Cureus
Part of SPRINGER NATURE

Open Access Case Report

Symmetrical Drug-Related Intertriginous and Flexural Exanthema (SDRIFE) Secondary to Helicobacter pylori Eradication Treatment: A Case Report

Susana Moita [1]

1. Family Medicine, Unidade de Saúde Familiar (USF) Santa Clara, Unidade Local de Saúde (ULS) da Póvoa de Varzim/Vila do Conde, Vila do Conde, PRT

Corresponding author: Susana Moita, scmoita97@gmail.com

Review began 11/10/2026
Review ended 11/19/2026
Published 11/23/2026

© **Copyright** 2026
Moita. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

DOI: 10.7759/cureus.120152

Abstract

Symmetrical drug-related intertriginous and flexural exanthema (SDRIFE) is a rare cutaneous adverse reaction characterized by a rash involving primarily intertriginous and flexural areas. This case report presents a 50-year-old woman with complaints of a pruritic rash that began about 24 hours after starting *Helicobacter pylori* eradication treatment with amoxicillin, clarithromycin, metronidazole, and lansoprazole. The rash affected the axillary and inguinal regions, as well as the trunk, and had no other associated symptoms besides pruritus. Due to its extent, bloodwork was performed, but there were no abnormal findings. In accordance with the patient's medical history and the clinical findings, a diagnosis of SDRIFE was made. The eradication treatment was discontinued, and the patient was medicated with prednisolone and levocetirizine, resulting in a full recovery without sequelae in about two weeks. This case report aims to raise awareness of this condition and demonstrate the challenges that the simultaneous introduction of drugs may bring to the identification of the cause of the reaction and the consequences that this brings to the treatment of other medical conditions.

Categories: Allergy/Immunology, Dermatology
Keywords: amoxicillin, clarithromycin, helicobacter pylori, lansoprazole, metronidazole, sdrife

Introduction

Symmetrical drug-related intertriginous and flexural exanthema (SDRIFE) is a cutaneous adverse reaction, mostly to drugs, characterized by a rash involving primarily intertriginous and flexural areas [1]. It was first described in 1984 under the name of “baboon syndrome,” due to the resemblance between a baboon’s red bump and the buttocks exanthema that appears in patients with SDRIFE. In 2004, the terminology was updated to better encompass the extent and characteristics of the rash [2].

Even though the pathophysiological mechanism is not yet completely understood, SDRIFE is generally classified as a T-cell-mediated delayed-type hypersensitivity reaction (type IV), being the clinical manifestations a result of type IVa and type IVc responses (typically associated with contact dermatitis and drug-induced rash, respectively). This mechanism is supported by the presence of CD4+ T lymphocytes and increased expression of CD26P selectin in immunohistochemical assays. However, some reported SDRIFE cases are not completely explained by T-cell involvement, mostly regarding the time of onset of symptoms, which suggests that other pathways are also involved [3,4]. Part of the difficulty of understanding the underlying physiological and immunological background stems from the fact that SDRIFE is a rare condition, limiting data regarding its mechanisms and epidemiology.

This clinical entity is characterized by a very typical exanthema that usually appears a few hours to days after systemic exposure to a certain drug; these patients often have a history of having previously taken the same substance without any reaction. The rash associated with SDRIFE is a well-demarcated, symmetric, erythematous-to-violaceous lesion that affects primarily intertriginous and flexural areas, mainly the gluteal, inguinal, and perigenital regions. There are usually no systemic symptoms involved, which may help distinguish it from other more severe cutaneous adverse drug reactions, such as drug reaction with eosinophilia and systemic symptoms (DRESS) and Stevens-Johnson syndrome (SJS). The diagnosis is clinical, based on the findings of the medical history and physical examination. This condition is generally self-limited and resolves without sequelae [5].

