

Abstract

Melioidosis, caused by *B. pseudomallei*, is a serious, fatal and infectious disease. The sporadic cases of this disease were increased in Taiwan in recently. On July of 2005, subsequent to the presence of rainfall by a typhoon (Hai-Tang), the outbreak of melioidosis in Er-Ren river basin was occurred. This event of disease onset was suggested that adults had been exposed to *B. pseudomallei* because this bacterium in the depth of the soil drifted to surface of land, following as groundwater drain. Thus, we attempted to be isolated and identified for *B. pseudomallei* using Ashdown's selective technique and molecular diagnosis with the nucleotide sequence of 16S RNA and flagella genes. Results indicated that large amounts of *B. pseudomallei* was isolated, showing the $1.5\text{-}2.6 \times 10^3$ CFU/g of total bacteria, the ratio of pseudomallei-like bacteria to total bacteria or total G(-) bacteria respective were 0.02-0.13% or 0.027-0.152%. The geographical distribution of *B. pseudomallei* in the aeras ranging from Chung-Der to Po-An bridge indicated that this distribution associated with overflow of Er-Ren river, although this aera was not directly correlated with address of patients with melioidosis, occurring in this outbreak. This survey was the first time to report that large amounts of *B. pseudomallei* can be isolated from environment in the parts at over 20°N of latitude. The distriubion of *B. pseudomallei* in Er-Ren river basin highlights the need for physicians managing these patients in Taiwan to be aware of the possibility of community-acquired pneumonia and sepsis arising from *B. pseudomallei* infection.

Key words: melioidosis, geographical distribution, Er-Ren river basin.