

CASE REPORT

A MIDDLE AGED MAN PRESENTED WITH PROLONGED FEVER AND LOW BACK PAIN DIAGNOSED AS BRUCELLOSIS

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Abstract:

Brucellosis is a Zoonotic disease which is not so common health problem in Bangladesh. For its variable presentation it creates diagnostic challenge for the clinicians. Although Brucellosis is a treatable and curable condition sometimes delay in diagnosis and lack of insight for the disease creates high morbidity. In this case report we have presented a case of brucellosis presented with prolong fever, joint pain with complications which created dilemma in diagnosis in a tertiary care private hospital of Dhaka. The purpose of presenting this case report is to create concern among the clinicians regarding the variable presentation of Brucellosis & emphasizing to clinical judgment over investigations, especially in limited resources.

Key words: Brucellosis, Renal manifestations, MSK manifestations, Peripheral Neuropathy.

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Introduction:

Brucellosis is a bacterial infection caused by Bacterial Genus Brucella. It is transmitted from animals to humans by various way such as ingestion through infected food products, direct contact with an infected animal, or inhalation of aerosols¹. It is a very ancient disease also known by various names, including Mediterranean fever, Malta fever, gastric remittent fever, and undulant fever. Humans get this infection accidentally. But yet it's a major public health concern and most common zoonotic infection².

Brucellas are small aerobic intracellular coccobacilli, localize in the reproductive organs of host animals, causing abortions and sterility. There are as many as 12 species but only 4 are pathologically virulent for causing human infection. These are,

Brucellamelitensis (from sheep; highest pathogenicity), *Brucellasuis* (from pigs; high pathogenicity), *Brucellaabortus* (from cattle; moderate pathogenicity), *Brucellacanis* (from dogs; moderate pathogenicity)³⁻⁴. For diagnosis careful history taking is very important as almost every case of brucella has a positive contact history which could be direct or indirect.

Case report:

Mr. X, 40 years old normotensive, non-diabetic gentleman, worker of butcher factory in Saudi Arabia admitted at Popular Medical College Hospital (PMCH) with the complaints of recurrent intermittent fever for about 1 years, Low Back Pain for 8-9 months, pain in the left shoulder joint for 1 month.

He had history of repeated hospital admission in last 1 years, at 1st admission, he admitted to Govt hospital;

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in September 2019, with complaints of high grade fever, and multiple joint pain. At that time he has symmetrical painful swelling of the small joints of hands. Morning stiffness was unremarkable, no specific aggravating or relieving factor were present. At that time RA test, Anti CCP Ab, ANA all were negative. He was diagnosed as a case of PUO that time. After getting treatment for 23 days his fever subsided also joint pain reduced but didn't reached any specific diagnosis.

But after a period of one months he again got admitted in tertiary govt hospital. This time complaints of high grade fever, headache, altered level of consciousness and high color urine. He stated that fever was intermittent with highest recorded temperature 103 F which subsided after taking paracetamol, fever was associated with chills and rigor & severe pain at left hip joint for which he could not walk properly. He also complained of high color urine which was associated with decreased frequency of micturition, scanty urine and bi-pedal edema. He stated that he had to stay about a month at hospital that time, diagnosis was AKI. His fever subsided after being treated with antibiotic. He was advised for dialysis but refused treatment. At that time his Creatinine was 6.7 mg/dl, He had low Sodium level (125mmol/l), High Potassium (6.1mmol/l) and USG showed Bilateral renal parenchymal disease which was not evident earlier. He took Discharge on risk bond with that condition after improvement of his general wellbeing. Even after that he was occasionally taking NSAID for low back pain.

He again admitted to PMCH with the complaints of occasional low grade fever for 6 months, highest recorded temperature was 100 F, it was not associated with shivering and evening rise of temperature, fever subsided after taking paracetamol with sweating. Fever was not associated with cough, chest pain, headache, abdominal pain, yellow discoloration of skin and sclera, burning sensation during micturition.

He also complained of low back pain (LBP) for 8-9 months, he stated that his pain started at lower back which radiated up to knee, it gradually progressed over time. It was aggravated by walking, even not relieved by rest, only felt some relieved after taking analgesics. For the pain he used to walk with sticks. He also complained of left shoulder pain for 1 month, it was moderate to severe, continuous, non-radiating, aggravated by movement and hampered his daily activities. Pain was not associated with any morning stiffness, muscle weakness, tingling sensation or numbness. On query he stated that he had lost weight which was associated with anorexia. Weight loss was unintentional and it was about 8 kg in 6 months period. On general examination during admission, he was cachexic, moderately anemic, there was no

jaundice, edema, lymphadenopathy, thyromegaly. His vitals were normal, pulse-77 bpm, BP-110/70 mmHg, temperature-98.50F. On MSK system examination gait was antalgic, active and passive movement of left arm was restricted to grade 2, internal rotation of right hip joint was restricted, there was tenderness on lumbosacral spine, Schober's test was 2 cm restricted. On examination of Lower limb revealed knee jerk and ankle jerk were diminished, planter reflexes were absent, there was sensory impairment(all modalities) upto knee. Examination of other systems revealed no abnormality.

