

## Delayed-type hypersensitivity reaction to ethambutol and isoniazid

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### Case Report

A 24-year-old woman had recently started antitubercular therapy with isoniazid, ethambutol and rifampicin. This therapy was discontinued 2 weeks later due to an itchy, desquamative, erythematous, papular rash, with painful crusts and excoriations, spreading from the face and hands to the rest of the body. 5 days after withdrawal of all drugs, widespread desquamation and exfoliation with predilection for the body folds and the peri-orbital and peri-oral regions occurred, with swelling of the eyelids and conjunctivitis. Topical fluticasone propionate and oral cetirizine ameliorated the skin condition. The diagnosis of toxicoderma was supported by histology of the skin and an eosinophilia (31%).

After the dermatitis had subsided, patch tests were performed with ethambutol, isoniazid and rifampicin (crushed and moistened with water). These were negative at the 1st reading at D2, but positive for both ethambutol and isoniazid at D3, showing erythema and infiltration. Patch tests with ethambutol and

isoniazid were negative at D2 and D3 in 10 healthy controls.

### Discussion

Skin hypersensitivity reactions to ethambutol and isoniazid, though possible, are rare, and usually comprise morbilliform and maculopapular rashes, urticaria and pruritus (1–4). Less common are purpura (1,2) (photosensitive) lichenoid reactions (5–7), bullous skin reactions (8), including Stevens–Johnson syndrome (9) and toxic epidermal necrolysis (TEN), acute generalized exanthematous pustulosis (AGEP) (10) and severe exfoliative dermatitis (1,11). Isoniazid has also been reported to cause flushing, pellagra and acneiform eruptions.

Cutaneous reactions in patients on antitubercular therapy are often difficult to diagnose, as several drugs are taken simultaneously. In severe reactions like exfoliative dermatitis oral provocation tests are not recommended. Although epi- and intracutaneous tests are frequently negative, epicutaneous tests can sometimes give valuable information.

Cutaneous hypersensitivity to several antitubercular agents in one patient has been described before (12). To our knowledge, this is the 1st patient with a cutaneous reaction to 2 different antitubercular drugs in which the allergic nature was confirmed by positive patch tests to both drugs. These findings indicate that both drugs are directly involved in the skin hypersensitivity reaction, rather than their metabolites.

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