



ERYTHROMYCIN INDUCED MACULOPAPULAR RASH: A CASE REPORT

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Article Received on 10/08/2021

Article Revised on 31/08/2021

Article Accepted on 21/09/2021

ABSTRACT

Here, we report a case of 9 year old young girl who was prescribed erythromycin for fever, cough and cold after which she developed severe maculopapular rash hand foot mouth disease. Erythromycin is a safest antibiotic used for the treatment of many bacterial infections like respiratory infections, pelvic inflammatory infection, chlamydial infection, syphilis, skin infections etc. It exhibit good activity against gram positive and few gram negative aerobes. Erythromycin causes few adverse effects, and hypersensitivity reactions are rare with erythromycin base.

KEYWORDS: Erythromycin, maculopapular rash, hypersensitivity.

INTRODUCTION

Erythromycin is an antibiotic used for wide variety of bacterial infections, obtained from *Saccharopolyspora erythraea* and first macrolide introduced in 1952.^[1] It was initially marketed by Eli Lilly company and now commonly known as erythromycin ethylsuccinate. It is a bacteriostatic agent acts by binding to 50s subunit of bacterial rRNA complex indirectly inhibits protein synthesis. It has a narrow spectrum of activity against aerobic gram positive and some gram-negative bacteria. Erythromycin is prescribed for various respiratory infections atypical pneumonia, whooping cough and alternative to penicillins in many conditions.^[2] Due to extensive use of these macrolides resistance among pathogenic bacteria is frequently seen it is either due to alteration in the ribosome, as well as upregulation of efflux pumps. Cross resistance between macrolides are also very common due to its similar chemical structure.^[3] Erythromycin is effective and safe but it usually causes mild gastrointestinal side effects. Allergy to macrolides are rare 0.4% to 3% due to immediate IgE dependent hypersensitivity and serious hypersensitivity reactions common with estolate but rare with erythromycin base. They manifest as anaphylaxis, urticaria, angioedema, fixed drug eruption, Stevens-Johnson syndrome, toxic epidermal necrolysis, and cholestasis.^[4,5,6] Here, we report a case of erythromycin induced maculopapular rash- hand foot mouth disease to sensitize and caution the prescribers to be aware of this serious adverse effect.

CASE REPORT

A 9 years young girl suffering from fever, cough and cold since 2 days for which the patient was prescribed with tab Erythromycin 250 mg twice daily along with tab

Cetirizine 10mg, tab Paracetamol 250mg twice daily and tab Rantac (Ranitidine) 150mg twice daily by a local doctor in government PHC. The patient then developed maculopapular rash within one day, initially over right foot and later it spread to the left foot and to both hands and face. Itching and burning sensation was present which was sudden onset and gradually progressive in nature. There were no aggravating and relieving factors. The patient had no past or family history of allergy or dermatological disease or other concomitant drug history. No history of insect bite or other viral exanthems. There was a history of hospital admission 4 years back due to pneumonia but no history of any drug allergy.

A detailed history was taken on clinical examination, the patient was highly anxious and dyspnoeic. The vital parameters were as follows: Blood pressure 98/60 mm of Hg, pulse rate: 92 /min and respiratory rate of 22 /min. Maculopapular rashes were seen throughout the feet and both the hands with generalised pruritis and redness 'Fig. 1'. There was involvement of face with rash and puffiness. However, upper body was spared of rashes. Patient consulted a dermatologist, all the routine and complete blood investigation was done. He immediately stopped erythromycin and she was treated with injection chlorpheniramine [CPM] 2mg slow i.v over 1-2 mins, injection hydrocortisone 0.3mg i.v [SOS] and tablet cetirizine 10mg on day 1. On day 2, she still had an episode of itching and burning sensation so she was treated again with injection chlorpheniramine [CPM] 2mg slow i.v, tablet cetirizine 10 mg and topical calamine lotion was applied all over the affected areas. Laboratory investigations showed values within normal

limits and peripheral smear examination showed microcytic hypochromic anaemia.

The treatment showed improvement as the maculopapular rash gradually disappeared and the

patient recovered in 8 days and had no further complications. The patient was discharged with tab amoxicillin 250mg twice daily for 7days and tab paracetamol 500mg twice daily and tab vitamin B complex OD for 15 days.



Fig. 1: Showing maculopapular rash on hand and leg.

DISCUSSION

Erythromycin is a macrolide antibiotic has antibacterial action similar or slightly wider than penicillin. It is commonly used as it is cost effective and extremely safe for various sensitive aerobic gram positive bacteria. Cross resistance is common among macrolides due to efflux and by methylase production. Erythromycin cause clinically significant drug interaction when prescribed with other drugs it increases their concentration and precipitates toxicity by inhibiting CYP3A4. Patient receiving concomitant drugs are at more risk than erythromycin alone.^[7]

A similar case of immune-mediated hypersensitivity reaction in a female patient treated with erythromycin ethylsuccinate 400mg for upper respiratory tract infection was reported. Patient was hospitalised and treated similarly with iv antihistamine and iv steroids.^[8]

In the present case report, a systematic approach was used to know whether the suspected adverse drug reaction was due to erythromycin or a result of any other factors. To determine the casual relationship between maculopapular rash –hand foot mouth disease and treatment with erythromycin, Naranjo adverse drug reaction probability scale was used.^[9] Adverse drug reaction developed within one day of starting treatment and improved within 2 days of discontinuation of drug. The patient was treated with iv antihistamine and iv steroid, she recovered completely in a period of 8 days. Other differential diagnosis was rule out in this condition. Rechallenge of the drug was not done due to ethical issues. By using Naranjo scale score was 5, hence it was considered that rash was probably caused by erythromycin. Modified Hartwig and Siegel scale scored a severity of level 4. Since patient suffered severe reaction and adverse drug reaction was the reason for hospitalisation for 8 days including intensive medical

care. The world health organisation-Uppsala monitoring centre causality assessment criteria also indicated a probable relation.

This case highlights the severity of immune mediated hypersensitivity reaction caused by erythromycin. Cutaneous drug eruptions are one of the most common types of adverse reaction to drug therapy. So healthcare professionals, should be careful while prescribing and be aware of these serious reactions, to avoid such adverse effects recurrence. Also the consumers should be aware as it is easily available as over the counter drug.

IEC permission is taken

Financial support and sponsorship: nil

Conflicts of interest: there are no conflicts of interest.

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