



## Azithromycin Induced Angioedema – A Rare Case Report

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### ABSTRACT

Angioedema is defined as sudden swelling of the skin, subcutaneous or submucosal tissue, and respiratory or gastrointestinal tracts. Angioedema is non pitting, transient (lasting up to 7 days), and independent of the position of the body – in contrast to edema, which is pitting, persistent and dependent on body position. In this condition Inflammation, arteriolar dilation and the resulting vascular leakage and tissue swelling occurs due to release of inflammatory vasoactive mediators such as histamine, serotonin and kinins, eg., bradykinin. Here we present a case of gentleman who was a known case of Lupoid Vasculitis who had throat pain since 2 days consulted in a local hospital and was started with T. Azithromycin 500 mg OD. Following the medication intake he developed swelling of neck, followed by lips, maxillary and mandibular area.

**Keywords:** Angioedema, Azithromycin, Lupoid Vasculitis.

### INTRODUCTION

**A**zithromycin is a semi-synthetic macrolide anti-infection artificially associated to erythromycin and clarithromycin. Its effectiveness can be seen against a wide assortment of bacteria organisms such as Hemophilus influenza, Mycoplasma pneumonia, Streptococcus pneumonia, Mycobacterium avium and Staphylococcus aureus. By binding to the 50S ribosomal subunit it acts on susceptible microorganisms and interfering with the microbial protein synthesis. Diarrhea or loose stools, nausea, vomiting, abdominal pain are the common side effects. The most potential side effect of azithromycin is angioedema.<sup>1</sup>

Leverage over different anti-infection agents is that azithromycin achieves higher intracellular focuses and in this way expanding its viability and span of activity. FDA initially approved azithromycin in the year November 1991. In the year April 1995 an oral suspension was introduced and later on in the year 1995 the same was approved for the treatment of pediatric otitis media and pharyngitis.<sup>2</sup>

The swelling in the case of angioedema is similar to hives but the swelling is under the skin instead of on the surface.<sup>3</sup>

### CASE HISTORY

30 year old male patient with a known case of Lupoid vasculitis (leukocytoclastic vasculitis) on regular treatment came to the tertiary care teaching hospital with complaints of acute swelling of lower lip, mandibular area and neck with itching since one day. Patient started having sore throat 2 days back for which he was prescribed azithromycin 500mg OD and other medications from outside. After the intake of medications he started developing swelling in the neck. Next day morning he could notice swelling of the lips which progressively increased to involve maxillary and mandibular area. With these complaints he had minimal itching in the neck and he has no complaints of respiratory difficulty, itching. On local examination we could found out mild congestion of oral mucosa and lip edema with facial edema.

His initial lab results showed CRP: 24.6mg/l [normal level (<1mg/l)]. With the diagnosis of angioedema he was started on

steroids, levocetirizine, pheniramine. After stopping the drug azithromycin his lip swelling reduced and he no longer had itching and the patient symptomatically improved and he was discharged from hospital with a review after 3 days.

### DISCUSSION

Angioedema is subcutaneous or submucosal swelling because of aggravation. The primary pathophysiological procedure is typically limited to the sub dermis: this is in contrast to urticarial, which is a superficial dermis oedema and inflammation.<sup>4</sup> In this condition Inflammation, arteriolar dilation and the resulting vascular leakage and tissue swelling occurs due to release of inflammatory vasoactive mediators such as histamine, serotonin and kinins, eg bradykinin in ladies.<sup>5</sup> Angioedema is sudden and fleeting swelling of skin mucous film or both which is commonly non-pitting, skin shaded or erythematous and demonstrates a preference for regions where skin is remiss. Angioedema could possibly be connected with urticaria. The angioedema connected with hypersensitivity or medications ordinarily show without urticaria.<sup>6</sup>

In this case a Naranjo ADR probability scale was applied for causality assessment and the score was 8 (probable). A Re challenge was not done due to inherent risk. As a part of management steroids, Antihistamines were given for the patient. The various studies have shown that NSAIDs and antibiotics are most commonly drugs implicated in the occurrence of these reactions. The drug – induced angioedema without urticaria has a prevalence of 2.3 % year among patients with adverse drug reactions.<sup>7</sup> The concurrent administration of drugs known to angioedema like angiotensin – converting enzyme inhibitors should be avoided with these drugs. Early recognition and discontinuation of suspected drug remains the primary treatment of management in drug induced angioedema. The immediate treatment necessary depends upon the severity of reactions.<sup>8</sup> The severe reactions may require tracheostomy or intubation. Less severe reactions can be well managed with corticosteroids, antihistamines and sometimes norepinephrine. After treatment, most of the reactions subside within 2-3 days. Its is very essential that



patients should be well informed regarding the offending agent so as to avoid future complication associated with the drug use.<sup>9</sup>

### CONCLUSION

Antibiotics belong to one of the 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. Clinical pharmacist and clinicians should have knowledge about this reaction so that the offending drug can be withdrawn as early as possible. Corticosteroids, norepinephrine may be useful in the treatment. Patient should also informed regarding offending agent to avoid future complications.

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