



AZITHROMYCIN INDUCED URTICARIA REACTION: A RARE CASE REPORT

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ABSTRACT

Azithromycin is a mostly preferable antibiotics is effective against a wide assortment of bacteria organisms, such as Hemophilus influenza, Mycoplasma pneumonia, Streptococcus pneumoniae, mycobacterium avium, and Staphylococcus aureus. Which is commonly used antibiotic in patients with various infections like pain during urinating or having sex, unusual vaginal discharge bleeding between periods, pain of below belly button and unusual lumps, bumps, blisters or sores around the genital or anal area. Hypersensitive reactions subsequent azithromycin therapy is unusual but is potentially life-threatening. It is rapidly occurring reactions, hence called immediate hypersensitivity reactions. Whenever the patient exposure to certain drugs (penicillin, cephalosporin's and aspirin) production of IgE antibodies – fix to mast cells then again re-exposure to the same drug antigen-antibody reaction occurs on the mast cell surface then release of inflammatory mediators like histamine, 5-HT, PGs, LTs, PAF these mediators cause the hypotension, bronchospasm, angioedema, urticarial, rhinitis and anaphylactic shock. The management of hypersensitivity (urticaria) reactions. This can manage to stop the drug and by providing symptomatic treatment like anti histaminic therapy and antibiotics.

KEY WORDS: Azithromycine, urticaria, adverse drug reaction, hyper sensitivity reaction.

INTRODUCTION

Azithromycin is a macrolide antibiotic, which are used to treat Chlamydia symptoms like pain during urinating or having sex, unusual vaginal discharge bleeding between periods, pain of below belly button and unusual lumps, bumps, blisters or sores around the genital or anal area

It is a semi-synthetic macrolide antibiotic chemically correlated to erythromycin and clarithromycin. It is effective against a wide assortment of bacteria organisms, such as Hemophilus influenza, Mycoplasma pneumoniae, Streptococcus pneumoniae, mycobacterium avium, and Staphylococcus aureus. It acts by binding to the 50S ribosomal subunit of susceptible microorganisms and interfering with microbial protein synthesis.^[2]

The most common side effects are diarrhea or loose stools, nausea, abdominal pain, and vomiting and rarer side effects like abnormal liver tests, allergic reactions, rashes, itchy rash (pruritis) and nervousness. Potentially serious side effects of angioedema and cholestatic jaundice^[2].

Urticaria is a disorder considered by rapid commencement of localized swelling of the skin or mucosa, called wheals or urtica. Based on the frequency and duration, urticaria can be divided into two type's i.e acute and chronic. Chronic urticaria is any type of urticaria happening every day or twice per week, enduring longer than 6 weeks. Chronic Urticaria is a common disorder and estimated prevalence is 1% of the population. It is a heterogeneous group of disorders i.e. autoimmune, pseudo allergic, infection related,

Generally management for this reactions are to provide symptomatic treatment then give for anti histaminic therapy.

Treatment and management of chronic urticaria can be non-pharmacological and pharmacological, and at times it is not possible to control the disease with antihistamines only, which are considered to be the basis of treatment. In severe cases of chronic urticaria, especially if autoimmunity has been demonstrated, several authors describe different modules of immunomodulation.^[3]

CASE REPORT

A 39 years male patient was admitted in general medical department with the chief complaints of fever, body pains, headache, chills and rigors since three days. He was not known allergic to penicillin's and cephalosporin antibiotics, on general examination patient was conscious and coherent, his systemic examination vitals blood pressure 120/80 mm of Hg, pulse rate 92 beats per minutes. Laboratory examination were found to be haemoglobin 8.5gram/dl (), WBC's total count 11,000cells/mm³, neutrophils (71%), lymphocytes (25%), eosinophils (3%), monocytes (1%), erythrocytes 200mm/hr, platelets 2.5laks/mm³, widal test of thyroid fever positive in that S.typhi-O (1:320 dilutions), S.typhi-H (1:320 dilutions), malaria test positive negative and liver function test normal, based on that patient was treated with following medications, on day one patient was treated with intravenous ceftriaxone 1 gram two

times a day, it is used as an cephalosporin antibiotics, oral azithromycin 100mg two times a day, it is used as macrolid antibiotics, oral Ranitidine hydrochloride 150 mg two times a day, it is used as anti ulcer drug and oral DOLO 650mg three times a day, which is use as analgesic and anti pyretic. On day 2 patient complaints of hyper sensitivity reactions all over the body due to intake of oral Azithromycin (shown in figure:1) then immediately we reported to the physician then he was stopped the administration of tablet azithromycin to the patient. on day 2 dechallenge was done (stop the administration of drug).on day 3 rechallenge was done (re introduction of the drug) tablet Azithromycin given to the patient, then developed allergic reaction throughout the body, based on dechallenge and rechallenge information patient was developed allergic reaction due to the administration of Azithromycin only.



