Recreational exposure to aerosolized brevetoxins during Florida red tide events

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Abstract

During two separate *Karenia brevis* red tide events, we measured the levels of brevetoxins in air and water samples, conducted personal interviews, and performed pulmonary function tests on people before and after they visited one of two Florida beaches. One hundred and twenty-nine people participated in the study, which we conducted during red tide events in Sarasota and Jacksonville, FL, USA. Exposure was categorized into three levels: low/no exposure, moderate exposure, and high exposure. Lower respiratory symptoms (e.g. wheezing) were reported by 8% of unexposed people, 11% of the moderately exposed people, and 28% of the highly exposed people. We performed nasal–pharyngeal swabs on people who experienced moderate or high exposure, and we found an inflammatory response in over 33% of these participants. We did not find any clinically significant changes in pulmonary function test results; however, the study population was small. In future epidemiologic studies, we plan to further investigate the human health impact of inhaled brevetoxins. *Harmful Algae* 2003; 2:19-28.