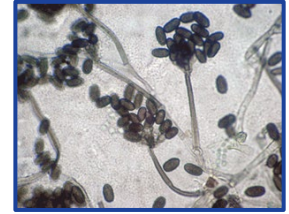


SUMMARY

Background: *Stachybotrys chartarum*, also known as “black mold,” is a naturally occurring fungi found in soil and various cellulose-rich materials such as straw and building materials. Human exposure to contaminated materials occurs primarily through direct skin contact and inhalation of spores and has been reported to cause respiratory illnesses. The effects of inhaled *S. chartarum* were evaluated in male and female mice during adulthood to identify potential toxicity in humans.



Methods: Groups of 10 male and 10 female mice were exposed to air containing 1×10^4 of two types of *S. chartarum* spores—living spores (i.e., “viable spores”) or spores that had been killed by heat (i.e., “heat-inactivated particle control spores”)— twice weekly for 3 months. Control animals received filtered air alone. Mice were assessed for illness or mortality, alterations in blood parameters, and organ weight changes. At the end of the study, tissues from more than 40 sites from every animal were examined for signs of disease.

Results: No mice died or were removed early from the study due to exposure, and there was no effect of exposure on body weight. Male and female mice exposed to viable *S. chartarum* spores had increased lung weights and noncancerous abnormalities in the lung, including inflammation and changes to blood vessels. Noncancerous abnormalities were also found in the larynx and bronchial lymph node of mice exposed to the viable spores. Fungal material was detected in the lungs of male and female mice and in the bronchial lymph nodes of female mice exposed to viable *S. chartarum* spores. Tests to evaluate the potential for *S. chartarum* to damage DNA were negative.

Conclusions: *In this 3-month study, exposure to viable S. chartarum through inhalation resulted in increased lung weights and increased incidences of noncancerous abnormalities in respiratory tissues.*