Figure: 1 Azithromycin Induced Urticaria.

ADR Analysis by Using Causality Assessments

Suspected drug and reaction	Naranjo's scale	WHO scale	Karch and lasagne scale
Tablet Azithromycin induce urticaria reaction	Definite ADR	Probable ADR	Definite ADR

Table -2: Analysis of ADRs

ADR scale	Severity scale (Modified hart wig and siegel scale)	predictability scales	Preventability scale (Schumock and thornton)
Assessment	Sever (Level-4)	Predictable (Type B)	Section B (probably preventable)

Management: By giving symptomatic therapy withdrawal the drug administration.

DISCUSSION

On day one patient complaints of fever, body pains, headache, chills and rigors since three days was treated with intravenous ceftriaxone 1 gram two times a day, oral azithromycin 100mg two times a day, oral Ranitidine hydrochloride 150 mg two times a day and oral DOLO 650mg three times a day, which is use as analgesic and anti pyretic. On day 2 patient complaints of hyper sensitivity reactions all over the body due to intake of oral Azithromycin then immediately we reported to the physician then he was stopped the administration of tablet azithromycin to the patient. on day 2 dechallenge was done (stop the administration of drug).on day 3 rechallange was done (re introduction of the drug) tablet Azithromycin given to the patient, then developed allergic reaction throughout the body ,based on dechallenge and rechallange information patient was developed allergic reaction due to the administration of Azithromycin only.

ADRs are analysed by using Naranjo's scale , Karch and lasagne scale *Definite*, WHO scale *Probable*, Modified hart wig and siegel scale *Sever (Level-4)*, predictability scales *Predictable (Type B)*, Schumock and Thornton *Section B (probably preventable)*.

Diagnostic testing may be necessary to confirm the suspected history of an adverse drug reaction. Specific IgE antibodies and skin prick tests to azithromycin are only useful for detecting type I reactions to azithromycin. Looking for alternative antibiotics is better than challenging patients to antibiotics to which they may be intolerant, unless there is no alternative.^[4]

Small clinical trials Case reports and have also establish the subsequent treatments to be effective for choose patients with severe, refractory, chronic urticaria: sulfasalazine; the antibacterial, dapsone; the anti-IgE monoclonal antibody, omalizumab; and intravenous immunoglobulin G. In the setting of acute urticaria, in which an upper respiratory tract infection is treated with antibiotics or symptomatically with analgesics, it may be difficult to identify the cause of urticarial.^[5]

CONCLUSION

The risk of developing urticaria adverse a reaction associated with Azithromycin is a serious ADR, so it should be closely monitored during therapy. As it is a serious ADR it should be provided with an alternative therapy or else it may lead to life threatening.

The association of urticaria due to usage of azithromycin, so. Physician responsible to closely monitor the patient condition, hold the drug and better to provide symptomatic therapy. Since our explanation and based on only case report the conventional usage of drug is further emphasized on the need of test drug administration even for common drugs.

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CONFLICT OF INTERESTS

The authors have declared that they have no conflict of interest.

REFERENCE

1. Accessed on; http://www.simcere.com/simcere/productpic/enpro_11_1_200759164803.pdf
2. Accessed on : <http://www.ncbi.nlm.nih.gov/pubmed/21358399>.
3. Ružica Jurakić T, Jasna L, Branka M et al. Treatment of Chronic Urticaria. *Acta Dermatovenerol Croat.*, 2009; 17(4): 305-322.
4. Tan EK, Grattan CE. Drug-induced urticaria. *Expert Opin Drug Saf.*, 2004; 3: 471-484.
5. Fonacier LS, Dreskin SC, Leung DY. Allergic skin diseases. *J Allergy Clin Immunol.*, 2010; 12(5): 138-149.