Fixed Drug Eruption

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A 41-year-old woman with a history of endometriosis, chronic neck and back pain, and a recently diagnosed urinary tract infection (UTI) presented with 3 days of a diffuse, pruritic rash.

History. The patient had presented to an outside emergency department (ED) 2 days prior with cramping abdominal pain, nausea, and diffuse arthralgia. Urinalysis results from a sample provided during that visit were notable for 5 to 10 white blood cells (WBCs) per high-power field. She received a diagnosis of a UTI, was prescribed trimethoprim-sulfamethoxazole (TMP-SMX), the first dose of which was given in the ED, and then was discharged home.

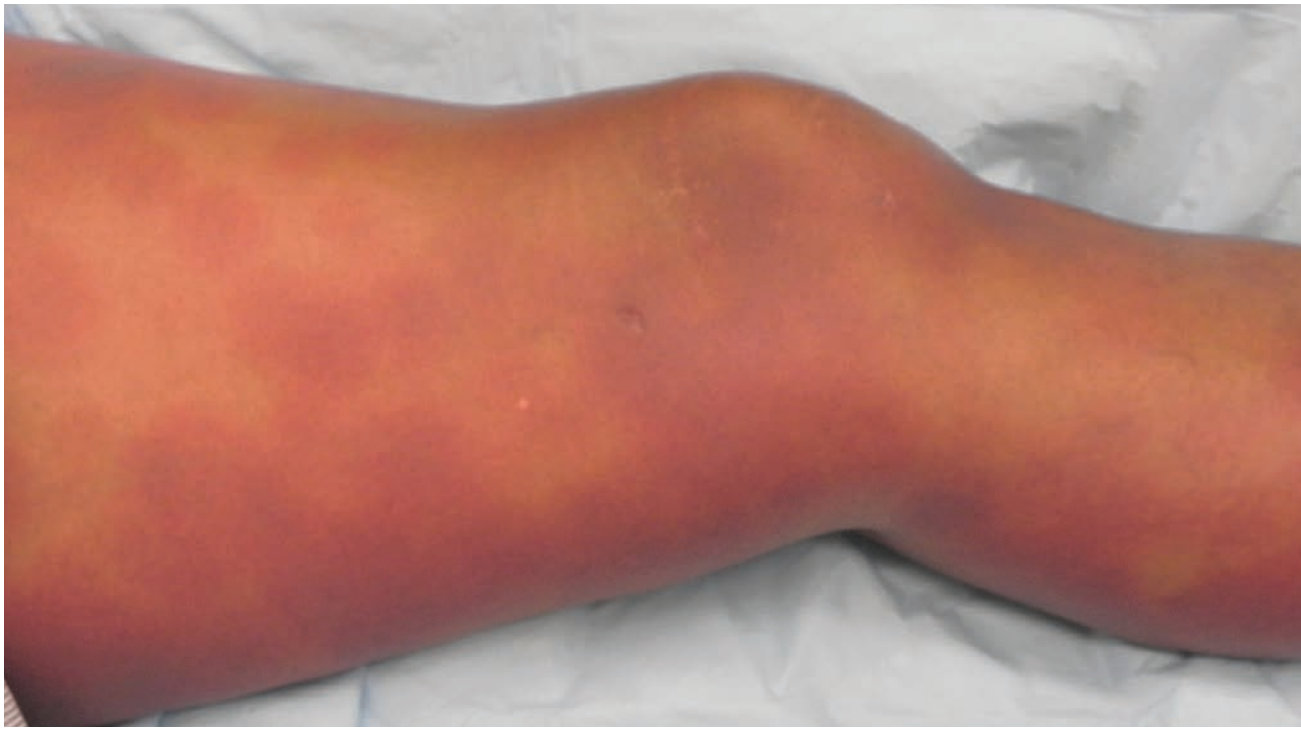
That evening, approximately 30 minutes after having taken the second dose of TMP-SMX, she developed a pruritic rash on her right hand; the rash quickly spread to involve all of her extremities, chest, back, and gluteal area. She stopped taking the antibiotic, but the rash became painful and had a burning sensation, so she returned to the outside ED the following day.