Despite being a rare condition, the literature has diagnostic criteria proposed for SDRIFE, which include (1) taking a systemic drug (excluding chemotherapeutic agents and contact allergens), (2) prominent demarcated erythema of the gluteal/perianal area and/or V-shaped erythema around the inguinal/perigenital area, (3) redness in at least one other intertriginous or flexural area, (4) bilateral and symmetrical involvement, and (5) no systemic involvement [1,4].

How to cite this article
Moita S (November 23, 2026) Symmetrical Drug-Related Intertriginous and Flexural Exanthema (SDRIFE) Secondary to Helicobacter pylori Eradication Treatment: A Case Report. Cureus 18(11): e120152. DOI 10.7759/cureus.120152

A wide range of drugs has been reported to be associated with SDRIFE, including antihypertensive and antifungal drugs, but amoxicillin and beta-lactams are among the most frequent ones. It is important to note that the reaction does not always happen during the first exposure to the drug [6]. Patch tests may be helpful in identifying the implicated drug to avoid future exposure, but a negative result does not exclude a SDRIFE diagnosis [7].

This case report aims to raise awareness of this condition, as it is a differential diagnosis of other, sometimes life-threatening, drug-induced reactions, and has proposed clinical diagnostic criteria that can be quickly assessed by physicians. This knowledge may help avoid unnecessary labs and referrals, while improving patient care and quality of life. Additionally, despite the fact that the trigger drug was not isolated, it demonstrates the importance of a detailed medication history and the challenges that multiple simultaneously administered drugs add to the diagnosis, mainly when it comes to trigger identification, and the practical consequences that this brings to the overall patient's health. Overall, the diagnosis uncertainty explored in this case shows not only the importance of recognizing a specific condition but also the uncertainty brought by polypharmacy, more increasingly common in today's medicine.

Case Presentation

This report refers to a 50-year-old woman with a known history of depression, high blood pressure, and Meniere's disease, currently not taking any prescribed medication. She has no history of tobacco or alcohol use, no significant family history, and no known previous allergic reactions. She had initially presented to an appointment three months prior for complaints of weight loss. She had no other symptoms, such as vomiting or bleeding. She reported, however, an increase in her anxiety symptoms. To rule out underlying organic causes, an upper and lower gastrointestinal endoscopy was ordered. Both exams revealed no macroscopic abnormalities, but random gastric biopsies were obtained from the stomach antrum and body. The histopathological examination revealed chronic superficial gastritis, with no intestinal metaplasia, glandular atrophy, dysplasia, or malignancy, but with the presence of *Helicobacter pylori* (detected by immunohistochemistry). The patient stated difficulty taking tablets; therefore, she was medicated with oral suspensions of amoxicillin (1 g bid), clarithromycin (500 mg bid), and metronidazole (500 mg bid) and effervescent lansoprazole (30 mg bid).

However, three days after starting the eradication therapy, the patient returned for an acute care appointment with complaints of a pruritic rash. She reported that it had appeared about 24 hours after starting the medication, initially a pinkish, bilateral, and symmetrical rash only affecting the axillary and gluteal areas (Figure *1*). The next day, however, the exanthema had extended to the anterior trunk and inguinal folds, which prompted the patient to schedule a medical evaluation. She reported no other symptoms, including fever, cough, dyspnea, nausea, vomiting, dizziness, or headache.



FIGURE 1: Erythematous rash in the axillary fold

Non-scaling, erythematous rash on the right axillary fold, pinkish in color, with irregular borders (about 24 hours after initiating *Helicobacter pylori* eradication treatment)

Physical examination, performed about 48 hours after symptom onset, revealed a symmetrical, non-scaling, uniform, erythematous-violaceous maculopapular rash with irregular borders, presenting prominently around the gluteal and anogenital area, extending to the inguinal folds in a demarcated V-shaped erythema. The axillary folds were also bilaterally involved, with the presence of symmetrical exanthema extending to the anterior trunk, sparing the periumbilical region (Figure *2*).



