Correspondence

Hypersensitivity to systemic corticosteroids in aspirin-sensitive patients with asthma

To the Editor:

In their interesting report, Rachid et al¹ describe the group of 15 patients, mostly children, who developed hypersensitivity reactions to systemic steroids. Of note, one of their patients had “allergy to aspirin and paracetamol,” another “allergy to nonsteroidal anti-inflammatory drugs (NSAIDs).” Hypersensitivity to NSAIDs in patients with asthma appears to be sporadically associated with idiosyncratic reaction to hydrocortisone.² A severe airflow obstruction was described in 2 aspirin-intolerant

asthmatic (AIA) patients within a few minutes after injection of 100 or 200 mg of hydrocortisone; one of the reactions was almost fatal.³ In 3 of 11 AIA patients, dyspnea and fall in spirometric values, beginning 3 to 5 minutes after intravenous injection of 100 mg of hydrocortisone, but not after saline or hydrocortisone solvent, was reported.⁴ Feigenbaum et al⁵ observed bronchospasm and naso-ocular reaction to hydrocortisone succinate in 1 of 45 challenged AIA subjects,⁵ who also reacted to methylprednisolone succinate. Aspirin desensitization did not prevent these reactions. In 31 AIA patients, a systematic study⁶ of the effects of intravenous bolus of 300 mg of hydrocortisone revealed a significant fall in FEV₁ 5 minutes after the injection. Only 3 of these 31 patients displayed clinical signs of bronchoconstriction. The patients tolerated well intravenous injections of hydrocortisone solvent, as well as intravenous injections of 20 mg of methylprednisone sodium phosphate and 4 mg of betamethasone sodium phosphate.⁵

The mechanism of these reactions is unknown. An interesting explanation was suggested by Taniguchi and Sato,⁷ who challenged a group of 20 aspirin-sensitive asthmatic patients with various glucocorticosteroid esters and observed cross-sensitivity with succinate esters. Accordingly, bronchoconstriction could be precipitated by succinate salts of both hydrocortisone and methylprednisone, but not by the phosphate salts.

Irrespective of its mode of action, hydrocortisone therapy should be used with caution in AIA patients. In several patients, it produces transient and clinically irrelevant impairment of airflow, but it can also lead to a manifest bronchoconstriction. It is, therefore, advisable to use other steroids in AIA patients, preferably nonsuccinate salts.

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Disclosure of potential conflict of interest: The author has declared that he has no conflict of interest.

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Available online June 23, 2011.
doi:10.1016/j.jaci.2011.05.026