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Select Abstract:

Contact investigation of melioidosis cases reveals regional endemicity — Puerto Rico, 2010 and 2012

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Background: Melioidosis results from infection by percutaneous inoculation, ingestion, or inhalation of the saprophyte *Burkholderia pseudomallei*, and is associated with case-fatality rates up to 40%. Improved survival rates are attributed to early diagnosis and treatment with appropriate antimicrobials. Sporadic cases have been identified in Puerto Rico, where the incidence and epidemiology is unclear. Following identification of one fatal and one non-fatal melioidosis case in 2010 and 2012, respectively, contact investigations were conducted to identify risk factors for infection.

Methods: Questionnaires were administered and serum specimens were collected from co-workers and persons living within 250 meters of cases' residences (neighborhood contacts) and from injection drug use (IDU) contacts of the 2012 case. Serum specimens were tested for evidence of prior exposure to *B. pseudomallei* by indirect hemagglutination assay (titer \geq 1:40).

Results: Serum specimens were collected from 51 and 60 individuals associated with the 2010 and 2012 cases, respectively. None of the co-workers were seropositive for anti-*B. pseudomallei* antibody, whereas 2 (5%) of 40 and 12 (23%) of 52 of 2010 and 2012 neighborhood contacts were seropositive, respectively, and 67% (2 of 3) of IDU contacts. Of all seropositive persons, 39% reported no travel outside of Puerto Rico. Characteristics significantly associated with seropositivity were reporting skin wounds, sores, or ulcers (adjusted odds ratio [aOR] = 4.6; 95% confidence interval [CI]: 1.2–17.8) and IDU (aOR=18.0; 95% CI: 1.6–194.0).

Conclusions: Sporadic reports of melioidosis and high seropositivity in case contacts suggest at least regional endemicity in Puerto Rico. Increased awareness of melioidosis among clinicians, laboratories, and public health professionals is needed to improve case identification, initiate appropriate antimicrobial therapy, and facilitate case reporting in Puerto Rico.

Keywords: Melioidosis, Puerto Rico, seroprevalence, endemic diseases, *Burkholderia pseudomallei*