

## Occupational Rhinitis

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### Abstract

Rhinitis is one of the most common occupational diseases. Rhinitis is a chronic inflammatory disease of the upper respiratory tract, characterized by a high prevalence and a complex pathogenesis. Work-related rhinitis (WRR) can be divided into occupational rhinitis (OR) and work-exacerbated rhinitis (WER). It is not only considered as a disease entity but also in the context of medical certification as the allergic disease associated with occupational exposure. Since it causes little disability, it is often neglected by affected individuals. However, it is often the preliminary manifestation of a respiratory disorder that could lead to physical complications and socio-economic disability. The potential causative agents of rhinitis are both numerous and diverse. Respiratory disorders that initially manifest as rhinitis may progress to asthma with continued exposure. Prevention of occupational rhinitis depends upon reducing exposure to allergens and irritants. When rhinitis becomes apparent, removal of the causative agent is essential to stop progression to asthma. The respiratory system is exposed to the noxious action of dusts, gases, smokes and vapors directly in the environment of the work but it is secondly only touched, because the skin is the most displayed (exposed) organ as organ targets irritating and professional allergens.

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## Introduction

### Physiopathology

The professional rhinitis is the "inflammatory disease of the nasal mucous membrane, characterized by occasional or persistent symptoms bound (connected) to agents or conditions met in the professional environment and not except this one" [1-5].

The professional rhinitis is an episodic demonstration (appearance) characterized by sneezes, rhinorrhea and nasal obstruction correlated in the activity of the work. The disease often accompanied with an allergic conjunctivitis and shows itself. The obstruction would delete the nasal filter by obliging the patients to breathe by the mouth, the access to bronchi by aero contaminants would so be facilitated, and the later (posterior) flow (selling) would favor the contamination of the low respiratory system by the nasal secretions [6-9].

The interval enters the first exposure to the aggressive agent and the development of the symptoms can vary of a few weeks in more than twenty years, with a variable period of latency between one and three years. The diagnosis of professional rhinitis depends on medical

anamneses and on a survey on the employment. According to its pathogenesis, the professional rhinitis can be classified there: revive, irritative, immunological or toxic necrosed. The pathologies in cause can be secondary in:

1. Traumas,
2. Exposures to the professional, chronic agents or accidental,
3. Consequences of medical, surgical therapies or irradiantes, within the framework of neoplasies professionals.

According to a research OSHA (Occupational Safety and Health Administration): 22% of the European workers are in touch with dangerous substances during at least a quarter of their working time [10-12];

16 % of them are in direct contact with these substances during a considerable part of the working day.

The first one is the "screening" of the employees during the period of learning by the accurate observation of the symptoms and the starting up of the clinical observation and the specialized instrumental tests. The second is the prevention in the middle of work with the actual implementation of the regulations on the health (eviction of the exhibition, substitution of allergens by less irritating

products, installation of extractor hoods, realization of systems of inhalation downward, aspiration with devices endowed with special filters, quantification specifies some individual exhibition, wearing of a helmet, respect for the concentrations planned by the legislation (concerning ) the incidence are not numerous. An accurate assessment of the morbidity of allergic rhinitis cannot be obtained without asking about the effects on the patient's quality of life. Specific validated questionnaires are available to help determine effects on quality of life. Determine the presence of symptoms such as fatigue, malaise, drowsiness (which may or may not be related to medication), and headache. Investigate sleep quality and ability to function at work.

THE OSHA defines as "dangerous substance", "any liquid, gaseous or solid, chemical or biological substance which presents a toxicological risk for the health of the worker, with the exception of radioactive, flammable and explosive substances. Exposure heard as direct or indirect contact".

According to the OSHA, sectors at greater risks because of the exposure to the chemical or biological agents are: The agriculture, the chemical industry, the food industry, the hairstyle, the textile industry, the surface treatment of bronzes, sanitary sector, collection/treatment of the garbage, the mechanical engineering industry, the printing office, the cleaning agencies, the building [13-16].

- In the arisen of this occupational disease, several types of risk factors are to consider: The professional factors naturally,
- But also factors connected to the individual,
- As well as the environmental factors.

The most determining risk factor is the importance of the exposure for the activating agent. This study tries to raise a current situation of these pathologies and presents the fundamental notions to be known regarding prevention of the risk in occupational environmental. To proceed to the check of the risks in ambient circles or the health, we resort in paradigm of National Academy of Sciences (US NAS on 1983) which plans four degrees in this process:

The identification of the causal agent: Which one?

In what circumstances?

What target organs?

What effect critical ?

## References

- 1 EAACI (2009) XXVIII Congress of the European Academy of Allergy and Clinical Immunology- Warszawa, Poland <http://www.eaaci2009.com/>.
- 2 Slavin RG (1992) Occupational rhinitis. *Immunol Allergy Clin North Am* 12: 769-777.
- 3 Le ML (1998) Riniti occupazionali—Atti Convegno Habitat e salute Società d'Allergologia Clinica Appulolucana- Gallipoli (LE). Maggio.

