Arch Pediatr Adolesc Med. 1998 Aug;152(8):757-62.

Acute pulmonary hemorrhage in infants associated with exposure to Stachybotrys atra and other fungi

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Abstract

BACKGROUND:

A geographic cluster of 10 cases of pulmonary hemorrhage and hemosiderosis in infants occurred in Cleveland, Ohio, between January 1993 and December 1994.
STUDY DESIGN:

This community-based case-control study tested the hypothesis that the 10 infants with pulmonary hemorrhage and hemosiderosis were more likely to live in homes where Stachybotrys atra was present than were 30 age- and ZIP code-matched control infants. We investigated the infants' home environments using bioaerosol sampling methods, with specific attention to S atra. Air and surface samples were collected from the room where the infant was reported to have spent the most time.
RESULTS:

Mean colony counts for all fungi averaged 29 227 colony-forming units (CFU)/m3 in homes of patients and 707 CFU/m3 in homes of controls. The mean concentration of S atra in the air was 43 CFU/m3 in homes of patients and 4 CFU/m3 in homes of controls. Viable S atra was detected in filter cassette samples of the air in the homes of 5 of 9 patients and 4 of 27 controls. The matched odds ratio for a change of 10 units in the mean concentration of S atra in the air was 9.83 (95% confidence interval, 1.08-3 X 10(6)). The mean concentration of S atra on surfaces was 20 X 10(6) CFU/g and 0.007 x 10(6) CFU/g in homes of patients and controls, respectively.
CONCLUSION:

Infants with pulmonary hemorrhage and hemosiderosis were more likely than controls to live in homes with toxigenic S atra and other fungi in the indoor air.

PMID: 9701134