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Allergic contact dermatitis to miconazole for nipple candidiasis

Timothy L. Cowan^{1,2,3} | Dedee F. Murrell^{1,2,3} | Alexis Lara Rivero^{3,4}

¹Department of Dermatology, St George Hospital, Kogarah, New South Wales, Australia

²Faculty of Medicine, University of New South Wales, Sydney, New South Wales, Australia

³Dermatology Clinic, Premier Specialists, Kogarah, New South Wales, Australia

⁴Contact Dermatitis Clinic, The Skin Hospital, Darlinghurst, New South Wales, Australia

Correspondence

Dr Alexis Lara Rivero, Premier Specialists, 17 Kensington Street, Kogarah, NSW 2217, Australia.

Email: dermatolobo@gmail.com

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Allergic contact dermatitis (ACD) to topical anti-fungals is rare. This case highlights the importance of considering antifungals as a cause of ACD.

CASE REPORT

An atopic 32-year-old female who was 8 months post-partum and breast-feeding, presented with a 6-week history of painful initially annular and then confluent erythematous patches and blistering around her breasts and chest (Figure 1).

Initially, 7 months post-partum, she developed nipple and breast pain after breast-feeding and this was managed by her General Practitioner as nipple candidiasis with regular nystatin drops. After 2 days, nystatin was then changed to miconazole 2% gel (Daktarin gel, Janssen-Cilag, Sydney, Australia) due to lack of response. Within 2 days, she had worsening erythema and pruritus and subsequently ceased this with multiple further medication changes as described (Table 1). Eight days after initial exposure to miconazole 2% gel, she had eventually developed blistering and pruritic erythematous patches over her abdomen and back. All treatments were ceased and she was commenced on 25 mg daily oral prednisolone. After her prednisolone had been ceased and all blistering had resolved (see Table 1 for treatment summary), she was referred for patch-testing for suspicion of ACD.

She was Patch testing was performed with Australasian Medical and Scientific Limited skin patch chambers (SmartPractice,

Phoenix, Arizona) and allergens from Chemotechnique Diagnostics (Vellinge, Sweden) with additional allergens supplied from the patient, and applied for 2 days. Patch test readings were performed on days 2 and 4 in accordance with International Contact Dermatitis Research Group Guidelines. A day 7 reading was performed, and there was no delayed reaction to methylprednisolone aceponate 1% pet. A +++ reaction to Daktarin 2% oral gel as is (containing miconazole) and miconazole 1% alc was confirmed. A ++ reaction to econazole nitrate 1% alc was considered as a cross-reaction.



FIGURE 1 Allergic contact dermatitis involving the breasts, extending to the abdomen and arms

TABLE 1 Multiple exposures and treatment changes

Date (commenced—ceased)	Medication	Indication	Reason for cessation	Reaction timeline
16 July 21–18 July 21	Nystatin (100 000 IU/mL) TOP	Presumed fungal infection	Lack of effect and concern for fungal resistance	Initial nipple pain
18 July 2021–20 July 2021	Miconazole gel 2% TOP	Lack of response to nystatin	Concern for bacterial mastitis	Erythema and pruritus from 19 July 2021
19 July 2021–22 July 2021	Methylprednisolone aceponate 0.1% TOP	Pruritus	Blistering onset with unclear cause	Worsening erythema on 23 July 2021 after cessation
20 July 2021–23 July 2021	Cefalexin PO	Presumed mastitis	No response	
23 July 2021–27 July 2021	Fluconazole PO	Presumed fungal infection	Progressive blistering	Progressive blistering
23 July 2021–27 July 2021	Cetirizine PO	Pruritus	Progressive blistering	Progressive blistering
28 July 2021–15 August 2021	Prednisolone PO	Allergic contact dermatitis	Weaned	Resolution

Abbreviations: PO, oral route; TOP, topical route.

There was no reaction to other antifungals [clotrimazole 1% pet, nystatin 2% pet, Nilstat oral drops as is (Aspen Pharma, Sydney, Australia) or fluconazole 10% pet], or other potential allergens (methylprednisolone aceponate 1% pet, cephalexin 10% pet, breast pump materials, brassieres, or skin care products). She was advised to avoid topical miconazole, and she had no further rashes after ceasing topical and oral corticosteroids. She was unable to recall previous use of miconazole but had used other topical antifungals including clotrimazole.

DISCUSSION

ACD from miconazole or other antifungals has been described in a small number of case reports^{1–9} with allergy to the inactive ingredients more commonly reported¹⁰ and reactions described within 1 week to several weeks of exposure.^{4–7,9} This case highlights the importance of early diagnosis of contact allergic dermatitis to topical antifungals as rare as they may be.

Patient consent

Written patient consent was gained for the use of clinical information and photographs for publication.

CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

AUTHOR CONTRIBUTIONS

All authors made substantial contributions to concept, design, analysis, drafting, and revising of manuscript and final approval for publication.

ORCID

Timothy L. Cowan  <https://orcid.org/0000-0003-1212-269X>

Dedee F. Murrell  <https://orcid.org/0000-0003-2971-0199>

Alexis Lara Rivero  <https://orcid.org/0000-0002-5596-7900>

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