Portuguese Journal of Dermatology and Venereology

Permanyer

Check for updates

*Port J Dermatol and Venereol.*

**CASE REPORT**

# Allergic contact dermatitis to enema used to treat inflammatory bowel disease

## *Dermite de contacto alérgica a enema usado na doença inflamatória intestinal*

*Maria J. Guimarães[a]*, Ana G. Lopes, and Teresa Pereira*

*Department of Dermatology and Venereology, Hospital de Braga, Braga, Portugal*
*[a]ORCID: 0000-0002-3247-2470*

## Abstract

Enemas are commonly used to treat inflammatory bowel disease. It is believed that allergic contact dermatitis (ACD) to enemas is underreported. We describe a case of a 55-year-old woman with non-specific proctitis. The patient was prescribed budesonide rectal enemas. However, 1 day after the first application, erythematous, pruritic plaques emerged in the perineal region and inner thighs. The patient was observed in the emergency department and was ordered to stop the enemas. The patient was referred to dermatology consultation where patch tests were performed using the European/Portuguese baseline series, the corticosteroids series, and the dispersible tablets of budesonide used in the enema. Test readings at 72 h and 7 days revealed positivity for budesonide 0.01% pet, tixocortol pivalate 0.1%, the budesonide tablets used in enemas, perfume mixture 1 (8% pet) and 2 (14% pet) and hydroperoxides of linalool 1%. No lesions have recurred after eviction of the identified allergens. Budesonide is responsible for most ACD to corticosteroids, usually described in association with inhalers or nasal sprays to treat asthma or rhinitis. According to the new classification of corticosteroids by allergenic groups, budesonide, and tixocortol pivalate belong to the same group. Facing a patient with corticosteroid allergy, it is important to determine the individual sensitization/tolerance profile to guide future therapeutic interventions.

***Keywords:*** Allergic contact dermatitis. Enema. Budesonide.

## Resumo

Os enemas são frequentemente utilizados no tratamento de doença inflamatória intestinal. Acredita-se que a dermite de contato alérgica (DCA) a enemas seja subnotificada. Descreve-se o caso de uma mulher de 55 anos com proctite inespecífica, a quem foi prescrita a aplicação de enemas retais de budesonido. No entanto, no dia após a primeira aplicação, surgiram placas eritematosas pruriginosas na região perineal e face interna das coxas. A doente foi observada no serviço de urgência e aconselhada a interromper os enemas. A doente foi encaminhada para consulta de Dermatologia onde foram realizados testes epicutâneos com a série básica europeia/portuguesa, a série de corticosteróides e os comprimidos dispersíveis de budesonido utilizados no enema. As leituras às 72 h e 7 dias revelaram positividade para budesonido 0,01%, pivalato de tixocortol 0,1%, comprimidos de budesonido usados nos enemas, mistura de perfume 1 e 2 e hidroperóxidos de linalol 1%. Não houve recidiva das lesões após evicção dos alergénios identificados. O budesonido é responsável pela maioria das DCA aos corticosteróides, maioritariamente descritas em associação com o uso de in inaladores ou sob a forma de spray nasal para tratar asma ou rinite. De acordo com a nova classificação de corticosteróides por grupos alergénicos, o budesonido e

***Correspondence:**
Maria J. Guimarães
E-mail: mjcunhaguimaraes@gmail.com

**Received:** 02-04-2023
**Accepted:** 26-07-2023
DOI: 10.24875/PJDV.23000025

Available online: 28-08-2023
*Port J Dermatol and Venereol*. 2023;81(4):273-275
www.portuguesejournalofdermatology.com

2795-501X / © 2023 Portuguese Society of Dermatology and Venereology. Published by Permanyer. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

o pivalato de tixocortol pertencem ao mesmo grupo. Perante um paciente com alergia a corticosteróides, é importante determinar o perfil individual de sensibilização/tolerância para orientar futuras intervenções terapêuticas.

***Palavras-chave:*** Dermite de contacto alérgica. Enema. Budesonido.

## Introduction

Allergic contact dermatitis (ACD) to enemas is infrequently described in the literature. The greater likelihood of mucosal hypersensitivity, especially in cases of compromised integrity such as inflammatory bowel disease (IBD), makes enemas a potential source of sensitization and allergic reactions[1,2]. Since enemas are commonly used to treat IBD affecting the distal colon and rectum, it is believed that ACD is underreported, as symptoms may be mild and non-specific[1].

