8] Serological tests are now gaining diagnostic importance as they have a higher sensitivity.^[9] A study done by Smita *et al* in India, seroprevalence of Brucellosis was 13.3% by SAT in individuals who had history of contact with animals, close exposure to their products during milking,

inhalation of aerosols and consumption of raw milk.^[1] In presence of appropriate history and clinical findings, serological tests are useful test for the diagnosis of human brucellosis. Being simple and affordable serological tests should be an ideal test for diagnosis of brucellosis in patients with clinical setting in rural hospitals.^[10]

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