

Occupational Rhinitis



Leslie C. Grammer III, MD

KEYWORDS

- Occupational rhinitis • Allergic occupational rhinitis
- Nonallergic occupational rhinitis • High molecular weight • Low molecular weight
- Laboratory animals • Flour • Acid anhydrides

KEY POINTS

- Occupational exposures associated with a high prevalence of occupational rhinitis (OR) are laboratory animals, flour, other foods, acid anhydrides, cleaning products, and strong irritants.
- OR is rhinitis developing as a result of workplace exposure in a previously asymptomatic individual.
- OR can be divided into allergic OR, which has an immunologic basis, and nonallergic OR, which does not.
- The primary therapy for OR is avoidance of the implicated exposure.
- In those with OR, the possibility of coexisting occupational asthma should be considered.

INTRODUCTION

Occupational rhinitis (OR) is 1 of 2 forms of work-related rhinitis (**Fig. 1**). The other form is work-exacerbated rhinitis, in which the individual has preexisting rhinitis made worse by exposures in the workplace.¹ The European Academy of Allergy and Clinical Immunology published a consensus definition of OR in 2009, “an inflammatory disease of the nose, which is characterized by intermittent or persistent symptoms (ie, nasal congestion, sneezing, rhinorrhea and itching) and/or variable nasal airflow limitation and/or hypersecretion owing to causes and conditions attributable to a particular work environment and not to stimuli encountered outside the workplace.”² OR can be further subdivided into allergic and nonallergic rhinitis. Allergic OR has an immunologic basis and is associated with a latency period. Allergic OR can be caused by high-molecular-weight (HMW) or low-molecular-weight (LMW) agents. Nonallergic OR has no latency and can occur with one high level exposure to irritants such as chlorine gas, giving rise to reactive upper airway dysfunction syndrome.² In contrast,

This work was supported by The Ernest S. Bazely grant to Northwestern University and Northwestern Memorial Hospital.

The author has no financial conflicts of interest.

Division of Allergy-Immunology, Department of Medicine, Northwestern University Feinberg School of Medicine, 211 East Ontario Street Suite 1000, Chicago, IL 60611, USA

E-mail address: l-grammer@northwestern.edu

Immunol Allergy Clin N Am 36 (2016) 333–341

<http://dx.doi.org/10.1016/j.iac.2015.12.009>

immunology.theclinics.com

0889-8561/16/\$ – see front matter © 2016 Elsevier Inc. All rights reserved.

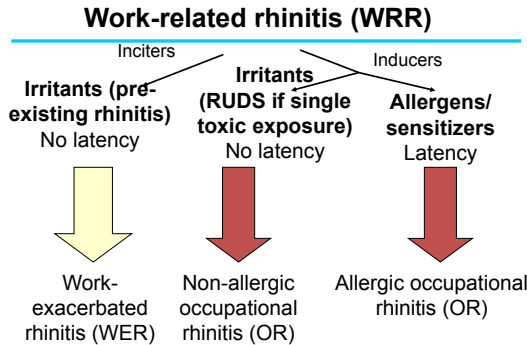


Fig. 1. There are 2 major forms of work-related rhinitis (WRR): (1) work-exacerbated rhinitis (WER) in those with preexisting rhinitis and (2) occupational rhinitis (OR). OR can be divided into 2 types. One type, called nonallergic OR, has no latency period and is caused by irritants. The other type, called allergic OR, has a latency period and is caused by sensitizers that can be either high or low molecular weight. RUDS, reactive upper airway dysfunction syndrome.

multiple exposures to irritants at a more moderate level is probably the most common cause of irritant-induced OR.

Irritant-induced OR has a range of severity, from annoying, reversible irritation to chronic erosive rhinitis. A number of different chemicals have been associated with irritant-induced OR, among those reported include ammonia, bleach, chlorine, volatile organic solvent vapors, aldehydes, sulfur dioxide, nitrogen dioxide, and hydrogen sulfide. When encountering a new chemical to which a worker is exposed, obtaining a material safety data sheet for the chemical can be helpful. Whether or not the agent is a known respiratory sensitizer or respiratory irritant will be stated under the section entitled Health Hazard and Toxicologic Data.

EPIDEMIOLOGY

The epidemiology of occupational diseases, in general, and OR, specifically, is unclear. In the United States, OR is not a reportable condition. There is also the issue of the “healthy worker effect,” in which those who are not affected by a given workplace exposure stay in the job and those who are made ill are likely to simply leave and find alternative employment.

It is clear that certain exposures, such as flour and laboratory animals, seem to be 2 agents commonly reported to cause OR.³ The range of the prevalence of OR among bakers in Norway has been estimated to be between 23% and 50%.⁴ Among laboratory animal handlers, one review reported a range of 10% to 42% of exposed individuals had OR.⁵ In a skin test study of sensitization, it was found that 16% of laboratory animal handlers were sensitized as compared with 3% of nonhandlers.⁶ In a 1997 Finnish study, it was reported that the risk of developing OR was highest in the following occupations: bakers, food processing workers, farmers, veterinarians, furriers, livestock breeders, electronic product assemblers, and boat builders.⁷

RISK FACTORS

Risk factors for OR include the particular agent, level of exposure, and atopy. The relationship between smoking and OR is not clear.² As reviewed, some agents such as flour and other foods as well as animal dander, are more likely than other exposures to result in OR. The level of exposure and the relationship to immunoglobulin (Ig

Download English Version:

<https://daneshyari.com/en/article/3354467>

Download Persian Version:

<https://daneshyari.com/article/3354467>

[Daneshyari.com](https://daneshyari.com)