Concerning ACD to topical medication affecting the anogenital area, a study from Gilissen et al. showed 9% positivity of patch tests to topical drug preparations, with local anesthetics and corticosteroids being the most frequent sensitizing active principles[3].

## Clinical case

A 55-year-old woman, without previous history of atopy, was under gastroenterology (GE) surveillance since 2019 for non-specific proctitis. The patient had been previously medicated with oral mesalazine, ciprofloxacin, and budesonide rectal foam. At the last GE appointment, daily rectal enemas of budesonide were prescribed. However, 1 day after the first application, erythematous, pruritic plaques emerged in the perineal region and inner thighs (Fig. 1). The patient was observed in the emergency department and was ordered to stop the enemas. She was medicated with oral bilastine and topical betamethasone and clotrimazole with the resolution of the skin eruption in 1 week.

To clarify the cause of the skin eruption, the patient was referred to the dermatology department. Patch tests were performed using the European/Portuguese baseline series (Chemotechnique Diagnostics, Vellinge, Sweden), the corticosteroids series (Chemotechnique Diagnostics, Vellinge, Sweden), the dispersible tablets of budesonide and diluent solution (Entocort®) used in the enema and a moisturizing cream used by the patient (Odette®). Test readings at 72 h and 7 days revealed positivity for budesonide 0.1% (+), tixocortol pivalate 0.1% (++), the budesonide dispersible tablets used in enemas (+), perfume mixture 1-8% pet (+) and 2-14% pet (+) and hydroperoxides of linalool 1% (+) (Fig. 2). No lesions have recurred after the eviction of the identified allergens.

## Discussion

This case illustrates an ACD to a budesonide-containing enema, with the budesonide foam acting as the likely source of prior sensitization.

Topical corticosteroids (CS) are a relatively common cause of ACD, with a reported positivity in patch testing ranging from 0.5% to 6%[1]. Allergy to CS in nasal sprays and inhalers used to treat asthma or rhinitis is well documented[4]. Surprisingly, there are fewer reports of CS's ACD due to enemas, which possibly relates to the unspecific manifestations of allergic reactions in the anogenital area, sometimes misinterpreted as exacerbations of the previous inflammatory disease[1].

Additional diagnostic obstacles for CS contact allergy include frequent false-negative reactions, as CS tends to suppress a positive patch test reaction and delayed positive reactions, as up to 30% of reactions may be missed if a day 7 reading is not performed[1].

It has been postulated that, similarly to damaged skin, inflammation of the distal bowel may increase rectal CS' penetration and facilitate sensitization[2]. In fact, Malik et al. showed a 9% (four out of 44 patients) prevalence of CS allergy among IBD patients; however, the authors admitted an eventual selection bias which hampers data extrapolation to the entire IBD population[1].

The most used patch test allergens of CS allergy are tixocortol pivalate and budesonide as these are considered markers of steroid allergy[1,2]. By testing both, 90% of corticosteroid-allergic subjects are detected in baseline series[1,2].

According to the new classification of CS by allergenic groups provided by Baeck et al., budesonide and tixocortol pivalate belong to the same group (group 1: the nonmethylated, most often nonhalogenated molecules)[5]. This study further classifies patients allergic to CS into two different subgroups according to the mechanism of immune recognition: patients who react to molecules from one unique group determined by CS molecular charge and patients who may react to the entire spectrum of CS determined by CS molecular structure[5]. Facing a patient with CS allergy, it is important to discern these two subgroups to determine the individual sensitization/tolerance profile[5,6]. In

