Melioidosis of the Skin in an Israeli Traveler Returning from Thailand

Michael Dan MD[1] and Diana Taran MSc[2]

[1]Infectious Disease Clinic, Maccabi Health Services, Bat Yam, affiliated with Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel
[2]Bacteriology Laboratory, Central Laboratory, Maccabi Health Services, Rehovot, Israel

KEY WORDS: melioidosis, cutaneous infection, traveler, imported infection, tropical infection

IMAJ 2015; 17: 724–725

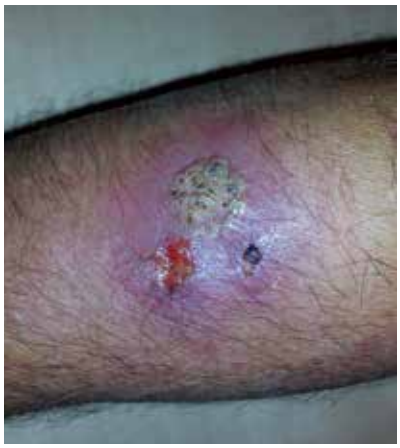
Melioidosis is a bacterial infection endemic in southeast Asia, especially in Thailand, and northern Australia, but can be found sporadically in tropical areas between latitudes 20° north and south [1]. In temperate areas, the infection is extremely rare and is almost always imported. Melioidosis is caused by *Burkholderia pseudomallei*, a small, gram-negative, oxidase-positive, motile, aerobic bacillus. The organism is found in soil and surface water in endemic regions. Humans and animals are infected by percutaneous inoculation, inhalation or ingestion. Person-to-person spread and zoonotic infection are uncommon. Melioidosis covers a wide spectrum of clinical presentations and severity, ranging from chronic disease to fulminant sepsis. It may affect almost any organ in the body, pneumonia being the most common presentation. Clinical disease can present from 3 days to several years after acquisition, often associated with risk factors including diabetes mellitus, alcohol use, chronic lung disease, chronic renal disease, and any situation inducing immunosuppression [1].

Several cases of melioidosis have been reported in travelers returning from endemic areas. We present the first case of an Israeli traveler returning from a vacation in Thailand with localized melioidosis of the skin.

PATIENT DESCRIPTION

A 62 year old man with ischemic heart disease was referred to the infectious disease clinic for a non-healing skin lesion of one month duration. He first noticed the lesion during a 16 day vacation in Thailand, which included Bangkok and Pattaya. Initially, the lesion appeared as a painless edematous discoloration on the right forearm. A local physician prescribed a topical antibiotic cream. However, the lesion evolved into ulceration and two satellite lesions later appeared in the vicinity [Figure 1]. A culture of the lesion grew *Burkholderia pseudomallei*. We used the VITEK®2 system (bioMérieux, Marcy l'Etoile, France) for identification and susceptibility testing. The isolate was susceptible to levofloxacin, trimethoprim-sulfamethoxazole, ceftazidime, piperacillin, imipenem and meropenem; it was resistant to aminoglycosides and to colistin (polymyxin E). Upon questioning, the patient stated that he had not had fever at any time since the appearance of the skin lesion. He denied having any scratches or lacerations at the site of the lesion beforehand. It was not raining at the locations he visited. On examination at the clinic the patient appeared well and showed no signs of distress; his lungs were clear, no enlarged lymph nodes were palpated and he had no other lesions on the body except for one on the right forearm. C-reactive protein (CRP) level was 0.5 mg/L, white blood cell count (WBC) was 5.3 x 10^9/L, hemoglobin was 154 g/L and platelets 233.0 x 10^9/L. Oral trimethoprim-sulfamethoxazole 1920 mg twice a day with folic acid 5 mg/day was initiated. There were no significant adverse effects. A marked improvement was noted after the second week of treatment and the lesion healed completely after 5 weeks. The treatment was continued for another 3 months.

Figure 1. Skin melioidosis on the forearm



COMMENT

Physicians in Western countries must be aware of the possibility of melioidosis not only in patients originating from endemic areas [2], but also in patients returning from travel in those regions. The case described here is the first report of melioidosis in an Israeli returning from an endemic country. The only previous case of melioidosis described in Israel was an agricultural worker from Thailand [2]. Our patient had a single skin lesion. Cutaneous forms of melioidosis in travelers are less well studied, although a large series of cutaneous melioidosis in the autochthonous population of tropical Australia has been published [3]. The current recommendations for antimicrobial therapy for

melioidosis include two steps: for the acute phase, a regimen of parenteral ceftazidime or meropenem for at least 14 days, and for the eradication phase, oral trimethoprim-sulfamethoxazole alone with folic acid supplement for 12–20 weeks [4]. Whether intravenously administered antibiotics are required for the cutaneous forms is unknown, although according to an expert opinion [5] all cases of melioidosis, even mild disease, should be treated with initial intensive intravenous therapy. However, nine cases of primary skin melioidosis in autochthonous patients from the series of Gibney et al. [3] received oral antibiotics only. All patients had a good outcome, and none experienced recrudescence or relapse of the melioidosis. A few cases of imported disease by travelers were also treated successfully with oral antibiotics alone.

Our patient lacked some of the typical traits of melioidosis: he did not have any of the risk factors, did not have previous skin trauma, and at the time he acquired the infection the weather was not rainy. He responded favorably to a regimen including trimethoprim-sulfamethoxazole alone for 12 weeks. A marked improvement was noted after the second week of treatment. We elected to use only an oral regimen since the patient's clinical presentation was limited to a superficial skin lesion with no systemic signs of infection at any time and he had no risk factors.

Melioidosis must be considered in the presence of an acute or chronic febrile illness even years after return from an endemic area. The risk of acquiring melioidosis is relatively low among conventional charter tourists, although backpackers traveling in the countryside, especially during the rainy season, are at increased risk to contract the disease. Primary cutaneous melioidosis can probably be treated with an oral regimen alone, preferably with trimethoprim-sulfamethoxazole, especially when the patient has no systemic signs of infection and lacks risk factors.

Correspondence

Dr. M. Dan

Maccabi Health Services, 30 Ben Yossef St., Tel Aviv 6912529, Israel

Fax: (972-3) 529-0825

email: midan@post.tau.ac.il

References

1. Cheng AC, Currie BJ. Melioidosis. Epidemiology, pathophysiology, and management. *Clin Microbiol Rev* 2005; 18: 383-416.
2. Cahn A, Koslowsky B, Nir-Paz R, et al. Imported melioidosis, Israel, 2008. *Emerg Infect Dis* 2009; 15: 1809-11.
3. Gibney KB, Cheng AC, Currie BJ. Cutaneous melioidosis in the tropical top end of Australia: a prospective study and review of the literature. *Clin Infect Dis* 2008; 47: 603-9.
4. Cheng AC. Melioidosis: advances in diagnosis and treatment. *Curr Opin Infect Dis* 2010; 23: 554-9.
5. Currie B, Anstey N. Epidemiology, clinical manifestations, and diagnosis of melioidosis. http://www.uptodate.com/contents/epidemiology-clinical-manifestations-and-diagnosis-of-melioidosis. Last updated: Oct 16, 2015.