Melioidosis presenting as erythema nodosum – a report of rare occurrence in literature

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Abstract

Background: Melioidosis caused by *Burkholderia pseudomallei* is an emerging illness in the Indian subcontinent. It has a wide range of clinical manifestations varying from more localized disease to systemic involvement causing overwhelming sepsis and death. Herein we report a case of an eleven-year-old girl presenting with fever, tonsillitis and erythema nodosum as the initial presentation of melioidosis.

Case presentation: An 11-year-old girl presented with high grade fever, sore throat with erythematous painful nodules over both lower limbs for few weeks duration. Where she was initially managed in a local hospital as erythema nodosum associated with streptococcal pharyngitis as antistreptolysin O_titre was elevated and treated with intravenous followed by oral penicillin without expected improvement. As a part of panniculitis work up in an endemic setting, melioidosis antibody level was performed which lead to the ultimate diagnosis.

Conclusion: Erythema nodosum is a rare manifestation of melioidosis. However high index of suspicion is needed in a high prevalent setting due to indistinctive and variable nature of clinical manifestations.

Keywords: melioidosis, erythema nodosum, pharyngitis

Introduction

Melioidosis is an infection caused by intracellular gram negative saprophytic bacterium, *Burkholderia pseudomallei*. It is endemic in tropical and subtropical zones. Melioidosis has a wide range of clinical presentations mimicking many common diseases leading to misdiagnosis[1]. Though reported since early parts of 20th century, it has become an emerging infection in Sri Lanka in recent years, partly due to better recognition[2]. Melioidosis is more prevalent than currently perceived, seeing only the visible tip of the iceberg of infection.

Skin is one of the common organs affected in melioidosis, which can be either primary or secondary. Skin abscesses account for majority of presentations but erythema nodosum, erythema nodosum like lesions have been reported[3]. This case highlights the importance of being vigilant of rare manifestations of emerging diseases to identify them early, as prompt and proper diagnosis of the condition would be lifesaving.

Case presentation

An 11-year-old girl, hailing from a farming community presented with high grade fever, sore throat (Figure 1) with erythematous painful nodules of both lower limbs for few weeks duration. (Figure 2). Child was initially managed in the local hospital as erythema nodosum associated with streptococcal pharyngitis as antistreptolysin O_titre was elevated (800IU/L) and treated with intravenous followed by oral penicillin without expected improvement. As crops of new lesions appeared, skin biopsy was performed from a new onset nodule which failed to reveal histological evidence of panniculitis due to inadequacy of the tissue sample obtained. Child was further investigated for causes of panniculitis for 2 months period, but no abnormality was detected. Child was transferred to the tertiary referral hospital subsequently. During the evaluation, history of playing in paddy fields was highlighted, in light of the increased case detection rate from the same locality[4]. This lead to the consideration of possible melioidosis. Melioidosis antibody titre was positive >1:10240 which is strongly suggestive of melioidosis. Full blood count showed neutrophil leucocytosis along with elevated inflammatory markers. However, blood, throat and urine cultures were negative. These findings were in keeping with chronic stage of the disease. Patient was started on intravenous ceftazidime 1.5g, 6 hourly for one month followed by oral cotrimoxazole as maintenance therapy which lead to complete clinical improvement.

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Figure 1. *Enlarged adenoid.*

Figure 2. *Bilateral lower limb with resolving erythema nodosum.*

Discussion and conclusions

In this patient even though we were unable to culture the organism, high titre of antibodies, exposure history, fever not responding to other antibiotics and responding to prolong ceftazidime and cotrimoxazole lead to the diagnosis of erythema nodosum associated with melioidosis infection. The incidence of melioidosis is on the rise, worldwide where the estimated new case detection per year is 165000[5]. Therefore, it is very important to be vigilant in assessing patients when presenting with atypical features in the presence of risk factors, as in our patient, who comes from a farming community. Immune compromised status is a risk factor, but it is not a pre-requisite to the development of the disease however severities vary depending on the host immunity. Due to inherent resistance of bacteria to many antibiotics, adhering to local treatment protocols needs to be highlighted to minimize emergence of resistance to available antibiotic regimes. As clinical manifestations are indistinctive it is very important to have a high index of suspicion in a high prevalent setting.

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