First Case of Symmetric Drug-Related Intertriginous and Flexural Exanthema Induced by Meropenem

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Symmetric drug-related intertriginous flexural exanthema syndrome (SDRIFE) is a benign cutaneous reaction that symmetrically affects skin folds and intertriginous areas without systemic involvement. It is associated with administration of systemic drugs, appearing from 1 hour to several days after intake. This type 4 hypersensitivity reaction was first described as baboon syndrome by Andersen et al [1] in 1984 and later termed SDRIFE [2]. Diagnosis is based on 5 clinical criteria: exposure to a systemically administered drug, either at the first or subsequent dose (excluding contact allergens), sharply demarcated erythema of the gluteal/perianal area and/or V-shaped erythema of the inguinal/perigenital area, involvement of at least 1 other intertriginous/flexural localization, symmetry of affected areas, and absence of systemic symptoms and signs [2]. Even though SDRIFE induced by β-lactam antibiotics [3], especially aminopenicillins, has been the most frequently reported type, no cases related to meropenem have been described to date.

We report the case of a 36-year-old nonatopic woman with morbid obesity and a medical history of giant cell tumor affecting the sacrum and the spinal canal. The patient had been treated with radiotherapy and chemotherapy and was currently receiving a monthly dose of denosumab with good tolerance. She was admitted to hospital with cellulitis affecting the left lower limb. Laboratory findings at the time were remarkable only for leukocytosis (13×10^9/L) and peripheral neutrophilia (9×10^9/L). Antibiotic therapy with meropenem and linezolid was started. On the second day of treatment, several hours after the administration of meropenem, she developed pruriginous erythematous maculopapular lesions on the buttocks and body flexures (neck, armpits, arm flexures, groins, and the inframammary area). No other systemic symptoms or signs were observed. The exanthema remitted a week after meropenem was stopped and treatment with dexchlorpheniramine and topical corticosteroids was started.

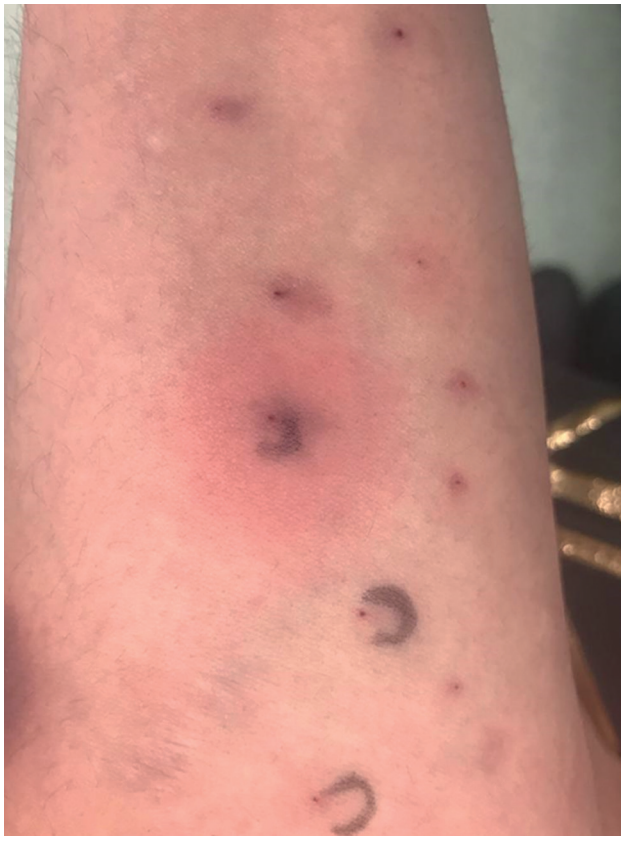

Figure. Intradermal test with meropenem: positive result at delayed reading.

No residual lesions were observed. She subsequently tolerated linezolid.

Skin biopsy of a macular lesion revealed superficial perivascular dermatitis of unspecific characteristics with a lymphocytic perivascular infiltrate limited to the epidermis.

Eight weeks later, despite strict recommendations to avoid β-lactams, the patient took amoxicillin-clavulanic acid for a week with no adverse reactions.

A detailed medical history compiled in the allergy department did not show any latex allergy or atopic disease. Written informed consent was obtained, and patch tests were performed with penicillin (10%), meropenem, ertapenem, and imipenem (5%). Readings at 48 and 96 hours yielded negative results. Skin prick tests (SPTs) and intradermal tests (IDTs) with immediate and delayed readings with benzylpenicilloyl octa-L-lysine, benzylpenilloate, penicillin, imipenem, and ertapenem yielded negative results. SPT with meropenem (100 mg/mL) was negative, whereas IDT with meropenem (1 mg/mL) became positive at 48 hours (Figure). All skin tests were performed on an area of previously inflamed skin.

Given that the patient met the 5 clinical criteria [2] and had positive skin test results to meropenem, she was diagnosed with meropenem-induced SDRIFE, and carbapenems were forbidden.

The positive result in the delayed IDT reading and the histopathological findings point to a type 4 hypersensitivity mechanism, as reported elsewhere [4,5].

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To our knowledge, this is the first report of meropenem-related SDRIFE. The lack of sensitization to the β-lactam ring is noteworthy, as the patient was able to tolerate amoxicillin-clavulanic acid.

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Conflicts of Interest

IGM: Advisory boards/speaker/investigator: Novartis, AstraZeneca, Teva, GSK, Chiesi, Allergy Therapeutics, Leti, Stallergenes, ALK-Abelló, Mundipharma, Pfizer, and Orion Pharma.

The remaining authors declare that they have no conflicts of interest.

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