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Case Report

DICLOFENAC INDUCED ANGIOEDEMA: A CASE REPORT

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ABSTRACT

Non-steroidal anti-inflammatory drugs (NSAIDs) are one of the most commonly prescribed groups of drugs for variety of indications. However, they are associated with many potential adverse drug reactions. The detailed information of these reactions is necessary to decrease the morbidity and mortality associated with these reactions. Angioedema can be caused by many etiological factors including drugs. The NSAID induced angioedema occurs infrequently but sometimes it may prove fatal if not treated promptly. The angioedema due to NSAIDs use may be caused due to increase in production of Leukotriene due block in cyclooxygenase pathway. The mast cells and to lesser extent basophils plays a major role in pathogenesis of angioedema. Early recognition and discontinuation of responsible NSAIDs should be done. Treatment with corticosteroids and antihistaminic is useful in management of angioedema. The author reports a case of a patient with angioedema in association with use of Diclofenac.

Keywords: Angioedema, Diclofenac, Non-steroidal anti-inflammatory drugs, Leukotrienes.

INTRODUCTION

Angioedema is an abrupt localized swelling of the skin and mucous membranes of the face, lips, mouth, throat, larynx, extremities and genitalia [1]. Angioedema can be caused by diverse etiological factors such as food allergies, environmental allergens, drugs etc., Many drugs are known to cause angioedema. Non-steroidal anti-inflammatory drugs (NSAIDs) are one of the most commonly prescribed groups of drugs for variety of indications ranging from acute pain to chronic condition like rheumatoid arthritis etc., for their analgesic and anti-inflammatory effects. However, NSAIDs also have many potential adverse reactions and NSAID induced angioedema occurs infrequently. Sometimes angioedema may prove fatal if not treated promptly. Herewith we are reporting a case of diclofenac induced angioedema necessitating hospitalization.

CASE REPORT

A 40-year-old man reported to emergency department of our hospital with complaint of difficulty in breathing, hoarseness of voice and swelling of face and lip. The Fig. 1 shows the condition of patient at the time of admission. The history revealed administration of tablet diclofenac sustained release by oral route. Previously the patient was reported in outpatient department on the same day morning with chief complaint of pain in left upper quadrant and was prescribed tab. Diclofenac and tab ranitidine. The diclofenac was given in doses of 100 mg OD sustained release formulation. Patient did not take tablet ranitidine as it was not available. The symptoms start 3-4 hrs after the ingestion of drug. The swelling predominantly involving face was the first symptom followed by hoarseness of voice and difficulty in breathing. The swelling was not associated with itching or urticaria and was skin colored. The Patient has no history of similar complaint in past. No history of any allergic disorder or allergy to medication. Patient had no family history of angioedema. Patient was not on any other medication.

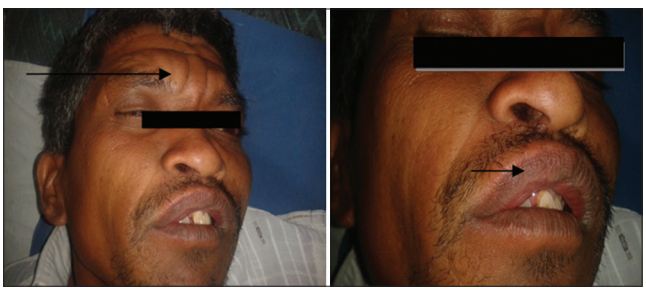

Fig. 1: Diclofenac induced angioedema

Physical examination was normal except for swelling of the face, lip and shortness of breath. The tablet diclofenac was discontinued. Patient was treated with corticosteroids and antihistaminics. The patient showed good response to treatment and swelling decreased within 6 hrs. The patient recovered thereafter. The causality was assessed by Naranjo's algorithm [2]. The reaction comes under "possible" category. The severity and preventability were assessed by Hartwig Siegel and Modified Schumock Thornton Scale respectively. The reaction was found to be Moderate and non-preventable [3,4].

Laboratory investigations were normal. The chest X-ray posteroanterior view did not reveal any abnormality. The X-ray of neck region lateral view showed slight soft tissue edema which decreased after treatment.

DISCUSSION

Angioedema is known side effect of drugs commonly used in day to day practice. Angioedema is generally self-limited most of the times but sometimes may result in respiratory tract obstruction, which can prove fatal [5]. Angioedema is abrupt and short lived swelling of skin mucous membrane or both which is typically non-pitting, skin colored or erythematous and shows a predilection for areas where skin is lax. Angioedema may or may not be associated with urticaria. The angioedema associated with allergy or drugs typically present without urticaria.

The pathophysiology of angioedema consists of the increase in local vascular permeability causing plasma extravasations and consequently swelling of subcutaneous tissue. The major cells involved in the causation of angioedema are mast cells and in a lesser extent basophils, which on activation release histamine from preformed granules a principle mediator involved in angioedema. Other mediators such as prostaglandin, leukotrienes may also play some role in the pathogenesis. Angioedema may be trigged by various factors such as drugs, foods and food additives, environmental allergens, insects, systemic illness such as vasculitis and autoimmune diseases, infections, malignancies, physical stimuli, autoimmune, genetic, mast cell proliferation and idiopathic [6].

The various studies have shown that NSAIDs and antibiotics are most commonly drugs implicated in the causation of these reactions. The drug-induced angioedema without urticaria has a prevalence of 2.3% year among patients with adverse drug reactions. The angioedema due to NSAIDs may be caused by an immunological or non-immunological mechanism (pseudoallergic). Pseudoallergic reactions are probably due to increase in production of leukotriene due block in cyclooxygenase pathway [7]. The analysis from various studies shows that most common NSAIDs causing angioedema are non-specific cyclo-oxygenase (COX) inhibitors such as ibuprofen, aspirin, and diclofenac, but reaction can be seen also with selective and preferential COX-2 inhibitors [7]. The concurrent administration of drugs known to angioedema like angiotensin-converting enzyme inhibitors should be avoided with these drugs.

Early recognition and discontinuation of responsible NSAIDs remains the primary treatment of management in NSAIDs induced angioedema. The immediate treatment necessary depends upon the severity of reactions. The severe reactions may require tracheostomy or intubation. Less severe reactions can be well managed with corticosteroids, antihistaminics and sometimes norephinephrine.

After treatment, most of the reactions subside within 2-3 days. Leukotriene receptor antagonist has been advocated in the past to prevent the exacerbation due to NSAIDs induced angioedema, but recent work has doubted the efficacy of this intervention [1]. It is very essential that patients should be well informed regarding the offending agent so as to avoid future complications associated with drug use.

In one of the study, it has been shown that skin reactors to diclofenac has some concomitant diseases mainly respiratory allergies and may have NSAIDs cross reactivity [8]. So other NSAIDs should be used with caution. Some studies have shown that selective COX-2 inhibitors may be safe in patients with patients intolerant to diclofenac so if necessary, they may be tried with great care [9]. More studies are required in this context to before advising this measure.

CONCLUSION

Diclofenac has been linked with some cases of angioedema. NSAIDs and antibiotics are two major class of drugs implicated in the causation of angioedema. Angioedema is generally self-limited may result in respiratory tract obstruction, which can prove fatal. The condition should be recognized early and responsible agent should be discontinued. Corticosteroids, norephinephrine may be useful in the treatment. Patient should be well informed regarding offending agent and physicians should keep in mind the possibility of this adverse drug reaction while using this drug.

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