After admission in PMC his initial investigations were done. CBC showed Total WBC-5.57 k/mcL, Hb-10.0.g/dL MCV- 78.0 fl MCH-23.9 pg, MCHC-30.6 g/dL, Platelet -160 k/mcL, ESR-65 mm/hr, S. creatinine-2.77 mg/dL, S. Albumin-3.78 g/dL, S. Bilirubin-0.51 mg/dL, SGPT-29 U/L, CRP-36 mg/L, Ferritin -727 ng/mL, RA factor-negative, Anti-CCP-negative, HLA B-27-negative, Urine R/M/E-Albumin- ++, RBC-nil, Pus cell- 1-3/ HPF

- Before admission many investigations were done. Such as HBsAg- negative, Anti - HCV-negative, HIV 1& 2- negative, 24hrs urinary total protein-2.04, TSH- 1.65 mcIU/L, FBS 7.2 mmol/l, 2hrAbf-8.3 mmol/l, USG- Mild hepatomegaly with and Bilateral renal parenchymal disease
- In this admission some radiological investigations were also done.



Fig.-1: Chest X ray- Normal



Fig.-2: X ray SI Joint- Normal



Fig.-3: X ray L/S spine- Only Muscle Spasm noted

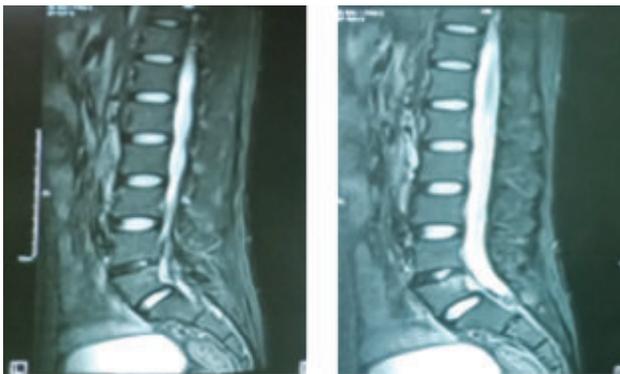


Fig.-4: MRI of Lumbar spine with screening of Dorsal Spine

Impression:

1. Lumbar spondylosis at L4-5 level
2. Thecal sac indentation with lateral recess and neural foraminal narrowing L4-5 level due to circumferential posterior disc bulge.
3. Suspected infective or tubercular spondylodiscitis at L4-5 level.

We also did FNAC from L5 vertebra which was Negative for malignant cell and Suggestive of inflammatory lesion. TRIPLE ANTIGEN was done and it showed

• TO	1:80	1:80
• TH	1:80	1:80
• AH	1:80	1:80
• BH	1:80	1:80
• AO	1:80	1:80
• BO	1:80	1:80
• Proteus Ox k	1:80	1:80
• Proteus Ox 2	1:80	1:80
• Brucella (abortus)	1:1280	1:80
• Brucella (mellitensis)	1:1280	1:80

NCS of both Lower Limbs revealed Demyelinating sensory motor polyneuropathy of both lower extremities

Our patients presented with a history of prolong fever with joint pain, neurological and renal manifestations. Initially diagnosis was delayed and many investigations were done without any conclusive ending. Patient was on regular NSAID for his joint pain. After getting the clue from the serological test our final diagnosis was reached to Chronic Brucellosis with spondylodiscitis with peripheral neuropathy with chronic kidney disease. So we have started Tab Rifampicin 600 mg and Tab doxycycline 100 mg. Patient was discharged. Later after 15 days when patient came his symptoms were improved. He was afebrile and joint pain also reduced..

Discussion:

Diversity of the clinical manifestations has made brucellosis a matter of concern among clinicians. There could be many clinical features like Fever with profuse sweats, especially at night, Apathy and fatigue, Loss of appetite and weight loss, Non-specific myalgia, headache and chills, Hepatosplenomegaly.⁵

Overall, the presentation of brucellosis often fits one of three patterns- Febrile illness that resembles typhoid but less severe, Fever and acute monoarthritis- typically of hip or knee. Long lasting fever, misery and low back or hip pain.⁵

There is also many case reported to have renal, musculoskeletal and neurological manifestations. But no sign or symptoms are specific for diagnosis⁶. Pyrexia of unknown origin is a common initial diagnosis in patients in areas of low endemicity.⁷ Bone and joint symptoms include arthralgias, low back pain, spine and joint pain, and, rarely, joint swelling^{8,9}. Neurologic symptoms of brucellosis can include weakness, dizziness, unsteadiness of gait, and urinary retention. Symptoms associated with cranial nerve dysfunction may affect persons with chronic central nervous system (CNS) involvement. *Brucella* can also cause peripheral neuropathy and should be evaluated in areas where brucellosis is endemic¹⁰. Musculoskeletal involvement is one of the most common locations, and the frequency of bone and joint (osteoarticular) involvement of brucellosis varies between 10% and 85%. Osteoarticular involvement includes spondylitis, sacroiliitis, osteomyelitis, peripheral arthritis, bursitis, and tenosynovitis¹¹. Most commonly in case of spinal brucellosis, it is predominantly affects the L4-L5 spinal segment of the lumbar spine.¹²It can also involve thoracic and lumbar spine.¹²

A study showed in brucellosis there is variable level of proteinuria, hematuria and sometimes patient exhibit renal failure. The etiology of renal failure could be prerenal azotemia, acute tubular necrosis because of nonsteroidal anti-inflammatory drug, anurictubulointerstitial nephritis due to rifampin use, nephritis accompanied by brucellar endocarditis, brucellar endocarditis and tubulointerstitial nephritis-associated vasculitis, brucellar membrano-proliferative glomerulonephritis, and brucellar tubulointerstitial nephritis.¹³

Conclusion:

Brucellosis should be considered as a differential diagnosis among patients who present with fever, and joint or back pain. Focal involvement should be investigated in the presence of leucocytosis, and subacute or chronic forms of brucellosis. To identify cases of spondylodiscitis, radiography should be performed in patients who present with back pain.

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