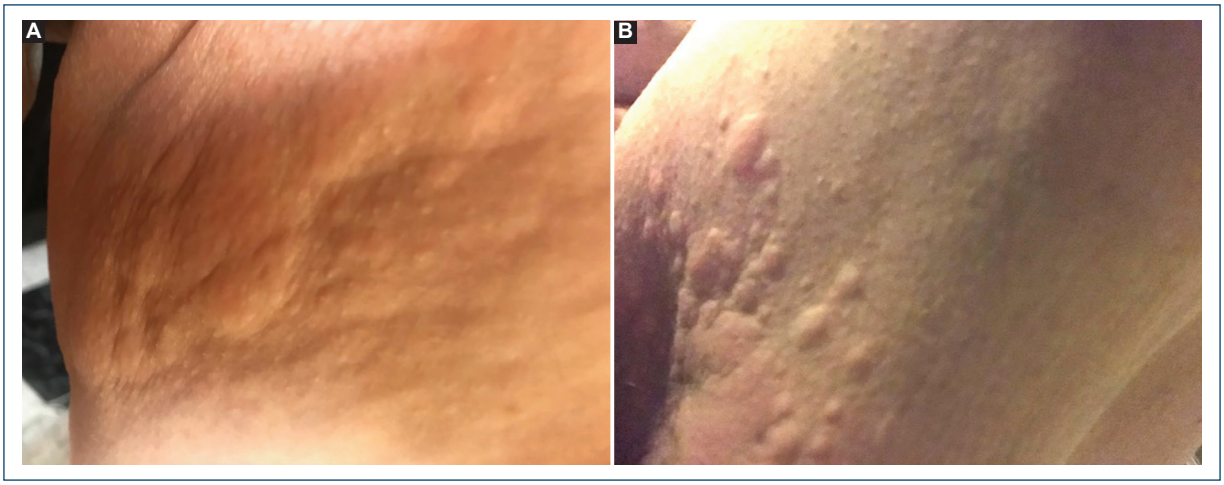


**Figure 1. A** and **B:** erythematous papules and plaques in inner ties after first budesonide-containing enema.

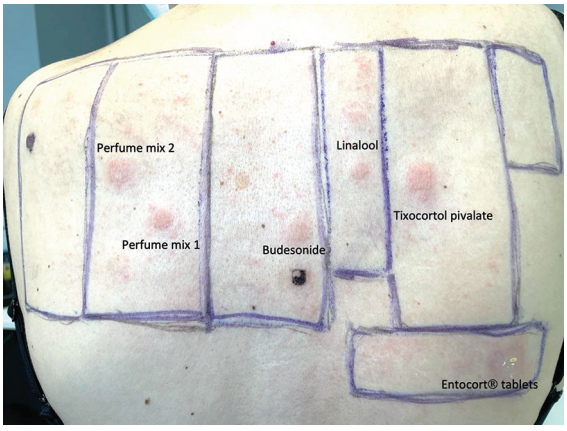


**Figure 2.** Patch test reading at 72 h: positive reactions for perfume mixture 1 (+) and 2 (+), budesonide 0.01% pet (+), tixocortol pivalate 0.1% pet (++) and Entocort® dispersible tablets pet (+).

this case, one can assume the patient only reacts to molecules from group 1 since the lesions improved under topical betamethasone which belongs to group 3.

ACD to budesonide-containing enema is especially relevant since it is the topical drug that most frequently causes systemic allergic dermatitis[7]. The anorectal mucosa constitutes a relevant route of systemic absorption and its exposure to an allergen can trigger a reaction with variable clinical severity[7].

## Funding

None.

## Conflicts of interest

None.

## Ethical disclosures

**Protection of human and animal subjects.** The authors declare that no experiments were performed on humans or animals for this study.

**Confidentiality of data.** The authors declare that they have followed the protocols of their work center on the publication of patient data.

**Right to privacy and informed consent.** The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

**Use of artificial intelligence for generating text.** The authors declare that they have not used any type of generative artificial intelligence for the writing of this manuscript, nor for the creation of images, graphics, tables, or their corresponding captions.

## References

1. Malik M, Tobin AM, Shanahan F, O'Morain C, Kirby B, Bourke J. Steroid allergy in patients with inflammatory bowel disease. Br J Dermatol. 2007;157:967-9.
2. Monk BE, Skipper D. Allergy to topical corticosteroids in inflammatory bowel disease. Gut. 2003;52:297.
3. Gilissen L, Schollaert I, Huygens S, Goossens A. Iatrogenic allergic contact dermatitis in the (peri)anal and genital area. Contact Dermatitis. 2021;84:431-8.
4. Baeck M, Pilette C, Drieghe J, Goossens A. Allergic contact dermatitis to inhalation corticosteroids. Eur J Dermatol. 2010;20:102-8.
5. Baeck M, Chemelle JA, Goossens A, Nicolas JF, Terreux R. Corticosteroid cross-reactivity: clinical and molecular modelling tools. Allergy. 2011;66:1367-74.
6. Hansel K, Marietti R, Bianchi L, Tramontana M, Foti C, Romita P, et al. Cross-reactions to systemic corticosteroids in patients contact sensitized to budesonide. Contact Dermatitis. 2020;83:321-4.
7. De Groot AC. Systemic allergic dermatitis (systemic contact dermatitis) from pharmaceutical drugs: A review. Contact Dermatitis. 2022;86:145-64.