

## ABSTRACT

Exposure to endotoxin has been associated with exacerbation of asthma and with increased asthma prevalence. However, there is little data regarding personal exposure to endotoxin and limited data on the relation of personal endotoxin exposure to indoor and outdoor home, or ambient airborne endotoxin exposures. We characterized personal exposures to endotoxin in 45 school children with asthma ages 9-18 years using 376 repeated measurements from a PM<sub>2.5</sub> active personal exposure monitor. We also assayed endotoxin in 680 PM<sub>2.5</sub> samples collected from central sites and from 12 indoor and outdoor home sites in Riverside and Whittier, CA. The only significant predictor of personal endotoxin in mixed regression models was ambient endotoxin in the model including both regions. Neither indoor nor outdoor home endotoxin was a significant predictor of personal endotoxin. We found small positive correlations of personal endotoxin with personal PM<sub>2.5</sub> EC and OC, but not total PM<sub>2.5</sub> mass. Dog ownership was significantly associated with personal but not indoor endotoxin. We conclude that it may be insufficient to assume that any fixed site measurement of endotoxin adequately represents personal exposure, including measurements in the home environment. This conclusion applies to short-term exposures that may be involved in the acute exacerbation of asthma.