

REFERENCES

1. Peller JS, Bardana EJ. Anaphylactoid reaction to corticosteroids: case report and review of the literature. *Ann Allergy* 1985;54:302-5.
2. Preuss L. Allergic reactions to systemic glucocorticoids: a review. *Ann Allergy* 1985;55:772-5.
3. Doms-Gossens A, Morren M. Result of routine patch testing with corticosteroids: series in 2073 patients. *Contact Dermatitis* 1992;26:182-91.
4. Szczeklik A, Nizankowska E, Czerniawska-Mysik G, Sek S. Hydrocortisone and airflow impairment in aspirin-induced asthma. *J Allergy Clin Immunol* 1985;76:530-6.
5. Dajani BM, Sliman NA, Shubair KS, Hamzeh YS. Bronchospasm caused by intravenous hydrocortisone sodium succinate (Solu-Cortef) in aspirin-sensitive asthmatics. *J Allergy Clin Immunol* 1981;68:201-4.
6. Rasanen I, Hasan T. Allergy to systemic and intralesional corticosteroids. *Br J Dermatol* 1993;128:407-11.
7. Mendelson LM, Meltzer EO, Hamburger RN. Anaphylaxis-like reactions to corticosteroid therapy. *J Allergy Clin Immunol* 1974;54:125-31.
8. Coopmans S, Degreef H, Doms-Gossens A. Identification of cross-reaction patterns in allergic contact dermatitis from topical corticosteroids. *Br J Dermatol* 1989;121:27-34.

Successful desensitization for treatment of a fixed drug eruption to allopurinol

John M. Kelso, MD, and Richard M. Keating, MD *San Diego, Calif.*

Fixed drug eruption is the term used to describe a lesion of the skin or mucous membranes that occurs with administration of a drug, subsides when the drug is withdrawn, and recurs at the same location when the drug is reintroduced.¹ We report the case of a man who had a fixed drug eruption on several previous occasions when given allopurinol for treatment of hyperuricemia. In an attempt to readminister this drug without recurrence of the lesion, a desensitization protocol was followed. This protocol was previously described for a more generalized rash caused by allopurinol.²

CASE REPORT

The patient is a 71-year-old man with multiple medical problems including diabetes, coronary artery

disease, hypertension, atrial fibrillation, chronic renal insufficiency, and polyarticular, tophaceous gout. He had been treated for hyperuricemia for several years with allopurinol without side effects. About 5 years ago, the medication had been discontinued briefly. When it was restarted, a red, raised, weeping lesion developed on the glans penis. The allopurinol was discontinued, and the lesion resolved. On at least two subsequent occasions, most recently about 1 year ago, the allopurinol had been readministered, and a lesion of the same description occurred in exactly the same location within about 2 days. It resolved over several days after the medication was stopped.

The patient's gout remained poorly controlled, requiring frequent bursts of prednisone, as well as long-term prophylaxis with prednisone at a dose of 10 mg/day. Therefore an additional attempt was made to administer allopurinol according to a desensitization schedule, with the hope that the drug could be reintroduced without recurrence of the fixed drug eruption.

The patient began receiving allopurinol at a dose of 50 µg/day for 3 days. The dose was then increased to 100 µg and, at subsequent 3 day intervals, to 200 µg, 500 µg, 1 mg, 5 mg, 10 mg, 25 mg, 50 mg, and finally 100 mg. He continued to receive prednisone, 10 mg/day, during the desensitization and for about a month after achieving his maintenance allopurinol dose of 100 mg/day. The prednisone was subsequently discontinued. The patient had no recurrence of his fixed drug eruption during or after the allopurinol desensitization.

From the Internal Medicine Department (Divisions of Allergy and Rheumatology) and the Clinical Investigation Department, Naval Medical Center, San Diego.

The Chief, Navy Bureau of Medicine and Surgery, Washington, DC, Clinical Investigation Program sponsored this report no. 84-16-1968-545, as required by HSETCINST 6000.41A. The views expressed in this article are those of the authors and do not reflect the official policy or position of the Department of the Navy, Department of Defense, or the U.S. Government.

Reprint requests: CDR J. M. Kelso, MC, USN, c/o Clinical Investigation Department, Naval Medical Center, San Diego, CA 92134-5000.

J Allergy Clin Immunol 1996;97:1171-2.

1/54/70345

DISCUSSION

Fixed drug eruptions have been reported with the administration of many drugs,¹ and the glans penis is a common location for such lesions.³ The lesion begins as a red macule, which evolves into an edematous plaque. Vesicles and crusting may develop. As the lesion resolves, residual hyperpigmentation remains and may become more pronounced with subsequent flares.¹ The pathophysiology of these lesions is unknown, but presumably it is immune-mediated and may involve dysregulation of intercellular adhesion molecule-1.⁴ Treatment is discontinuation and subsequent avoidance of the causative drug.

Our patient had a classic fixed drug eruption on several occasions while taking allopurinol, which resolved when the drug was withdrawn and recurred in the same location when it was readministered. By following a desensitization schedule, beginning with very low doses of drug and increasing the dose every 3 days, a therapeutic dose was achieved in about 4 weeks. The lesion did not recur. We are aware of only one previous report of allopurinol causing fixed drug eruption, which also involved a desensitization.⁵ The drug's brand name manufacturer had received no previous direct reports of this phenomenon (personal communication, Drug Information Department, Burroughs-Wellcome).

Our patient was receiving low-dose prednisone during his desensitization, and this may have enhanced his ability to tolerate the protocol without development of a fixed drug eruption. However, the prednisone has subsequently been discontin-

ued without recurrence of the lesion. Some authors have reported a refractory period in a few patients with fixed drug eruption.⁶ However, this seems unlikely in our patient, given the quick recurrence of his lesion on several previous occasions.

In conclusion, we report a man who had a classic fixed drug eruption in response to allopurinol, who had the drug successfully reintroduced, after a desensitization protocol, without the development of the lesion. We suggest that this approach may be useful in other patients who have had fixed drug eruptions to medications they subsequently need to receive.

We thank Margaret Cording, RPh, for assistance with the preparation of allopurinol doses used in the desensitization.

REFERENCES

1. Sehgal VN, Gangwani OP. Fixed drug eruption. *Int J Dermatol* 1987;26:67-74.
2. Fam AG, Lewtas J, Stein J, Paton TW. Desensitization to allopurinol in patients with gout and cutaneous reactions. *Am J Med* 1992;93:299-302.
3. Abdul Gaffoor PM, George WM. Fixed drug eruptions occurring on the male genitals. *Cutis* 1990;45:242-4.
4. Shiohara P, Nickoloff BJ, Sagawa Y, et al. Fixed drug eruption. *Arch Dermatol* 1989;125:1371-6.
5. Audicana M, Echechipia S, Fernandez E, Urrutia I. Desensitization in a case of fixed drug eruption from allopurinol [Abstract]. *Clin Exp Allergy* 1990;20:21.
6. Kanwar AJ, Bharija SC, Singh M, Belhaj MS. Ninety-eight fixed drug eruptions with provocation tests. *Dermatologica* 1988;177:274-9.