Letter to the Editor

Re: A case of generalized granuloma annulare responding to hydroxychloroquine

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Editor—

We read with great interest the recent contribution of Drs. Carlin and Ratz suggesting the use of hydroxychloroquine for the treatment of generalized granuloma annulare.[1] According to the case report, the patient was first treated with orally administered niacinamide (100 mg, three times daily) in the hope that this agent would suppress T-cell function and thereby alleviate the inflammatory nature of this dermatosis. While we agree with the choice of niacinamide in this situation, we believe its potential benefits may have been minimized by the dosage employed.

Previously, Ma and Medenica[2] reported the successful use of orally administered niacinamide in a patient with disseminated granuloma annulare. Treatment was initiated with a regimen of 0.4 g daily. However, after three months of therapy without significant beneficial response, the dosage was increased to 1.5 g/day, and over the next six months, the lesions faded. When the patient's daily dosage was tapered to 0.9 g, the granuloma annulare recurred. Therefore, the dosage of 1.5 g/day was reinstituted. Once again the lesions gradually disappeared.

Indeed, our experience with high-dose niacinamide (greater than 1.5 g/day) in the treatment of generalized granuloma annulare may not be unique to this disease. Other inflammatory dermatoses, such as erythema elevatum diutinum,[3] bullous pemphigoid,[4] and polymorphous light eruption[5] have also responded to orally administered niacinamide. In some instances, tetracycline, also administered orally, may be used to augment the anti-inflammatory effect of niacinamide. We have recently seen the benefit of the combined use of these agents in a patient with linear IgA bullous dermatosis. In the latter case, as well as in others,[2,5] flares of the dermatoses under treatment occurred when the daily dosage of niacinamide was reduced below 1.5 g.

The action of niacinamide may derive from its ability to stabilize mast cells, to decrease leukocyte protease release, or to inhibit leukocyte lysosomal enzyme secretion.[4] It is remarkably well tolerated in large doses; up to 3 g daily have been used without untoward effects, while others have reported only mild reactions such as fatigue, headache, flushing, and facial erythema when as much as 6.0 g/day was given[6,7] Acanthosis nigricans is an uncommon cutaneous reaction to this medication.[8] Serious side effects, such as hepatotoxicity, are uncommon.[7,9]

We suggest that the use of high-dose niacinamide may be helpful in the treatment of a variety of inflammatory dermatoses, among which we would include generalized granuloma annulare. Moreover, it must be expected that a therapeutic response to this agent may require several months of treatment before becoming apparent.

References

1. Carlin MC, Ratz JL. A case of generalized granuloma annulare responding to hydroxychloroquine. Cleve Clin J Med 1987; **54:**229–232.
2. Ma A, Medenica M. Response of generalized granuloma annulare to high-dose niacinamide. Arch Dermatol 1983; **119:**836–839.
3. Kohler IK, Lorincz AL. Erythema elevatum diutinum treated with niacinamide and tetracycline. Arch Dermatol 1980; **116:**693–695.
4. Berk MA, Lorincz AL. The treatment of bullous pemphigoid with tetracycline and niacinamide: a preliminary report. Arch Dermatol 1986; **122:**670–674.
5. Neumann R, Rappold E, Pohl-Markl H. Treatment of polymorphous light eruption with nicotinamide: a pilot study. Br J Dermatol 1986; **115:**77–80.
6. Zackheim HS, Vasily DB, Westphal ML, Hastings CW. Reactions to niacinamide (letter). J Am Acad Dermatol 1981; **4:**736–737.
7. Hoffer A. Safety, side effects and relative lack of toxicity of nicotinic acid and nicotinamide. Schizophrenia 1969; **1:**78–87.
8. Papa CM. Niacinamide and acanthosis nigricans (letter). Arch Dermatol 1984; **120:**1281.
9. Winter SL, Boyer JL. Hepatic toxicity from large doses of vitamin B_3 (nicotinamide). N Engl J Med 1973; **289:**1180–1182.

Cleve Clin J Med 1988; **55:**117