



## 주요논문초록

### Correlation between the prevalence of certain fungi and sick building syndrom

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이 연구는 Sick building syndrom의 발생에 대한 진균류의 영향을 알아보기 위한 것으로 실내공기의 질에 관한 문제를 가지고 있는 미국의 48개 학교를 대상으로 하여 22개월 동안 건강상태와 실내 공기상태(Indoor air quality:IAQ)에 관하여 조사를 실시하였다.

증상호소가 있는 지역에서는 설문지를 통해 증상의 양상과 특성, 시간대, 건물의 상태 등을 조사하였고, 건물의 내부공기와 건물표면의 벽, 장관 등을 배양하였다. 실외공기도 진균이나 생식력이 있는 포자의 존재를 알아보기 위하여 채집하였다. 증상호소가 없는 지역과의 비교를 위해 일차소재지에서 한사람도 증상호소가 없으며, 난방-환기-냉방시설과 증상호소지역이 분리되어 있는 조건에 맞는 지역에서도 공기채집을 하였다.

결과로 실외공기에서 발견된 진균의 95% 이상이 Cladosporium(81.5%), Pencicillium(5.2%), Chrysosporium(4.9%), Alternaria(2.8%), Aspergillus(1.1%) 5종이었다. 증상 호소가 있는 지역의 20개의 학교에서 실외공기와 실내공기를 비교하였을 때 증상이 없는 지역에 비해 Penicillium종 진균이 Cubic meter당 많은 CFU(Corony Forming Unit)가 검출되었다( $p < 0.0001$ ). 증상이 있는 지역의 5개의 학교에는 실외공기와 실내공기를 비교하였을 때 통계적으로 유의하지는 않았으나( $p = 0.10$ ), 더 많은 Penicillium 포자가 검출되었다. 증상이 있는 지역에서 11개 학교는 실외공기와 실내공기가 별 차이없이 비슷한 진균비율을 보였다. 이 11개 학교의 습기 찬 카페트와 벽, 비닐 벽지에서 곰팡이가 자라는 부분을 배양한 결과 Stachybotrys atria가 자라났다. 나머지 11개 학교는 다른 지역과 비교하여 진균비율과 공기중 CFU의 수가 의미있게 차이가 나지 않았다. 대부분의 학교가 그 결과에 대하여 개선조치를 취하여 실내공기와 실외공기의 진균 profile이 비슷하게 되었다.

결론적으로, Penicillium종과 Stachybotrys종의 진균이 Sick building syndriom과 연관이 있는 것으로 추측되어 진다.

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