

Disseminated melioidosis with multiple cutaneous abscesses: A case report

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ABSTRACT:

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Melioidosis is an endemic infectious disease of tropical zone especially in the South-east Asia. *Burkholderia pseudomallei* is a pathogenic organism found in water and soil and is transmitted to humans via inhalation or direct inoculation through traumatic skin. Cutaneous melioidosis is usually presented as a primary lesion caused by direct inoculation whereas cutaneous dissemination of melioidosis is infrequent and caused by hematogenous spreading from primary infected organs. We report a case of disseminated melioidosis with multiple cutaneous abscesses from our institute.

Key word: Melioidosis, disseminated, dermal abscess

บทคัดย่อ:

รัศม์ภูวนันต์ ดิสมโชค, เพ็ญวดี พัฒนปรีชากุล รายงานผู้ป่วยโรค DISSEMINATED MELIOIDOSIS WITH MULTIPLE CUTANEOUS ABSCESES วารสารโรคผิวหนัง 2556; 29: 194-197.

ภาควิชาดจวิทยา คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล

Melioidosis เป็นโรคติดเชื้อประจำถิ่นของประเทศเขตร้อนโดยเฉพาะแถบเอเชียตะวันออกเฉียงใต้ เชื้อที่ก่อให้เกิดโรค คือ *Burkholderia pseudomallei* ซึ่งสามารถพบได้ในดินหรือแหล่งน้ำทั่วไป มนุษย์และสัตว์สามารถติดเชื้อได้จากการหายใจหรือสัมผัสกับสิ่งปนเปื้อนที่มีเชื้อโรคโดยตรงทางผิวหนังที่มีบาดแผล การติดเชื้อชนิดนี้ที่ผิวหนังมักเป็นชนิดปฐุมภูมิ ซึ่งเป็นการติดเชื้อจากการสัมผัสเชื้อโดยตรงที่ผิวหนัง ส่วนชนิดทุติยภูมิเป็นการกระจายของเชื้อจากอวัยวะอื่นมาที่ผิวหนังผ่านทางกระแสเลือด รายงานนี้นำเสนอผู้ป่วยโรค Melioidosis ชนิดแพร่กระจายที่มีฝีที่บริเวณผิวหนัง

คำสำคัญ: โรค Melioidosis, ชนิดแพร่กระจาย, ฝีที่ผิวหนัง

Case report

A 60-year-old Thai farmer from Mahasarakham province had been hospitalized due to a high-grade fever, productive cough and dyspnea for 2 weeks prior to admission. He had been admitted at the local hospital and treated for acute febrile illness with intravenous ceftriaxone as his chest radiography showed bilateral pulmonary infiltration. Although his symptoms had been partially subsided after antibiotic treatment, he started to develop fever, worsening breathlessness and malaise once again. He was then admitted to our hospital for further evaluation. During admission, there were multiple painful nodules on both arms and legs. The patient reported the underlying diseases of hypertension, gouty arthritis and dyslipidemia for 5 years and he was otherwise healthy before this admission.



Figure 1 Multiple discrete tender dermal nodules on the left thigh

Physical examination revealed multiple discrete, tender, erythematous-brownish, dermal to subcutaneous nodules varies in sizes 0.5-1.5 cm in diameter on both upper and lower extremities (Figure 1). Histopathological finding from the lesion on left leg showed aggregation of neutrophils and nuclear debris in

the subcutaneous fat lobule without granulomatous inflammation (Figure 2). Chest X-ray demonstrated bilateral alveolar opacities with minimal interstitial infiltration of both lung fields. Sputum examination revealed numerous gram negative bacilli which were identified in sputum culture to be *Burkholderia pseudomallei* as well as in tissue culture.

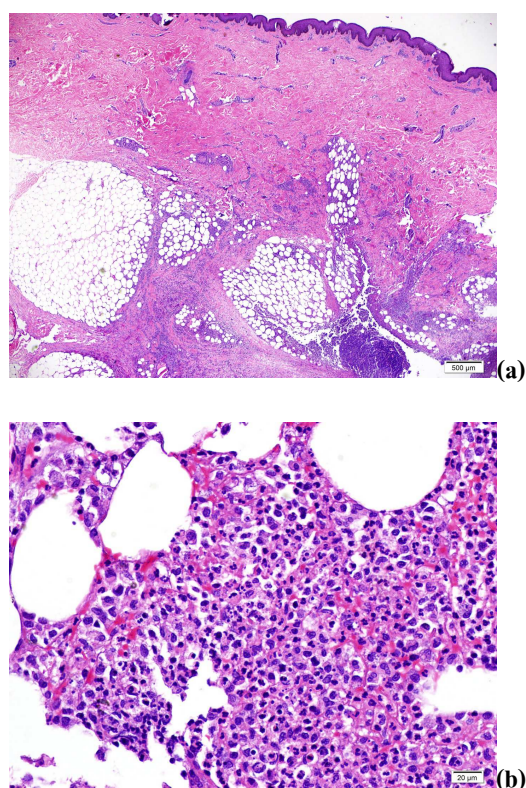


Figure 2 Neutrophilic infiltrate in the subcutaneous layer. Hematoxylin and eosin, original magnification (a) x20, (b) x40.

Discussion

Melioidosis is a multisystemic disease caused by *Burkholderia pseudomallei*, which is geographically

limited in Southeast Asia and northern Australia^{1,2}. This gram negative bacterium used to be known as *Pseudomonas pseudomallei* for centuries, until the last decade, the former genus has been changed to the new genus *Burkholderia*³. It is usually found in environment, especially in soil and fresh water reservoir^{4,7}. Therefore, agricultural related workers and dwellers in endemic area are at high risk. Exposure frequently occurs during rainy season for rice farming⁸. *B. pseudomallei* is transmitted from direct inoculation or inhalation, vertical transmission had been reported^{9,10}. Most populations in endemic area have developed antibodies to *B. pseudomallei*, however, it is not protective against melioidosis. Melioidosis affects any age group with the peak incidence around fourth to sixth decades when predisposing factors such as diabetes, alcoholism or chronic liver disease have come along^{11,13}.

The disease characterized by abscess formation in various organs. Respiratory tract is the most common affected system, causing lethal pneumonia and sepsis^{4,6,14}. Cutaneous manifestation is divided into two categories according to the route of infection¹⁵⁻¹⁶. Primary cutaneous form developed by direct inoculation through minor trauma on the skin which presents as ulceration, the most common form, followed by single pustules, abscess, crusted erythematous lesions, and dry asymmetric erythematous lesions. Extremities are the most frequently affected site as a result of direct inoculation. Necrotizing fasciitis and sepsis are significant complication in primary cutaneous

meliodosis¹⁷⁻¹⁹. The secondary cutaneous melioidosis initiated from hematogenous spreading of distant infected sites. It has been clinically reported as multiple pustules, polyarteritis nodosa-like lesions, extensive skin pustules associated with sepsis, and extensive ecthyma-like lesions associated with disseminated melioidosis^{20, 21}.

The mainstay of treatment for systemic melioidosis is ceftazidime. A combination of four-drug regimen (trimetoprim, sulfamethoxazole, doxycycline, and chloramphenicol) has been recommended for a maintenance after systemic treatment. However, the side effects and drug allergy has to be considered. Currently, the combination of trimetoprim-sulfamethoxazole and doxycycline is better tolerated and as effective as the prior regimen²². Our patient had been treated with the triple regimen for 20 weeks. The skin lesions had been gradually improved corresponding to the course of treatment and there was no relapse during the follow-up period.

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