The existence of a report (Relationship) dose-effect (not applicable concept for some particular toxins, for mutagens, for carcinogenic)

The check of the exposure

\*\* The modalities,

\*\* The duration (short or long period),

\*\* The environment [17,18].

The nose is the front door of the respiratory tree and it establishes its first barrier of defense. He is, therefore, involved in almost all of respiratory illnesses, professionals or not.

More than 250 substances were suspected to be responsible for professional rhinitis [19]. Their list is not different from that of asthmas.

The professional rhinitis are not directly invalidating (with regard to other respiratory professional diseases), but we can consider that the symptomatology causes certain personal and social handicap.

The gravity of the pathology is defined by the degree of hardship, embarrassment and decrease of the productivity which the symptoms cause, as the important or the loss of the earnings.

Primary prevention involves exposure controls for irritants and allergens. Secondary prevention (workplace surveillance and selective reassignment) can also help reduce the burden of disease. Tertiary prevention (treatment and disability management) may come into play if a strong sensitizer is involved, or if diagnosis has been delayed and disease progression has occurred.

## Conclusion

There are no estimations specific to the professional rhinitis for the financial implications but is likely to be substantial in terms of work productivity as can be extrapolated from data available for allergic rhinitis in general. In the United States, the Center Conveys by boat of Research in Public health estimate (esteem) the number of working days lost because of rhinitis allergic to 3 million/year, and global cost of the treatment (processing) en 2,7 billion dollars. The transverse studies underestimate systematically real prevalence by the phenomenon of auto-selection: most of the affected subjects leave the company, realizing that their symptoms are owed to the professional exposure. Obviously, this phenomenon also depends on the state of the market of the employment [20].

- 4 Entringer S (2009) Contribution de deux tests immunopharmacologiques dans l'exploration d'allergies respiratoires professionnelles-Thèse pour le diplôme d'état de docteur en médecine discipline Médecine du travail. Créteil:Faculté de médecine p: 113.
- 5 Calcinoni O (2005) Riniti e disfonie occupazionali Orientamenti per un efficace iter diagnostico nella patologia O.R.L. di interesse occupazionale. Rovigo.
- 6 Maci L, Tavolaro M (2007) Riniti Occupazionali I° congresso dei Comitati Regionali AIOLP Integrazione fra territorio e degenza. Roma giugno.

- 7 Zeiger RS (1989) Allergic and non allergic rhinitis : classification and pathogenesis. *I allergic rhinitis Am J Rhinol* 3: 21-47.
- 8 Bardana EJ Jr (1995) Occupational asthma and related respiratory disorders *Dis Month.* 41: 141-200.
- 9 Blaney AD, Grahan VAL, Phillips MJ, Davies RJ (1981) Respiratory tract reactions to western red cedar *Human Toxicol* 1: 41-51.
- 10 Agence européenne pour la sécurité et la santé au travail *Gestion des substances dangereuses Magazine* 2003.
- 11 US NIOSH/OSHA (1981) Occupational guidelines for chemical hazards US National Institute for Occupational Safety and Health, Occupational Safety and Health Administration, Washington DC.
- 12 US NIOSH (1987) A guide to industrial respiratory protection Cincinnati. Ohio, US National Institute for Occupational Safety and Health p: 305.
- 13 Campurra G (2010) *Manuale di Medicina del Lavoro- Ed. Ippoa Inditalia.*
- 14 Passali D, Bellussi L, Damiani V, Passali GC, Passali FM, et al. (2003) Allergic rhinitis in Italy : epidemiology and definition of most commonly used diagnostic and therapeutic modalities *Acta Otorhinolaryngol Italy* 23: 257-264.
- 15 Di Menno A, Cattani G, Gaeta A, Caricchia AM (2010) Dieci anni di monitoraggio di materiale particolato in Italia in vista dell'accoglimento della direttiva 2008 /50/CE – Atti Quarto Convegno Nazionale sul Particolato Atmosferico–Venezia. Maggio p : 18-20.
- 16 Maci L, Tavolaro M, Savino E (2010) Ipotesi di valutazione medico-legale delle disgeusie post-traumatiche in ambito INAIL Atti VIII Convegno Nazionale di Medicina Legale Previdenziale Sorrento p : 13-15.
- 17 Maci L (2008) Aspetti medico-legali del danno olfattivo *Argomenti di Otorinolaringoiatria Moderna – AIOLP.*
- 18 INRS Prévention des risques liés aux émissions de poussières de farine (asthme, rhinites, allergies respiratoires) en boulangerie artisanale. p: 20084.
- 19 Baur X, Degens P, Webe K (1998) Occupational obstructive airway diseases in Germany *Am. J Ind Med* 33: 454-462.
- 20 Drexler H, Schaller KH, Nielsen J, Weber A, Weihrauch M, et al. (1999) Efficacy of measures of hygiene in workers sensitised to acid anhydrides and the influence of selection bias on the results. *Occup Environ Med* 56: 202-205.