

## THE CLINICAL PICTURE

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# Desquamating pustular rash

The symptoms developed 3 days after he started using ciprofloxacin eye drops



**Figure 1.** Desquamating rash over the left axilla.



**Figure 2.** Multiple pustules over the chest and abdomen.

**A** 66-YEAR-OLD MAN presented with burning pain and erythema over the left axilla, and pustules that had ruptured and crusted over. The rash also involved the right axilla, trunk, abdomen, and face.

He said the symptoms had developed 3 days after starting to use ciprofloxacin eye drops for eye redness and purulent discharge that had been diagnosed as bacterial conjunctivitis. He was taking no other new medications. He was afebrile.

He was admitted to the hospital. Examination revealed a desquamating rash over the left axilla (**Figure 1**), with multiple ruptured and crusted-over pustules over the right axilla,

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chest, and abdomen (**Figure 2**). No mucosal lesions were noted. Laboratory testing showed a white blood cell count of  $9.24 \times 10^9/L$  (reference range 4.5–11.0) with 7.8% eosinophils (0%–4%). Blood cultures were negative.

Skin biopsy study on the day after admission showed diffuse spongiosis with scattered eosinophils and a pustule beneath the stratum corneum. These findings, along with the timing and presentation of symptoms, confirmed suspicion of acute generalized exanthematous pustulosis related to the use of the eye drops.

The ciprofloxacin drops were stopped. The skin lesions were treated with emollients, topical steroids, and topical mupirocin. Improvement was noted 3 days into the hospitaliza-

tion, as the lesions started to crust over and dry up and no new lesions were forming. The conjunctivitis improved with topical bacitracin ointment and prednisolone drops.

### ■ ACUTE GENERALIZED EXANTHEMATOUS PUSTULOSIS

The differential diagnosis of drug-related acute generalized exanthematous pustulosis includes Stevens-Johnson syndrome, pustular psoriasis, folliculitis, and varicella infection. The characteristic features of the rash and lesions and the temporal relationship between the start of ciprofloxacin eye drops and the development of symptoms, combined with rapid resolution of symptoms within days after discontinuing the drops, accompanied by skin biopsy study showing diffuse spongiosis with scattered eosinophils and a subcorneal pustule, confirmed the diagnosis of AGEP.

Key features of AGEP include numerous small, sterile, nonfollicular pustules on an erythematous background with associated fever and sometimes neutrophilia and eosinophilia.<sup>1</sup> It usually begins on the face or in the intertriginous areas and then spreads to the trunk and lower limbs with rare mucosal involvement.<sup>1</sup> It can be associated with viral infections, but most reported cases are related to drug reactions.<sup>2</sup>

Our patient's case was unusual because AGEP triggered by topical medications is rarely reported, especially with ophthalmic

medications.<sup>3</sup> Drugs most commonly implicated are antibiotics including penicillins, sulfonamides, and quinolones, but other drugs such as terbinafine, diltiazem, and hydroxychloroquine have also been associated.<sup>2</sup>

AGEP may present with extensive skin desquamation, as in our patient, sometimes with bullae formation and skin sloughing manifesting as AGEP with overlapping toxic epidermal necrolysis.<sup>4</sup>

Diagnosis entails a careful review of medications, attention to lesion morphology, compatible disease course, and a high index of suspicion. Treatment is supportive and consists of stopping the offending agent, wound care, and antipyretics. Evidence for the use of steroids is weak.<sup>5</sup>

### ■ TAKE-HOME POINTS

AGEP should be considered in sudden-onset pustular desquamating erythematous rash related to use of a new medication. It is important to be aware that topical and ophthalmic medications are possible triggers. A thorough medication review should be done. Antibiotics are the most commonly implicated medications. An alternative medication should be tried. Treatment is supportive, as the condition is usually self-limiting once the offending medication is discontinued. Rarely, extensive desquamation and bullae formation may occur, which may be a manifestation of overlap features with toxic epidermal necrolysis. ■

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