

case report

Key words

Allergic contact dermatitis • Patch test •
Adverse drug reaction • Nitroglycerin

Allergic contact dermatitis to nitroglycerin

M. SEOANE RODRÍGUEZ, M.E. CARALLI, P. ROJAS PÉREZ-EZQUERRA, R. PELTA FERNÁNDEZ, M. DE BARRIO FERNÁNDEZ
Hospital General Universitario Gregorio Marañón, Allergy Department. Madrid, Spain

Summary

Transdermal nitroglycerin (NT) patch is usually well tolerated. We describe the case of a patient who developed erythema and pruritus at the application site. The patient was patch tested, with positive readings with Nitro-Dur®, Minitran® and NT (1% pet). A sublingual blind challenge test with NT (Trinispray®) was performed with negative result. This defines the case as an allergic contact dermatitis due to a type IV mechanism to NT patch with good tolerance to sublingual NT.

Introduction

Nitroglycerin (NT) is a nitrate that was first used with a medical indication in 1878 to treat anginal attacks. It can be administered as intravenous solution, tablets, sublingual sprays or transdermal patches.

Transdermal nitroglycerin patch (NTP) it is widely used and is usually well tolerated, but some cases of skin adverse reactions have been described: irritant and allergic contact dermatitis¹⁻³, urticaria and other diffuse or generalized cutaneous reactions^{4,5}. Allergic reactions may be also due to hypersensitivity to any of the patch components, rather than the drug itself⁶.

Case report

A 77 year-old female was treated with NTP (Nitro-Dur®) for stable angina. After one year, she developed erythema and pruritus at the application site. She kept applying the skin patch in different parts of her arms and thorax during two weeks resulting in erythema, pruritus and vesicles at all the application areas. Because of that, she was treated with another patch brand (Minitran®) with good tolerance for the first 3 weeks. After that time, skin lesions reappeared at the application site and resolved within a month after she discontinued the treatment. The patient was patch tested on her left arm with Nitro-

Dur®, Minitran®, NT (0.2% and 1% in pet) and the other patch components: rosin, turpentine, epoxy resin, PTB resin, urethane dimethacrylate, hydroxypropyl methacrylate, methyl methacrylate and glycerine (Nonwoven Patch Test Strips Curatest®; Lohman & Rauscher International, Rangsdorf, Germany). Positive readings were obtained at days 2 (D2) and 4 (D4) with Nitro-Dur®, Minitran® and NT (1% pet) (Fig. 1) and negative readings at D2 and D4 with the rest of substances. After obtained written informed consent, we performed a sublingual blind challenge test with NT (Trinispray®) following the protocol of the European Academy of Allergy and Clinical Immunology drugs committee⁷ with negative result.

Conclusions

Allergic contact dermatitis to NT is uncommon and most of the reactions are caused by irritation mechanism of the occlusive nature of these administration systems. In allergic contact-type IV hypersensitivity cases, systemic reactions to NT has been not reported in the literature and sublingual NT and oral isosorbide dinitrate are always well tolerated^{4,5,8}.

We describe an allergic contact dermatitis to NTP with good tolerance to sublingual NT confirmed by patch test and challenge test. Although a hypersensitivity mechanism (Type IV) was demonstrated, our patient tolerated NT in systemic administration. This fact is very important in this kind of drugs, where the

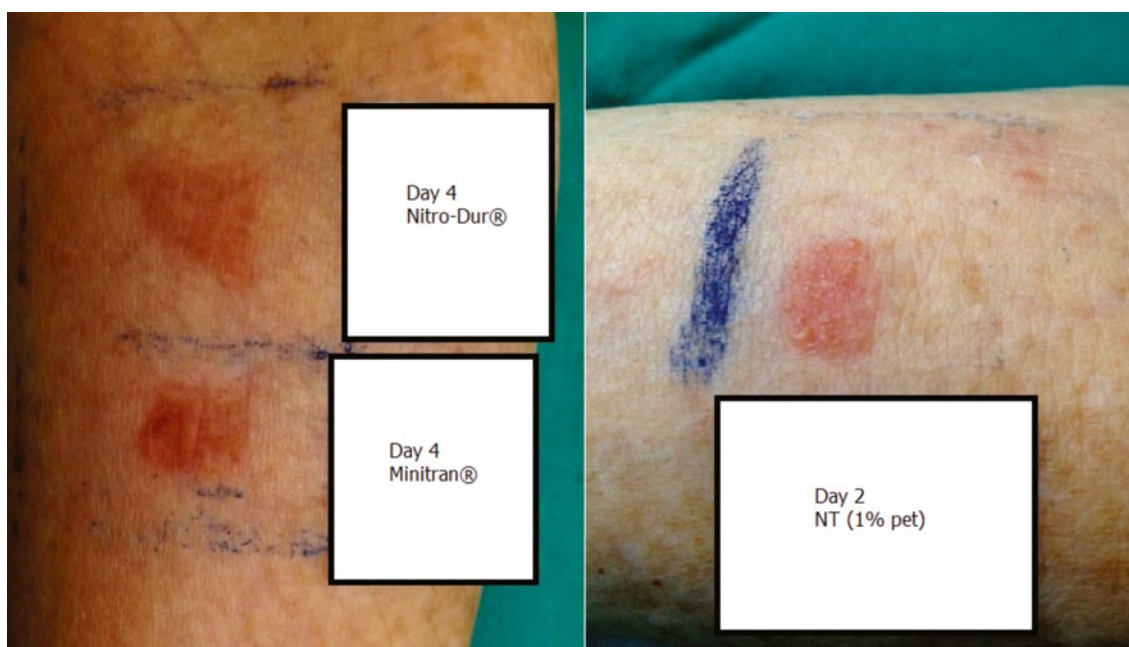


Figure 1. Positive PT with Nitro-Dur®, Minitran® and NT (1% in pet) - readings at D2 y D4.

therapeutic alternatives are few and the treatment is necessary for the patient. In fact, even in patients who have not been able to demonstrate skin tolerance to the drug, in emergency situations NT could be safely administered systemically.

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• Correspondence: Patricia Rojas Perez-Ezquerria, Hospital General Universitario Gregorio Marañón, Madrid, Spain • E-mail: projasperezquerra@gmail.com