

# Allergic Respiratory Disease in Healthcare Workers: If Not Latex, What Else?

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**INTRODUCTION:** Healthcare duties put a lot of workers, doctors, nurses, technicians, at serious risk of developing professional allergic diseases, such as asthma or rhinitis. The most common etiologic factors consist of latex, disinfectants, drugs, food additives and many more.

The importance of respiratory risk in healthcare workers became evident in the first eighties, following the sudden increase of latex sensitizations; those years the use of disposable gloves was a routine practice due to the newly discovered viral epidemics and healthcare associated infections. On the second hand, in the last three decades we saw a longer life expectancy, which caused an increase in neurodegenerative diseases prevalence and therefore a higher need of dysphagia-specific food preparations containing thickeners.

**GUAR GUM:** The most used food thickener in healthcare is Guar Gum, a substance made from dehusked and milled Guar beans (fig.1); the off-white Guar beans powder evaporates during the preparation of thickened food or drugs, and can therefore cause sensitization to exposed workers. Chemically, guar gum is a polysaccharide composed of galactose and mannose, with a water-thickening potency 8 times higher than corn-starch; it is mostly used in food preparations, in pharmaceuticals, cosmetics and in tobacco elaboration.



FIG. 1

**MATERIALS AND METHODS:** A 39-year-old woman was evaluated for respiratory problems, namely rhinitis and asthma, in the Allergy Unit of the Department of Environmental Medicine and Public Health's (University of Padua), using Peak Expiratory Flow (PEF), nasal cytology, prick by prick test, Radio allegro sorbent Test (RAST).

**DIAGNOSTIC EVALUATION:** The young woman's symptoms started with her new occupational tasks, that was preparing meals for the elderly in a geriatric unit. The first hypothesis was latex sensitization, due to an increased use of disposable gloves; this seemed to be confirmed by a mild increase of Latex-specific IgEs (1.59 kUa/L), although this increase was not correlating with symptoms because she had no exposition to latex during the day.

PEF changes during work shifts, the highest variability was found during the preparation of dysphagia-specific meals with Guar Gum thickener (fig.2)

**PRICK BY PRICK** test with fresh guar gum resulted positive (fig.3).

**RAST** confirmed sensitization to Guar Gum (guar Gum-Specific IgEs=6.34 kUa/L).

**NASAL CITOLOGY** showed a massive presence of eosinophils.

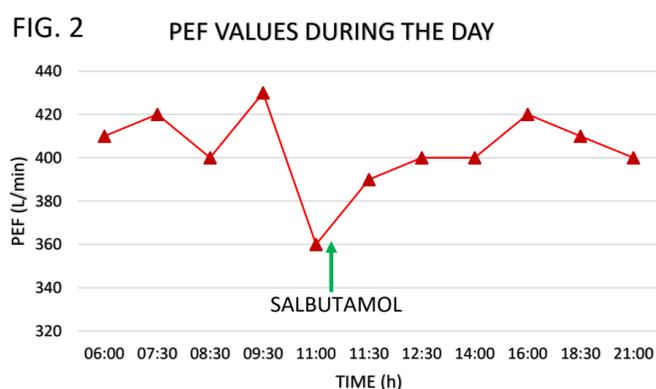


FIG. 3

**CONCLUSIONS:** While evaluating suspected and unclear occupational respiratory symptoms in geriatric or neurologic unit workers, it is suggested to look for food additives, such as Guar Gum, sensitization.