

Ibuprofen Induced Angioedema and Urticaria : A Case Report

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ABSTRACT

Non-steroidal anti-inflammatory drugs (NSAID) are among the most frequently administered drugs, mainly for their anti-pyretic, but also for pain-relieving and anti-inflammatory effects.¹ Symptoms associated with immune-mediated reactions are usually drug specific and include: bronchospasm, rhinitis and conjunctivitis; angioedema and urticaria; and anaphylaxis.² Prompt recognition and immediate cessation of the culprit drug, along with the administration of corticosteroids and antihistamines, are essential. Here, we report a case of angioedema and urticaria caused by ibuprofen administration, which needs prompt vigilance and a rapid therapeutic response.³

Keywords: Ibuprofen, Angioedema, Urticaria

INTRODUCTION

Non-steroidal anti-inflammatory drugs (NSAID) are among the most frequently administered drugs, mainly for their anti-pyretic, but also for pain-relieving and anti-inflammatory effects in children. NSAIDs act by competing with arachidonic acid to bind its site of action on a COX enzyme, leading to a reduction in the synthesis of prostaglandins and thromboxane in the arachidonic acid pathway. There are two well-known COX isoenzymes named as COX-I and COX-II.¹ Hypersensitivity reactions to NSAIDs may involve immunological and non-immunological mechanisms. Immune-mediated reactions are particularly rare and may be IgE or non-IgE mediated.²

Case Report

A 17-year-old female came to our hospital emergency unit with complaints of swelling of both eyelids and reddish spots on the face and neck (Figure 1) and (Figure 2,3,4) reddish spots on the arms and legs experienced 5 hours ago. The picture shows the patient's condition at the time of admission. The patient's history shows the administration of ibuprofen tablets via the oral route. Previously, the patient reported to the pharmacy today with complaints of headache and fever. History of cough and flu 3 days ago. She bought Ibuprofen in a dose of 400 mg. Symptoms began to appear 3-5 hours after taking the drug. The patient had no history of similar complaints in the past. There was a history of allergic dust disorders (allergic rhinitis). There was no history of allergy to drugs. The patient had no family history of angioedema. The patient was not taking other drugs. There was no history of asthma. Physical examination was normal except for swelling of both eyelids and reddish spots on the face, neck, arms and legs. Ibuprofen tablets were discontinued. The patient was treated with corticosteroids and antihistamines. The patient showed a good response to treatment and the swelling decreased within 3 hours. Laboratory tests were normal.



Fig. 1 Bilateral angioedema involving both of the upper eyelid and Wheals with pale, central swelling and surrounding epidermal erythema on the face and neck



Fig. 2,3,4 Wheals with pale, central swelling and surrounding epidermal erythema on the arms and legs

DISCUSSION

Nonsteroidal anti-inflammatory drugs (NSAIDs) are the most frequently prescribed drug class in the world. Although NSAIDs are generally well tolerated, they may induce a large spectrum of adverse reactions, some of which are potentially fatal. Urticaria/angioedema is the most common adverse reaction induced by NSAIDs seen by allergologists and probably represents the most frequent drug-induced skin disorder; it has been estimated that it occurs in 0.1 to 0.3% of subjects exposed to NSAIDs.⁴

Ibuprofen is a phenyl propionic acid derivative, used as antipyretic and analgesic drug. inferior as antiinflammatory. It can be used as single or in combination.⁵ Like all NSAIDs, ibuprofen inhibits the activity of cyclooxygenase (COX) which, by oxidizing arachidonic acid released from cell membrane phospholipids, produces prostaglandins, autacoids that play a key role in the pathogenesis of

inflammation, fever and nociception. At present, we know that there are two isoforms of COX (COX-1 and COX-2), which have different active sites for arachidonic acid and, therefore, different sensitivities to inhibition by each NSAID.⁶

Urticaria is a common disorder, occurring in 15–25% of individuals at some point in life. It is characterized by recurrent, pruritic, wheals with pale, central swelling and surrounding epidermal erythema which can appear over any part of the body. The lesions can range in size from a few millimeters to several centimeters in diameter, and are often transient, resolving within about 24 h without scarring; however, some lesions may last up to 48 h. Approximately 40% of patients with urticaria also experience angioedema (swelling that occurs beneath the skin).⁷

Angioedema is a localized swelling of the skin and mucous membranes of the face, lips, mouth, throat, larynx, extremities, and genitalia. It can become life threatening when involving the airways causing airway obstruction. The onset occurs within minutes to hours and resolves in 24 to 48 hours without any sequelae.⁸

Conclusions

In summary, recent studies have shown that NSAIDs, namely Ibuprofen, are widely prescribed by physicians and are also popular over-the-counter medications. Physicians should be suspicious if such reactions occur during therapy involving Ibuprofen and should carefully evaluate drug-related reactions. Not only mild skin reactions, namely redness and swelling of the face or eyelids and lips, but also severe respiratory symptoms and anaphylaxis can occur with NSAID use. It is important to identify and document skin reactions in the patient's records and explain to the patient properly not to use the drug so that recurrence can be avoided in the future. The diagnostic approach also includes determining alternative treatments.

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