



NSAIDs induced Angioedema – A Case Report

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Abstract

Angioedema is painless swelling under the skin which is triggered by an allergy. It is broadly classified into acquired and inherited types which includes histaminergic, non-histaminergic, drug induced, complement mediated and idiopathic type. Drug induced angioedema is usually elicited by Beta lactam antibiotics, Non-Steroidal Anti-inflammatory Drug and Angiotensin converting enzyme Inhibitors. NSAIDs prove to be highly effective in managing dental pain. NSAIDs induced angioedema is seen in <0.3% patients. This case report highlights a rare incidence of development of peri-orbital swelling in a 27-year-old systemically healthy female on intake of Ketorolac following surgical extraction of an impacted mandibular 3rd molar.

Keywords: Angioedema, Non-Steroidal Anti-inflammatory Drug, Dental Extraction, Periorbital, Ketorolac

Case study

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1. Introduction

Angioedema is a self-limited, localized, non-pitting edema that usually involves the deep dermal, subcutaneous, and/or submucosal layers of the face, lips, neck, oral cavity, extremities and/or gut [1,2]. It was first described in 1882 by Quincke [1]. It is broadly classified into acquired and inherited types which includes histaminergic, non-histaminergic, drug induced, complement mediated and idiopathic types [1]. Drug induced angioedema is usually elicited by Beta lactam antibiotics, NSAIDs and Angiotensin converting enzyme Inhibitors [2]. NSAIDs prove to be highly effective in managing dental pain [3]. NSAIDs induced angioedema is seen in <0.3% patients taking it [4]. This case report highlights a rare incidence of development of peri-orbital swelling in a 27-year-old systemically healthy female on intake of Ketorolac following surgical extraction of an impacted mandibular 3rd molar.

2. Case report

A 27-year-old systemically healthy female reported to the clinic with a chief complaint of pain in her lower right back tooth. Clinical and radiographic examination revealed a mesio-angular impacted 48. The tooth was surgically extracted under local anaesthesia. There were no complications noted during the procedure. Post operative

course of Amoxicillin, Metronidazole and Ketorolac was given to manage pain and prevent infection. The patient reported back after 24 hours for review, during which she showed periorbital, non-pitting edema around her left eye. The patient was immediately asked to discontinue Ketorolac post which the swelling subsided.

3. Discussions

NSAIDs are one of the most commonly prescribe analgesics and anti-inflammatory drugs. Angioedema is one most the common clinical manifestation in NSAIDs induced hypersensitivity [5]. The pathogenesis of this type may be non-immunological or immunological in nature [6]. Non immunological pathway includes production of cysteine leukotrienes and inhibition of production of prostaglandin E2 due to inhibition of COX-1 [1,2,5], and immunological variant is usually an IgE mediated reaction [1]. This leads to increased vascular permeability, fluid extravasation leading to edema commonly involving the face [7]. This type of angioedema may be accompanied by cutaneous reaction such as urticaria and respiratory symptoms such as breathlessness, rhinorrhoea, hoarseness and cough [8]. These reactions may start to occur within minutes after consumption of the drug or may up to take few hours post ingestion. The time taken to develop the symptoms depends on the type of reaction, i.e., whether it is single or multiple NSAIDs induced cross-

reactive variant [6]. Timely diagnosis is key to treat the patients appropriately. Initial clinical examination of the vital signs, level of consciousness and respiratory system is to be done along with periodic monitoring of the oxygen saturation and cardiac status [1], detailed history of previous episodes (if

any), known allergies, drug intake history is to be recorded [2]. Oral challenge to NSAIDs may be done under controlled hospital environments to find the causative NSAID [8].



Figure 1. OPG revealing mesio-angular impacted 48



Figure 2. Peri-orbital edema noted around left eye



Figure 3. Edema subsided post discontinuation of ketorolac

Management of the angioedema depends on the etiologic NSAID. If it is a single reactor variant and the oral drug challenge of an unrelated NSAID turns out negative, proceed treatment with the unrelated NSAID and discontinue this drug. In case of cross reactors, either use a weak COX-1 inhibitor or perform an oral challenge with COX-2 inhibitor. If the result is negative and no reaction is seen continue with this new NSAID, if a reaction is noted avoid all NSAIDs^[8]. Complications such as acute laryngeal, pharyngeal edema, tongue swelling or critical airway occlusion leading to death can occur if the condition is not treated promptly^[1].

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4. Conclusions

NSAIDs induced angioedema may be rare in occurrence but its life-threatening complications makes it important for physicians to diagnose it and provide appropriate treatment immediately. Recording proper patient history and performing allergy testing on patients with predisposing factors might help prevent the occurrence of the reaction

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