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CONTACT DERMATITIS INDUCED BY THE USE OF LATEX GLOVES IN EMPLOYEES OF A UNIVERSITY HOSPITAL

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Abstract: **Rationale:** Latex sensitivity has been around for over 70 years and is still very prevalent. The use of latex gloves for healthcare procedures is the main reason for the appearance of allergic reactions. Contact dermatitis induced by latex is a disease of great impact on the worker's life and an important cause of expenses for the employer. The blood RAST test is the most indicated test to measure specific IgE. The present study aims to evaluate the frequency of latex contact dermatitis cases in a tertiary care hospital. **Methods:** This is an observational, cross-sectional study, where employees of a university hospital were evaluated for the presence of signs and symptoms of contact dermatitis secondary to the use of latex gloves. Symptomatic patients underwent latex-specific IgE antibody testing (RAST). **Results:** A total of 483 employees who wear latex gloves while working were evaluated. 42 (8.7%) reported symptoms of contact dermatitis, with six (14.3%) employees having a positive RAST result. **Discussion:** Long periods of exposure to latex proteins, as in the use of procedure gloves containing the agent, and the presence of talc in them can trigger or potentiate skin lesions. The best option is to avoid contact with gloves or change them to talc-free and latex-free gloves.
Keywords: Contact dermatitis, Latex, RAST, IgE.

INTRODUCTION

Latex sensitivity is a pathology found for over 70 years and still very prevalent. The use of latex gloves for procedures in the health area is the main reason for the appearance of allergic reactions, with health professionals being the main risk group. Among the risk factors for latex sensitivity are: presence of atopy, eczema on the hands, drug allergy, chronic disease, use of anti-inflammatory drugs, time of use of gloves in years and previous surgery.

With the increase in cases described, latex-induced contact dermatitis is a disease of great impact on the life of the worker and an important cause of expenses for the employer, being important to identify effective methods to diagnose it and take control measures. suitable. The blood RAST test for latex is the most suitable test to measure specific IgE, being an excellent method to assess the reactivity of different molecular components from the same allergenic source. The result indicates the presence of sensitivity or not to the compound.

GOAL

To evaluate the frequency of latex contact dermatitis cases in a tertiary hospital in order to optimize spending on personal protective equipment.

METHODOLOGY

This is an observational, cross-sectional study, where employees of a university hospital were evaluated for the presence of signs and symptoms of contact dermatitis secondary to the use of latex gloves. Symptomatic patients underwent latex-specific IgE antibody testing (RAST). A reference value > 0.35 KU/L was adopted to interpret the results. Values above 0.35 were considered positive and values equal to or less than 0.35 were considered negative. Descriptive data analysis was performed using frequency tables, with number and percentage.

RESULTS

A total of 483 employees who wear latex gloves while working were evaluated. Among them, 42 (8.7%) reported symptoms of contact dermatitis (Figure 1). A RAST test for latex was performed on these 42 employees and six (14.3%) had a positive test result (Graph 1).

Symptomatic employees who tested negative were instructed on the use of emollients and antihistamines to control

symptoms, but seven employees remained symptomatic and were clinically reassessed. Among these, six (85.7%) had irritation from the talc present in the glove and one (14.3%) had contact dermatitis to latex, thus being a false negative in the RAST test.

DISCUSSION

There are three different types of reactions to latex: irritant contact dermatitis, which represents 80% of workers' complaints, resulting from direct contact with latex or irritating chemical substances with the skin; delayed type IV hypersensitivity, which directly involves the immune system and is caused by chemical additives used in the production of gloves, such as chemical accelerators, mercaptobenzothiazoles and carbonates; and finally, immediate type I hypersensitivity, corresponding to an anaphylactic reaction mediated by IgE, producing specific class E immunoglobulins and causing an activation of events that promote mast cell degranulation after the release of inflammatory mediators.

The number of symptomatic professionals who showed sensitivity to latex in the survey is the result of long periods of exposure to latex proteins through the use of gloves to protect against infectious diseases. These products are developed through molding, after natural extraction of the Hevea brasiliensis sap, and other accelerating chemicals are mixed in their manufacture. The lack of an inspection body and the disorganization of the quality control of the production of gloves causes variation in the amount of latex present in them between different manufacturers and between batches of the same company.

Another factor found in the research on irritation reactions is the presence of talc (modified corn starch), which can potentiate allergic reactions and non-allergic skin irritations. Frequent glove changes in operating rooms and outpatient clinics facilitate the links between talc and the proteins present in gloves. This complex is transported through the air by means of aerosols, which when inhaled can cause symptoms of rhinitis, cough and bronchospasm. After identifying these causes and providing guidelines for the use of emollients and antihistamines, some professionals adopted the measures and obtained an improvement in the reaction to the gloves.

Even with a low incidence of latex contact dermatitis among all employees who wear gloves in the hospital (1.4%), the incidence of those with sensitivity to talc and latex gloves (8.7%) is high. an occupational problem that can generate high costs for the institution in which the professionals work, given the need for laboratory investigation of patients, provision of treatment, exchange of equipment and type of gloves used, temporary removal from duties or even exchange of function and transfer of patients' workplace.

CONCLUSION

The awareness of the increased sensitivity to latex suggests that prevention is important for health workers, such as the creation of a protocol for the care of those affected. The worker must be questioned, before starting activities, about previous allergies to latex. Screening with blood Rast test is a good alternative to confirm cases of contact dermatitis. Although it has a higher cost for the employer, the best option is to avoid contact with gloves or switch to talc-free and latex-free gloves.

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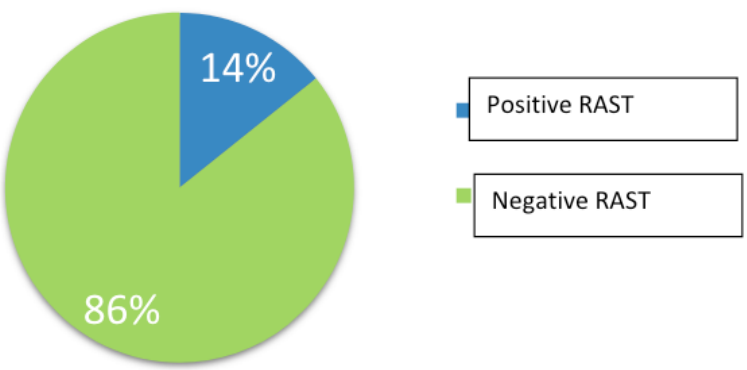
Figure 1: Presence of erythematous, lichenified and scaly plaques on the palms of the hands and dorsum of the finger of the left hand. Typical picture of chronic eczema due to latex contact dermatitis.



Graph 1. Employees with symptoms of contact dermatitis submitted to the RAST test against latex (n=42).