

# Polyethylene Glycol Hypersensitivity: A Diagnostic and Management Dilemma

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## Introduction

(contexte de la recherche) Polyethylene glycols (PEGs), also known as macrogols, are common ingredients in medical, cosmetic, and household products. Despite their generally inert nature, a rising number of reported cases indicate a spectrum of immediate-type PEG hypersensitivity, ranging from mild to severe reactions.

## Objectif

We present a case of immediate hypersensitivity following the ingestion of a PEG-based laxative, which recurred upon ingesting a medication containing PEG among its excipients.

## Méthodes

This case was notified on February 2023 to the department of collection and analysis of adverse drug reactions of the national center of pharmacovigilance of Tunis, Tunisia.

## Résultats

A 29-year-old woman with no medical history experienced generalized urticaria associated with a tingling sensation on the tongue and brief loss of consciousness a few minutes after ingestion of a laxative containing PEG 4000. The symptoms were successfully managed with an injection of dexamethasone and antihistamine treatment. Upon investigation, the patient did not report before any hypersensitivity reactions following the use of cosmetics, household products, or medication. Several months later, the patient experienced the same initial symptomatology, associating this time a dyspnea immediately following the ingestion of 2 ml of a pediatric syrup containing paracetamol (Efferalgan Med pédiatrique®). Symptoms emerged upon tongue contact with the drug. Notably, this medication contains macrogol 6000 among its excipients. Management required vascular filling, oxygen therapy and treatment with corticosteroids and antihistamines. Since then, the patient has not experienced a recurrence of the symptoms. Paracetamol was reintroduced in tablet form without any issues.

## Conclusions

Responsibility of PEG was evaluated as I5 (C3S2). Mechanism appears to be IgE-mediated hypersensitivity. Subsequent management of this type of reaction was critical, considering

the presence of PEGs in numerous everyday products and the absence of standardized PEG nomenclature. The complexity is heightened by the fact that these reactions seem to depend on both the dose of PEG in the products and their molecular weights, and this information is lacking in most products.