FIGURE 2: Erythematous-violaceous rash of the anterior trunk and inguinal folds

Extensive symmetrical and non-scaling erythematous-violaceous rash of the anterior trunk and inguinal folds, sparing the periumbilical region. The perianal areas are not visible in the photograph; however, at the bottom of the picture, we can see the beginning of the V-shaped symmetrical bilateral involvement of the inguinal folds, which is typical of SDRIFE cases (about 72 hours after initiating *Helicobacter pylori* eradication treatment)

SDRIFE: symmetrical drug-related intertriginous and flexural exanthema

The natural history of the disease and the lack of systemic symptoms did not suggest more life-threatening conditions, such as SJS or DRESS; however, the extent of the rash led to blood tests being performed. There were no remarkable findings, namely, no leukocytosis (8.86 x 10^9/L), eosinophilia (0.5 x 10^9/L), elevated C-reactive protein (1.15 mg/L), or abnormal liver (aspartate aminotransferase 25 U/L, alanine aminotransferase 34 U/L, and total bilirubin 0.95 mg/dL) and renal function (creatinine 0.62 mg/dL and urea 39 mg/dL) tests (Table *1*). In accordance with the clinical and laboratory findings, a diagnosis of SDRIFE was made.

Test	Result	Unit	Reference range
Erythrocytes	4.56	$x10^{12}$/L	3.85-5.20
Hemoglobin	14.0	g/dL	11.5-16.0
Leukocytes	8.86	$x10^9$/L	4.0-10.0
Neutrophils	5.3	$x10^9$/L	2.0-7.0
Eosinophils	0.5	$x10^9$/L	0.02-0.5
Basophils	0.0	$x10^9$/L	0.02-0.1
Lymphocytes	2.6	$x10^9$/L	1.0-3.0
Monocytes	0.5	$x10^9$/L	0.2-1.0
Platelets	189	$x10^9$/L	140-440
Creatinine	0.62	mg/dL	0.5-1.1
Urea	39	mg/dL	10-50
Aspartate aminotransferase	25	U/L	<37
Alanine aminotransferase	34	U/L	<41
Total bilirubin	0.95	mg/dL	0.00-1.00
C-reactive protein	1.15	mg/L	<5.0

TABLE 1: Laboratory findings (complete blood count and biochemistry)

The ongoing *H. pylori* eradication therapy was immediately discontinued, and the patient was medicated with prednisolone, 40 mg daily for 10 days; levocetirizine, 5 mg daily for five days; and an emollient and calamine ointment for symptomatic relief. At the follow-up appointment five days later, the rash showed significant improvement, and the patient described symptomatic relief, mainly concerning the pruritus. The patient later reported that the erythema completely resolved about a week and a half after the *H. pylori* eradication therapy was suspended. She was then referred to an immunoallergology appointment for further investigation.

During follow-up with an immunoallergology specialist, patch tests were done to determine detailed drug sensitivity, but the results were inconclusive. As such, she is now awaiting oral drug provocation tests to see if it is possible to determine the culprit drug.

Written informed consent was obtained from the patient for the publication of the case details and clinical photographs.

Discussion

The patient described in this case report met all the previously mentioned proposed criteria for SDRIFE - recent intake of a systemic drug (several, in this case); erythema of the anogenital and gluteal areas, extending to other flexural areas (axillary and inguinal), with bilateral and symmetrical involvement; and lack of systemic involvement. The symptoms started 24 hours after treatment onset and progressed until the patient was consulted by a clinician, having evolved for 48 hours. The photographic record shown in Figure *2* demonstrates a more widespread exanthema than just the typical SDRIFE one, extending beyond the inguinal or flexural areas, likely due to the fact that the patient continued the *H. pylori* eradication treatment after the onset of the rash, leading to a more extensive form of the disease.

