

Reducing Fungal Exposure Critical for Treating Rhinosinusitis with or without Polyps [Letter]

This article was published in the following Dove Press journal:
Journal of Asthma and Allergy

Luke Curtis

Eastern Carolina University, Greenville,
NC, USA

Dear editor

I read with great interest your recent fascinating 2021 review by Bachert et al on chronic rhinosinusitis with nasal polyps.¹ The paper succinctly notes that chronic rhinosinusitis is common, has high economic and human costs, has many recurrences, and is often difficult to treat with conventional drug or surgical treatments. While I think the paper was generally well written and interesting, I think much more emphasis should have been placed on the importance of molds, mycotoxins, bacteria, and other bioaerosols on the development of rhinosinusitis with or without polyps. The authors state that “no specific genetic or environmental factors are strongly associated with the disorder.”

Mold Exposure is a Major Trigger for Sinusitis

Much evidence suggests that exposure to molds and other bioaerosols such as mycotoxins and bacteria play a critical role both in the development and treatment of chronic rhinosinusitis with or without polyps. One study reported that 94 of 101 (93%) consecutive surgical rhinosinusitis patients met criteria for allergic fungal sinusitis.²

Fungal Sinusitis Often Presents with Polyps

Many fungal sinusitis patients present with polyps, including those in a study which reported that 44 out of 67 (66%) consecutive allergic fungal sinusitis patients presenting with unilateral or bilateral nasal polyps.³ An Indian study of 60 consecutive patients with unilateral or bilateral nasal polyps reported that 38 (63%) had nasal fungal infections.⁴

Indoor Mold Exposure Associated with Rhinitis

Many research papers have documented that exposure to indoor environments damaged by mold or water are associated with significantly increased risk of sinusitis and rhinitis. A meta-analysis of 31 published studies reported that exposure to indoor visible mold (OR: 1.82, 95%CI: 1.56–2.12) and indoor mold odor (OR: 2.18, 95%CI: 1.76–2.71) were associated with significantly greater risk of rhinitis.⁵

Reducing Mold Exposure Reduces Rhinosinusitis Symptoms

Reducing indoor mold and/or water damage can significantly improve health in a majority of sinusitis patients. Dennis examined 634 consecutive chronic rhinosinusitis

Correspondence: Luke Curtis
Eastern Carolina University, Greenville,
NC, USA
Tel +1 847-769-4768
Email LukeCurtis1328@gmail.com

(CRS) patients and reported that in the 365 patients who were able to significantly reduce their indoor mold exposure and used antimicrobial drops, 94% were able to improve significantly and have normal endoscopic exams.⁶ A meta-analysis of 12 published studies reported that professional remediation of mold and water-damaged homes was associated with significant reductions both in wheezing (OR: 0.64, 95%CI: 0.55–0.75) and rhinitis symptoms (OR: 0.57, 95%CI: 0.49–0.66).⁷

Reduction of fungal exposure can significantly reduce symptoms in rhinosinusitis patients. Perhaps the high failure rate of drug treatments for rhinosinusitis is due largely to the fact that the patients are still being exposed to high levels of mold.

Thanks again for publishing the interesting Bachert review. Hope you have interest and space to print this letter.

Funding

This letter received no funding.

Disclosure

The author reports no conflicts of interest in this communication.

References

1. Bachert C, Bhattacharyya N, Desrosiers M, Khan AH. Burden of disease in chronic rhinosinusitis with nasal polyps. *J Asthma Allergy*. 2021;14:127–134. doi:10.2147/JAA.S290424
2. Ponikau JU, Sherris DA, Kern EB, et al. The diagnosis and incidence of allergic fungal sinusitis. *Mayo Clin Proc*. 1999;74(9):877–884. doi:10.4065/74.9.877
3. Karthikeyan P, Nirmal Coumare V. Incidence and presentation of fungal sinusitis in patient diagnosed with chronic rhinosinusitis. *Indian J Otolaryngol Head Neck Surg*. 2010;62(4):381–385. doi:10.1007/s12070-010-0062-0
4. Tiwari RRK. Incidence of fungal infection in sinonasal polyposis. *Paripex Indian J Res*. 2018;7(2):36–38.
5. Jaakkola MS, Quansah R, Hugg TT, Heikkinen SA, Jaakkola JJ. Association of indoor dampness and molds with rhinitis risk: a systematic review and meta-analysis. *J Allergy Clin Immunol*. 2013;132(5):1099–1110.e1018. doi:10.1016/j.jaci.2013.07.028
6. Dennis DP. Chronic sinusitis: defective T-cells responding to superantigens, treated by reduction of fungi in the nose and air. *Arch Environ Health*. 2003;58(7):433–441. doi:10.1080/00039896.2003.11879144
7. Sauni R, Verbeek JH, Uitti J, Jauhiainen M, Kreiss K, Sigsgaard T. Remediating buildings damaged by dampness and mould for preventing or reducing respiratory tract symptoms, infections and asthma. *Cochrane Database Syst Rev*. 2015;2015(2):Cd007897.

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Journal of Asthma and Allergy 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Journal of Asthma and Allergy editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

Journal of Asthma and Allergy

Dovepress

Publish your work in this journal

The Journal of Asthma and Allergy is an international, peer-reviewed open-access journal publishing original research, reports, editorials and commentaries on the following topics: Asthma; Pulmonary physiology; Asthma related clinical health; Clinical immunology and the immunological basis of disease; Pharmacological interventions and

new therapies. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/journal-of-asthma-and-allergy-journal>