



Ibuprofen-Induced Unilateral Eyelid Angioedema

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Abstract

The excessive and frequent use of NSAIDs in the present times has resulted in an increase of NSAID induced drug hypersensitivity reactions. The patients commonly present with urticaria or angioedema like reactions. Complications like airway obstruction may require timely intervention for better patient outcomes. Anti-histaminics are the mainstay of treatment for mild cases of acute urticaria or angioedema. We describe a rare presentation of ibuprofen induced localised unilateral eyelid angioedema.

Keywords: Angioedema; Cyclooxygenase-1; Hypersensitivity; Ibuprofen; Urticaria.

Introduction

Nonsteroidal anti-inflammatory drugs (NSAIDs) are the most commonly used analgesic, anti-inflammatory, and anti-pyretics. NSAIDs-induced urticaria and angioedema reaction is commonly encountered drug hypersensitivity reaction in clinical practice.^[1] NSAIDs can lead to allergic reactions in the form of rhinitis, conjunctivitis, bronchospasm, urticaria, angioedema, and anaphylaxis. These patients present with urticaria and/or angioedema after consumption of NSAID, but they do not have underlying chronic urticaria.^[2] We herein present a 13 year old male with ibuprofen-induced isolated unilateral eyelid angioedema.

Case Report

A 13 year old male child presented with unilateral swelling of the left upper eyelid. There was a

history of trauma over his right leg while playing for which he was prescribed oral ibuprofen by the doctor for symptomatic relief. His father noticed swelling on left upper eyelid after 12 hours of the last dose of ibuprofen. He was immediately brought to the hospital. The father denied any history of insect bite, chronic urticaria or allergic disease. On examination, there was a unilateral diffuse oedema involving the upper eyelid of the left eye. The ocular movements and the visual acuity were normal in both eyes. On the basis of history and clinical examination the diagnosis of ibuprofen induced upper eyelid angioedema was made (Figure1). The patient was hence advised to discontinue ibuprofen immediately and was treated with oral fexofenadine 180mg and tab levocetirizine 5mg after dinner. The angioedema resolved within 8 hours.



Figure 1- Unilateral angioedema involving the left upper eyelid

Discussion

Nonsteroidal anti-inflammatory drugs (NSAIDs) are the most commonly prescribed class of drugs in the world and therefore, the intolerance rate with them is quite high. Because of the easy availability as both prescription and OTC drugs, they are widely consumed daily across the world. Their excessive use comes with a variety of adverse effects ranging from gastrointestinal irritation to severe, life threatening anaphylaxis. Urticaria, angioedema, and anaphylaxis are common adverse reactions seen with ingestion of NSAIDs. The pathogenic mechanism for NSAIDs intolerance is not clearly understood.^[3] The prevalence of urticaria and angioedema to NSAIDs has been reported to be 0.1% to 0.3% worldwide.^[4]

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. Angioedema without urticaria is the clinical syndrome that can be caused by an adverse drug reaction. Angioedema involves the deeper layers of skin whereas urticaria frequently affects the superficial dermis. The clinical history remains an integral part in the evaluation of NSAID induced allergy. It should include the details of symptoms, onset of reaction in relation to causative agent, duration since reaction or any drug consumption since the reaction.

In an Italian study, NSAIDs were causative agents in 33.6% of patients with drug-induced angioedema.^[5] Another study by Leeyaphan et al reported that 50% of patients with drug-induced angioedema resulted from NSAIDs, commonly with ibuprofen and diclofenac.^[6] Angioedema is due to overproduction of leukotrienes as a result of inhibition of cyclooxygenase 1 and possibly IgE-mediated reactions to single drugs.^[7,8,9] However, localized unilateral eyelid angioedema with NSAIDs is rare. The exact mechanism of localized eyelid edema is yet unclear.^[10] Treatment of angioedema involves administration of anti-allergics, anti-histaminics, corticosteroids along with discontinuation of the causative agent.

Conclusion

NSAIDs are the most common class of drugs with allergic reactions. Its incidence has increased in a few decades due to excessive usage.

Administration of NSAIDs should be done carefully in children since it can be life threatening in some cases. Timely diagnosis is crucial for patient safety. The mainstay is to discontinue the causative agent, initiation of an alternating agent along with supportive care and anti-allergics.

References

1. Laidlaw TM, Cahill KN. Current knowledge and management of hypersensitivity to aspirin and NSAIDs. *J Allergy Clin Immunol Pract.* 2017;5(3): 537-545.
2. Mehmet Ali, Sercon Aksoy. Flurbiprofen - induced unilateral eyelid angioedema. *Cutis.* 2014;94(4):12-13.
3. Nettis E, Colanardi MC, Ferrannini A, et al. Update on sensitivity to nonsteroidal anti-inflammatory drugs. *Curr Drug Targets Immune Endocr Metabol Disord.* 2001;1:233-240.
4. Kulthanan K, Jiamton S, Boochangkool K, et al. Angioedema: clinical and etiological

- aspects. Clin Dev Immunol. 2007;2007:26438.
5. Cutaneous reactions to analgesic-antipyretics and nonsteroidal anti-inflammatory drugs. Analysis of reports to the spontaneous reporting system of the Gruppo Italiano Studi Epidemiologici in Dermatologia. Dermatology. 1993;186:164-169.
 6. Leeyaphan C, Kulthanan K, Jongjarearnprasert K, et al. Drug-induced angioedema without urticaria: prevalence and clinical features [published online ahead of print November 17, 2009]. J Eur Acad Dermatol Venereol. 2010;24:685-691.
 7. Stevenson OE, Finch TM. Allergic contact dermatitis from rectified camphor oil in Earex ear drops.
 8. Kaplan AP. Angioedema. World Allergy Organ J. 2008;1(6):103-113.
 9. Depetri F, Tedeschi A, Cugno M. Angioedema and emergency medicine: from pathophysiology to diagnosis and treatment. Eur J Intern Med. 2019;59(May):8-13.
 10. Tsuruta D, Oshimo T, Sowa J, et al. Unilateral eyelid angioedema with congestion of the right bulbar conjunctiva due to loxoprofen sodium. Cutis. 2011;87:41-43.