The clinical findings made other diagnoses less likely, namely, SJS and DRESS; however, given their potential severity, it is essential to first and foremost exclude these possibilities. In this particular case, the lack of systemic symptoms, such as fever, edema, bullae (mostly for SJS), and mucous involvement, as well as the timing of the rash onset and the lack of significant laboratory findings (mostly for DRESS), made these diagnoses unlikely [5].

Other potential differential diagnoses were also less probable: drug-induced maculopapular rash does not have the flexural distribution that is typical of SDRIFE; contact dermatitis is often preceded by the

introduction of a new topical product; and flexural psoriasis has a more chronic course, presents with well-demarcated bright red plaques, and typically lacks prominent scaling [5].

One of the key challenges in this case is the identification of the drug responsible for the reaction. The patient was concomitantly prescribed amoxicillin, clarithromycin, metronidazole, and lansoprazole and the timing of the exanthema onset - about 24 hours after starting the treatment - as well as the benign clinical course, with resolution of symptoms after treatment discontinuation, make SDRIFE the most plausible diagnosis, as it is consistent with what we can find in literature, and according to the Naranjo Adverse Drug Reaction Probability Scale, and adverse drug reaction is considered possible (score 3 for amoxicillin and clarithromycin and score 2 for metronidazole and lansoprazole) [6,8].

Taking a look at case reports featuring SDRIFE, particularly the ones associated with amoxicillin and clarithromycin, as they are more common, the symptoms usually begin a few hours to a few days after the onset of a new drug, resolving completely in at most three weeks' time, which aligns with what was observed regarding this patient. The observed erythema, however, was more severe than in most SDRIFE cases, expanding from the anogenital, inguinal, and flexural areas to affect the trunk as well, likely due to the fact that the medication was suspended only two days after the rash onset [6,9,10].

Despite amoxicillin being one of the most commonly reported SDRIFE triggers in the literature, we cannot exclude the possibility of any of the other drugs being associated with it or whether it represented a cross-reaction between different compounds, which for the patient means four different drugs to potentially avoid until the study is complete. This is one of the aspects that makes this case particularly challenging - the difficulty in the identification of the causal agent, with the restrictions in future prescribing associated with it, particularly since the allergological assessment done so far (the patient underwent patch tests) has also not been able to add more comprehensive information. As stated in the case report, the results of the patch tests were inconclusive, not being able to pinpoint the drug responsible for the reaction. This is not uncommon in patients with SDRIFE [7]. Despite being a cutaneous hypersensitivity reaction, literature reports that only about 50% of the patients end up with a positive result in patch tests, meaning that a negative result does not automatically exclude a SDRIFE diagnosis [4]. The patient is awaiting oral drug provocation tests, which are considered gold-standard for diagnosis, to see if it is possible to determine the culprit drug [4].

There are not yet any guidelines regarding the treatment of SDRIFE, but due to its course, besides discontinuation of the responsible drug, supportive therapy is sometimes enough. However, in the reported cases found in the literature, systemic corticosteroids and antihistamines are often used [6,8,9]. We opted for that line of treatment in this case as well due to the severity of the exanthema and its impact on the quality of life of the patient. With this approach, the symptoms disappeared completely in about two weeks, without sequelae. It is important to note, however, that corticosteroid response has no diagnostic value for SDRIFE, meaning a positive response does not make the diagnosis more likely.

Notwithstanding, SDRIFE has current implications in the management of the *H. pylori* infection. According to the literature, the administration of the responsible drug is contraindicated and, as in this case the drug has not yet been identified, a risk-benefit assessment of the situation must be discussed with the patient [4]. Considering that amoxicillin and clarithromycin have other associated SDRIFE cases reported, we can consider them higher risk than metronidazole and lansoprazole. As such, treatment with an alternative combination not including the most likely drugs responsible for the reaction was proposed to the patient; as this combination is only available in oral capsules and not in oral suspension, the patient refused. After reviewing the general situation and considering the fear the patient shows of developing another reaction, we opted to postpone treatment until the immunoallergological investigation is complete.