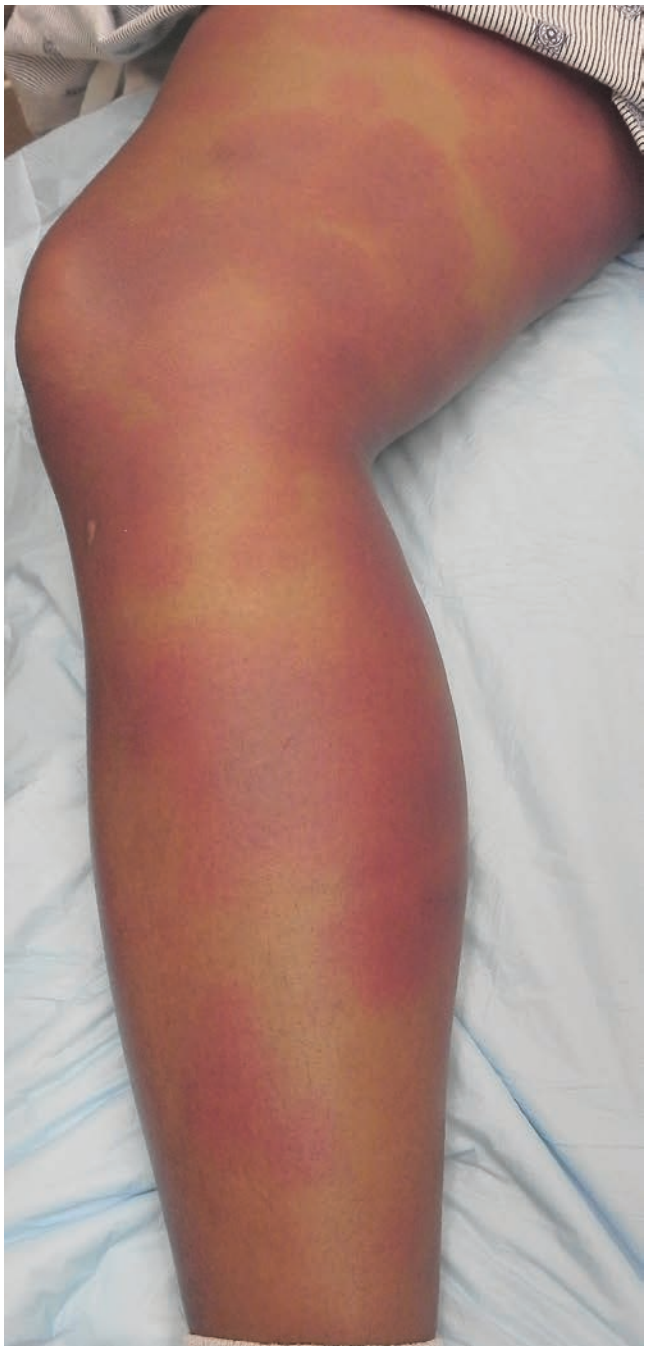
At no time did she experience respiratory tract, upper airway, or further gastrointestinal tract symptoms. She was given 20 mg intravenous (IV) famotidine, 125 mg IV methylprednisolone, and 50 mg IV diphenhydramine. She then was discharged home with prescriptions for oral cetirizine, 10 mg twice daily; oral famotidine, 20 mg twice daily; oral methylprednisolone, 4 mg once daily; and oral diphenhydramine, 25 mg every 4 hours as needed for pruritus. Still, because her rash and pain had persisted, she presented to another ED.

Physical examination. At her third ED presentation, she appeared uncomfortable but nontoxic. Her vital signs were as follows: temperature, 36.7°C; blood pressure, 103/60 mm Hg; pulse, 92 beats/min; and respiratory rate, 20 breaths/min with an oxygen saturation of 100% on room air. Physical examination findings were notable for macular purpuric lesions, some with erythematous rims, which covered approximately 80% of her body from her shoulders to her legs (**Figures**). Her skin was warm and dry, and the areas affected by the rash blanched with palpation. Her skin was diffusely tender. Her oral mucosa and conjunctivas were normal-appearing. She did not have any skin sloughing, bullae, or nodules.

Diagnostic tests. Laboratory test results were notable for a mild eosinophilia (5.9%) but no leukocytosis. She was given normal saline, methylprednisolone, and diphenhydramine, with considerable relief of her pain and pruritus, and was admitted for further symptom control and dermatology consultation.

The consulting dermatologist suspected a drug eruption, perhaps a generalized fixed drug eruption (FDE) secondary to TMP-SMX use. Erythema multiforme was included in the differential diagnosis but was thought to be less likely. The patient was discharged home after 1 day in the hospital. She was prescribed a 21-day prednisone taper and triamcinolone ointment,





0.1%, for her rash. She also was prescribed ciprofloxacin as a replacement antibiotic therapy for her UTI.

Outcome of the case. At a follow-up dermatology appointment 8 days later, the patient's lesions were noted to have flaked, sloughed, and left large areas of hypopigmented skin. She denied the development of new lesions, however. Laboratory test results at this time remained unremarkable for drug reaction with eosinophilia and systemic symptoms (DRESS syndrome). She was advised to continue use of the triamcinolone ointment only on pruritic areas.

At a follow-up dermatology visit approximately 3 months later, only a few patches of the patient's trunk and extremities remained hypopigmented. There was no further evidence of the rash, which had been attributed to an FDE resulting from the use of a sulfa drug (ie, TMP-SMX).

Discussion. Drug eruptions in general occur in 2% to 5% of inpatients and 1% of outpatients; of these cases, 16% to 21% are classified as FDEs.[1] The gender distribution is nearly equal.[1] Onset occurs as rapidly as 30 minutes or up to 8 hours after exposure to the offending agent.

FDEs most often present as an isolated lesion that is usually hyperpigmented and may have associated blistering. Approximately 20% of FDEs involve multiple body areas, as in our patient's case. The lesions typically recur in the same area with each new exposure to the drug.

The list of potential causative agents is long and includes sulfonamides, tetracyclines, nonsteroidal anti-inflammatory drugs, anticonvulsants, and muscle relaxants.[1,2] Sulfonamides and anticonvulsants account for the majority of cases of FDE, with TMP-SMX being the most common culprit.[1]

Differential diagnosis includes vasculitis, erythema multiforme, DRESS syndrome, early herpes zoster, and Stevens-Johnson syndrome. A history of similar prior rash, especially in the same location, after using one of the implicated classes of drugs helps narrow the differential.

FDEs rarely cause any laboratory test value abnormalities other than mild eosinophilia. Similarly, patients with an FDE rarely appear to be seriously ill. While there is no confirmatory laboratory test, the likelihood of other causes can be reduced somewhat by the absence of certain abnormal findings, such as normal coagulation study results, a normal WBC count, a normal or mildly elevated eosinophil count, and the absence of multiorgan involvement such as coagulopathy or kidney or liver failure.

Treatment involves discontinuation of the offending agent and symptomatic treatment, usually with topical corticosteroids and antihistamines. In more severe or refractory cases, systemic corticosteroids may be needed. If the suspected causative agent is absolutely necessary for medical management, then desensitization can be performed, but this is rarely necessary. ■

REFERENCES:

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2. Wick JY. Drug-induced rash: nuisance or threat? *Consult Pharm.* 2013;28(3):160-166.

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