Recurrent Angioedema Following Repeat Exposure to NSAID

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To the Editor:

We report a case of a woman who experienced recurrent angioedema following repeat exposure to Ibuprofen. There is a paucity of literature regarding repeat angioedema and nonsteroidal anti-inflammatory (NSAID) use.

Case Report

A 28-year-old Hispanic woman presented to the emergency department (ED) with itching, hives, and lip swelling after taking a dose of ibuprofen for her headache. She called emergency medical service (EMS) after 100 mg of oral diphenhydramine, which did not improve her symptoms. In the ambulance, the patient was given 0.3 mg intramuscular epinephrine and received a second dose in the ED along with methylprednisolone 125 mg intravenously (IV), famotidine 20 mg IV, and 2-L bolus of crystalloid. On examination, she was tachycardic, tachypneic, and her oxygen saturation was 100% on ambient air. She described dyspnea and itching in her throat. There was angioedema of the upper lip, lower lip, and periorbital swelling. Following hospitalization in the intensive care unit, she reported a similar reaction 2 months prior when taking ibuprofen for postpartum discomfort. The patient was admitted for observation and discharged the next day once the angioedema resolved.

Discussion

Angioedema is deep edema within dermal and subcutaneous tissues that may also involve respiratory and gastrointestinal mucous membranes. It may present as a life-threatening reaction.¹ Its pathophysiology involves a release of local mediators such as histamine and/or bradykinin, which cause an increase in permeability of subcutaneous or submucosal capillaries. Histamine-induced angioedema is a hypersensitivity reaction to various foods, drugs, insect bites, or environmental allergens. Common medications that can induce angioedema are angiotensin-converting enzyme inhibitors, aspirin, NSAIDs, bupropion, and antibiotics. It has been reported that NSAID-induced angioedema has a prevalence of 0.1% to 0.3% in the general population and that ibuprofen (57%) is the most common NSAID responsible angioedema compared to naproxen (4.8%) and diclofenac (9.5%).^{2,3}

This case report regarding angioedema to ibuprofen is different from previous case reports given our patient's prior reaction and she was informed not to take any further ibuprofen. Taking in consideration the Naranjo probability

criteria with a score of 10, ibuprofen ingestion seems to be strongly correlated to a definite cause of angioedema in our patient.⁴ There was a previous conclusive reaction and the adverse event appeared when the patient took the suspected drug. Importantly, the second episode of angioedema may have been prevented with patient education regarding combination products, which contain ibuprofen, as well as proper utilization of epinephrine syringe device (EpiPen). The patient stated she attempted to use her epinephrine at home prior to calling EMS but could not get it to work. As health care professionals, we should be aware of communication barriers and lack of understanding regarding drug composition of over-the-counter medications and new prescriptions. Notably, during the counseling visit with a clinical pharmacist prior to discharge, it was determined that the patient had not taken the cap off the epinephrine syringe (EpiPen) when she was attempting to use it at home. The patient was provided instructions and further demonstration regarding the appropriate use of this medication should she have a repeat episode of angioedema. The patient was advised to read all over-the-counter medication labels carefully and to ask questions and seek help from healthcare professionals for further clarification.

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