Conclusions

To sum up, SDRIFE is a cutaneous reaction characterized by a symmetrical exanthema on the intertriginous and flexural areas, triggered most commonly by the intake of drugs. Its recognition is important to promptly stop the suspected triggers and provide symptomatic treatment, while ruling out more severe conditions.

In this particular case, the concomitant introduction of several drugs makes for a more challenging determination of the actual trigger, without an allergological confirmation being made. This has real implications in the treatment of other medical conditions, mainly *H. pylori* infection, with a thorough risk-benefit assessment being mandatory and alternative treatment courses needing to be considered.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Susana Moita

Acquisition, analysis, or interpretation of data: Susana Moita

Drafting of the manuscript: Susana Moita

Critical review of the manuscript for important intellectual content: Susana Moita

Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. **AI use statement:** The authors have declared that no AI tools were used during the work or in the drafting of this article. The authors take full responsibility for the work. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

References

1. Mohapatra M, Panda M, Kar BR, Raj C: Symmetric drug-related intertriginous and flexural exanthema due to itraconazole: an uncommon side effect of a commonly used drug. Indian Dermatol Online J. 2017, 8:501-3. 10.4103/idoj.IDOJ_179_17
2. Häusermann P, Harr T, Bircher AJ: Baboon syndrome resulting from systemic drugs: is there strife between SDRIFE and allergic contact dermatitis syndrome?. Contact Dermatitis. 2004, 51:297-310. 10.1111/j.0105-1873.2004.00445.x
3. Li DG, Thomas C, Weintraub GS, Mostaghimi A: Symmetrical drug-related intertriginous and flexural exanthema induced by doxycycline. Cureus. 2017, 9:e1836. 10.7759/cureus.1836
4. Guedes C, Lopes JC, Pereira HP, Alves M, Ribeiro C, Todo-Bom A: Symmetrical drug-related intertriginous and flexural exanthema (SDRIFE) - a literature review. Rev Port Imunoalergologia. 2026, 34:77-88. 10.32932/rpia.2026.06.184
5. Mokos M, Bulat V, Likić R, Bosnić F, Gašparov S: Infliximab-induced symmetrical drug-related intertriginous and flexural exanthema (SDRIFE) in a patient with ulcerative colitis. Br J Clin Pharmacol. 2025, 91:903-7. 10.1111/bcp.16390
6. Almahmudi RJ, Alzahrani HA, Alabbasi AK, Almatrafi G, Alharbi HA, Al Hawsawi K: Symmetrical drug-related intertriginous and flexural exanthema (SDRIFE): a case report. Cureus. 2026, 18:e110058. 10.7759/cureus.110058
7. Labadie JG, Florek AG, Croitoru A, Liu W, Krunic AL: First case of symmetrical drug-related intertriginous and flexural exanthema (SDRIFE) due to berberine, an over-the-counter herbal glycemic control agent. Int J Dermatol. 2018, 57:e68-70. 10.1111/ijd.14059
8. Naranjo CA, Busto U, Sellers EM, et al.: A method for estimating the probability of adverse drug reactions . Clin Pharmacol Ther. 1981, 30:239-45. 10.1038/clpt.1981.154
9. Cancela-Díez B, López-Delgado D, Aneiros-Fernandez J, Ruiz-Villaverde R: A case of intertriginous and flexural exanthema caused by amoxicillin. Sultan Qaboos Univ Med J. 2019, 19:e369-71. 10.18295/squmj.2019.19.04.014
10. Bumbacea RS, Ali S, Ogneva DO, Motei C, Rusu C, Spiru L: Drug provocation testing in the diagnosis of symmetrical drug-related intertriginous and flexural exanthema (SDRIFE) induced by clarithromycin. Maedica (Bucur). 2021, 16:297-301. 10.26574/maedica.2020.16.2.297