

could be spread via swallowed saliva. In COPD, these oral pathogens could contribute local damage to the airways. Treatment of PD can also improve COPD symptoms, further strengthening the evidence for a link between the two disorders.

Xerostomia

Patients with xerostomia experience the sensation of a dry mouth as a result of qualitative changes in saliva with or without an actual salivary volume decrease. Often the problem is a side effect of medications or a response to bodily stress or pain. Changes in salivary composition in xerostomia can increase bacterial plaque colonization, which can aggravate and contribute to an unhealthy periodontal status and eventually PD.

Xerostomia also directly affects OSA by increasing the surface tension of the upper airway lining liquid, which increases upper airway obstruction. Research shows that salivary surface tension correlates to airway obstruction. Thus the change in the quality and composition of saliva likely contributes to nocturnal upper airway obstruction.

Clinical Significance

Several possibilities exist to explain links between PD and OSA, COPD, and xerostomia. Aspirating periodontal pathogens and inflammatory cytokines into the lungs will decrease expiratory lung function and contribute to OSA. PD is often found in OSA patients, and treatment of PD can improve lung function. Dental professionals can help patients avoid these conditions by managing xerostomia and educating patients about the negative consequences related to this disorder. Providing treatment for PD can also reduce the likelihood that periodontal pathogens will be aspirated and contribute to respiratory problems.

Schames SE, Shauly O, Chuang RY, et al: Periodontal disease contributes to obstructive sleep apnea. *J Calif Dent Assoc* 46:701-705, 2018

Reprints available from SE Schames; e-mail: seschames@gmail.com

EXTRACTS

GERM-FREE MAY LEAD TO ALLERGIES



Children who suck their thumbs and bite their nails may be less likely to develop sensitivities to common allergens, such as dog dander and grasses. A study of 1037 children over a period of 30 years used skin prick tests done at age 13 years and again at age 32 years. At age 13, 38% of the children who bit their nails or sucked their thumbs were sensitive to certain allergens, compared to 49% of children who didn't have either habit. Thirty-one percent had both habits and showed sensitivity. At age 32, the link between allergen sensitivity and thumb sucking and nail biting was still seen. No link was seen between these habits and the likelihood the child would develop hay fever or asthma, however.

The "hygiene hypothesis" suggests that the higher rates of allergic disease in children may be related to adults' obsession with providing a germ-free environment. When the environment is too clean, the immune system starts looking for something to attack, which can produce allergies. The study coauthor Dr. Bob Hancox, from the Dunedin School of Medicine in New Zealand, explains that parents shouldn't encourage thumb sucking or nail biting but having pets such as cats and dogs may also protect against allergies by exposing children to the same less-sterile environment.

Dr. Allison Morris, professor of medicine at the University of Pittsburgh and director of the university's Center for Medicine and the Microbiome, finds the study intriguing. She said, "If parents can't get their kids to stop sucking their thumbs, this may make them feel better about that. But I don't think the study offers anything actionable at this point other than to be more relaxed about children's exposures to germs."

[Carroll L: Thumb Sucking, Nail Biting in Children May be Protective Against Allergies. *Today*, July 10, 2016]