INTRODUCTION

Brucellosis is a chronic granulomatous disease caused by a gram negative bacillus that belongs to genus *Brucella*. It is a classical zoonosis that infects a vast range of mammals including humans, cattle, sheep, goats, swine, rodents and marine mammals. The disease has a worldwide distribution and is believed to infect approximately half a million of the world's population annually. Brucellosis is a disease of protean manifestations due to its involvement of virtually any organ of the body. Cutaneous involvement in Brucellosis, however, is a relatively rare phenomenon that occurs in less than 5% cases.

We describe a case of *Brucella melitensis* infection in a 70-year-old lady presenting as erythema nodosum-like lesions on palms and soles.

CASE REPORT

A 70-year-old lady, mother of a naval petty officer resident of district Sialkot, presented in the Skin OPD, CMH, Sialkot, in November 2007 with 3 days history of painful skin eruption on palms, soles, and legs, intermittent low grade fever for the past 6 weeks and body aches and pains for past 5 months. According to the patient, she developed body aches and pains 5 months earlier for which she took various pain killers without any relief. Six weeks back, she developed irregular low grade evening pyrexia without rigors or chills. For the past 3 days, she had noticed painful nodular skin eruptions on palms, hands, soles, feet and extensor surface of lower legs. The lesions were initially tender erythematous macules later evolving into dome-shaped nodules with gradual change of colour from red to violaceous. She also complained of arthralgias involving both knee joints and lower back for the past 6 weeks. She denied history of sore throat or drug intake in recent past. Her past history, however, was significant for chronic obstructive airway disease for many years for which she took occasional salbutamol inhaler and oral bronchodilators.

On general physical examination, her blood pressure was 100/80 mm of Hg while her temperature was 98.6°C. There was no lymphadenopathy. Systemic examination was unremarkable. Local examination of skin lesions showed tender, warm nodules with colour of overlying skin ranging from erythematous to violaceous/dusky (Figure 1 and 2).

Her laboratory and radiological examination including urine routine examination, serum urea, creatinine and alanine transferase, blood glucose and X-ray chest PA view, were normal. Her haemoglobin was 9.1 g/dl with mild hypochromic microcytic blood picture while the ESR showed 45 mm fall at the end of the first hour. Her C-reactive protein was positive (> 6 mg/L). Montoux test and antinuclear antibody screening was negative. VDRL and TPHA was non-reactive. ASO titers were less than 200 IU/L. Stool examination for parasites was negative, while serology for *Salmonella*, *Rickettsiae*, *Toxoplasma*, Epstein Barr, human immunodeficiency virus and hepatitis B and C was also negative.

She was advised application of dexamethasone cream topically 8 hourly, tablet levofloxacin 500 mg once daily, diclofenac sodium 50 mg BID and Cap. omeprazol 25 mg OD. However, her symptoms persisted for 5 days after admission and occasional spikes of high grade
fever were noted during the night. Considering the chronicity of the symptoms, laboratory findings and lack of response to treatment, Brucella serology was requested. Brucella semi-quantitative slide agglutination test was positive for Brucella melitensis in titers of 1:160 (200 IU) using a chromatest kit of Linear Chemicals S.L. Barcelona (Spain). Blood cultures were sterile after 4 weeks of incubation. All previous medications were discontinued and injection gentamicin 80 mg was given intravenously every 8 hourly for 21 days along with capsule doxycyclin 100 mg orally BID for 6 weeks were commenced. Patient showed a marked response to the above treatment and her skin lesions started resolving within 24 hours. During the next few days, the skin overlying the nodular lesions demonstrated a spectrum of colour changes from violaceous/dusky to reddish blue echymotic, later turning into a yellowish green hue. The skin lesions completely resolved within 11 days of the start of treatment for Brucella melitensis while arthralgias and low grade fever resolved after 2 weeks. She was discharged symptom-free 3 weeks later. Follow-up in a Medical OPD 5 months later revealed complete recovery without any evidence of recurrence/residual illness.

**DISCUSSION**

Brucellosis remains a constant public health concern due to its vast distribution in domestic animals including sheep, goats, and cattle. The disease is principally transmitted by ingestion of unpasteurized milk and dairy products especially soft cheese, butter, ice creams etc. A high incidence of Brucellosis in cattle in Pakistan-upto 18.32%, explains the reason for the perpetuation of Brucellosis in our population. In this case, the patient later admitted that she had kept goats in the house and frequently consumed raw unpasteurized milk. Brucellosis presents with a vast range of clinical symptoms that hinder correct diagnosis at an early stage. Cutaneous manifestations are rare and include erythema nodosum, papules, maculopapular eruptions, petechiae, purpura, impetiginous and psoriform lesions. Erythema nodosum is most commonly observed in the pre-tibial region. Rare sites include extensor surfaces of the forearms, thighs and trunk. The involvement of soles and palms that was observed in this patient is the least common phenomenon. Clinically, the lesions observed on the palms and soles were erythema nodosum-like. However, since biopsy of the skin lesions was refused by the patient; therefore, the exact histopathology of the skin lesions could not be ascertained in this case.

In the absence of a positive blood culture, the titers of Brucella slide agglutination test above 1:160 are considered diagnostic provided compatible clinical signs and symptoms of Brucellosis are present. In this patient, positive serology of Brucella melitensis in significant titers along with clinical response to the anti-Brucella therapy confirmed the diagnosis of Brucella melitensis infection.

Brucellosis is not an uncommon disease in our country; however, its presentations may be variable. Patients may present for the first time with skin manifestations like erythema nodosum. Therefore, utmost vigilance is required to detect such cases that are often missed because of the nature of the disease.

**REFERENCES**