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Case Report Open Access

Cutaneous Adverse Drug Reaction with Ofloxacin

Inderpal Kaur*, Suneet Jindal and Inderpal Singh Grover

Government Medical College, Amritsar, Punjab, India

***Corresponding author:** Inderpal Kaur, Assistant Professor, Government Medical College Amritsar, 26 Sector 4, Ranjit Avenue, Amritsar, Punjab 143001, India, Tel: +911832503984, +919501004136, E-mail: inderpalpharma@gmail.com

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Abstract

Drug-induced cutaneous adverse effects are major health problem. Its predominant forms include maculopapular rash, Stevens - Johnson syndrome, toxic epidermal necrolysis, fixed drug eruption and urticaria. Ofloxacin is a fluoroquinolone and is widely used for the treatment of infective diarrhoea as a single drug or in combination with ornidazole. Earlier one case of toxic epidermal necrolysis has been reported with the use of ofloxacin. Here we report a case of mucocutaneous maculopapular rash with oral ofloxacin.

Keywords: Ofloxacin; Mucocutaneous Maculopapular rash; Cutaneous

Key Messages

Drug showing adverse reaction should be withdrawn on permanent basis even in first-degree relatives who can also present the same type of reaction.

Introduction

Adverse drug reactions (ADRs) are unwanted or unintended effects, which occur with use of drugs. Clinically important ADRs are diverse [1]. Any one organ system or several systems simultaneously can be the principal targets, but cutaneous ADRs are most common among the various adverse reactions and attributed by the drugs. Cutaneous drug eruptions are most common type of adverse drug reactions and are self-limiting and sometimes severe. Cutaneous ADR's occur in up to 8% of global population and in 2-3% of hospitalized patients [2]. Studies have found their incidence in developed countries as 1-3%, while the incidence in developing countries is supposed to be higher between 2 and 5% [2]. The most frequently implicated group of drugs are antibiotics. Present case report is unique in presenting the genetic basis of ADR.

Case History

A 48-year old female had severe gastroenteritis for which she was prescribed 200 mgs ofloxacin twice daily. After consuming four doses she developed maculopapular rash in the perioral region (Figure 1). Suspecting drug reaction she stopped the medicine and reported to the physician next day. By the time of examination, the patient had received four doses of ofloxacin orally. There was no complaint of fever prior to administration of drug and following eruptions. Ofloxacin was stopped immediately and the patient was advised 20 mg of prednisolone and 10 mg of cetirizine orally. Soframycin and betamethasone combination ointment was prescribed for local application twice daily for 5 days. Prednisolone 20 mg and cetirizine 10 mg was continued for 3 days. The lesions healed completely within 1 week.

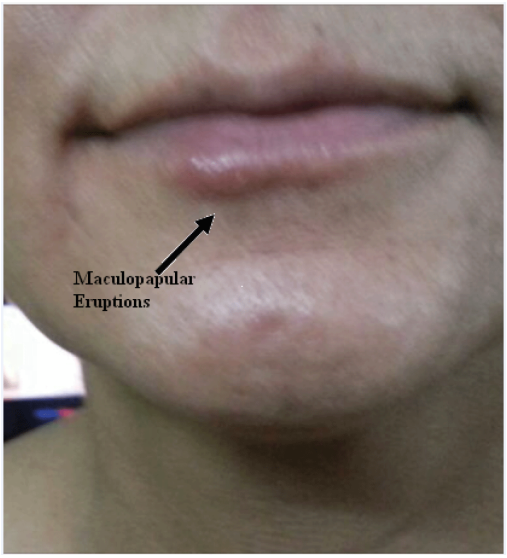

Figure 1: Maculopapular rash in the perioral region.

On taking the detailed history of the patient regarding drug allergy it was found that patient's son who is 21 years old also had similar type of rash when he consumed combination of ofloxacin and ornidazole. Rechallenge was unintentional in case of son when he took prescribed plain ofloxacin 200 mg again for diarrhoea. The reaction was of similar kind but was more severe.

Discussion

Cutaneous adverse drug reactions vary in their patterns of morphology and distribution. In the present case report manifestation of cutaneous ADRs was the maculopapular rash with ofloxacin in the perioral area. Similar type of reaction was observed in the patient's son as the genetic factors leading to predisposition for the development of ADRs are evident. The genetic basis for ADRs can be divided into three main categories: drug-metabolizing enzymes, drug transporters

and HLA-related [3]. The differences observed between the various individuals in the general population, regarding metabolism of the drugs are due to alterations in the expression of the enzymes involved in their metabolism [4]. These may be the result of genetic polymorphism (in general, absence of a gene; existence of a mutant; non-functional or partially active genes; duplication of genes, etc.) or the expression of a different phenotype [4]. According to the WHO causality definitions [5], this ADR is categorized as a certain reaction to the drug as reaction didn't extend after stopping the drug and the symptoms were relieved within one week. Rechallenge was not done in the patient but recurrence of reaction was observed in patient's son when drug was administered again for diarrhoea. It is imperative that the drug responsible is withdrawn on a permanent basis together with chemically related compounds. This advice is also valid for first-degree relatives who can present the same type of reaction as has been observed in the present case. Although documentation of ADRs can appreciably contribute to quality assurance in drug therapy in routine clinical practice, these remain largely under-reported. The manufacturers of antibiotics should incorporate in their package inserts and other drug information documents the possibility of genetic predisposition of ADR.

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