

**LEVOFLOXACIN DRUG CHALLENGE TEST: A MAIDEN CASE
REPORT FROM A TERTIARY CARE HOSPITAL IN NORTH INDIA,
KASHMIR VALLEY.**

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ABSTRACT

Antibiotic allergy is one of the most common adverse drug hypersensitivity reactions, posing a challenge to clinicians in treating patients. In this study a 20 year old patient, to be operated upon for varicose veins had adverse drug reaction to b-lactams and cephalosporins. The patient was subjected to oral challenge test for quinolone (levofloxacin) under intensive care unit settings. The patient did not show any reaction to the drug and was operated upon under the cover of levofloxacin. The post operative period was uneventful. It is for the first time that oral challenge test has been carried out in any tertiary care hospital in Kashmir valley.

KEYWORDS: Cephalosporins, levofloxacin.

INTRODUCTION

Drug allergy is one type of adverse reaction to drugs and encompasses a spectrum of hypersensitivity reactions with heterogeneous mechanisms and clinical presentations. It has been defined by the British Society for Allergy and Clinical Immunology (BSACI) as ‘an ADR with an established immunological mechanism’.^[1,2] Diagnostic procedures in allergy diagnosis can be classified into the patient’s history, in vivo skin testing, in vitro laboratory

tests and provocation tests.^[3] In situations in which there is a definite medical need for a particular agent, no suitable alternative agent exists, there are primarily two options for the patient with a drug allergy; a procedure to induce temporary drug tolerance can be performed to allow the patient to take the drug safely or a test dose or graded challenge can be administered to determine whether the patient is currently allergic to the particular drug.^[4]

CASE REPORT

A 20 year old male, a police personnel by profession, presented in the Dept. of cardiovascular and thoracic surgery (CVTS), Sher-i-Kashmir Institute of Medical Sciences, Srinagar, India, with dilated tortuous veins in both legs, diagnosed as varicose veins and was subsequently planned for surgery. Preoperative antibiotic test doses to multiple antibiotics including ceftriaxone and other cephalosporins caused severe drug reaction to the patient. Consequently, the dept. of CVTS made a call to the Allergy Unit of Dept. of Immunology & Molecular Medicine to evaluate the patient for drug allergy and further advise about the choice of antibiotic before the patient could be redated for the surgery.

Physical examination of the patient showed dilated tortuous short sephanous vein and dilated bunch of veins over both the calves. Detailed history revealed that the patient had Allergic rhinitis with occasional breathlessness. Family history was unremarkable. Patients baseline tests were all normal except significantly increased IgE levels (IgE=840 IU/ml).

METHODS

The patient was planned for levofloxacin sensitivity testing as per defined protocol in the dept. of Immunology & Molecular Medicine.^[5] Levofloxacin was chosen because it belongs to the quinolone family and there was less chance of crossreactivity with beta lactams. The same was discussed in detail with the CVTS side.

Before subjecting the patient to in vivo testing, an informed written consent was taken from the patient, explaining the consequences of the testing.

Firstly, the skin prick test for levofloxacin was done. The drug concentration of 5mg/ml was used for the prick test. A wheal of diameter > 3mm is considered positive. However, the results of this patient were negative and we proceeded to intradermal testing.

For intradermal testing, the drug concentration used was 0.05mg/ml. >3mm increase in previous bleb size and erythema is considered positive. The intra dermal test of the patient was also negative and we then proceeded to oral challenge test.

The oral challenge test was carried out in collaboration with Dept. of anesthesiology & critical care in intensive care unit (ICU) settings. The patient was given an oral dose of 50 mg and closely monitored for 30 minutes. After 30 minutes, the patient was again given an oral dose of 125 mg and monitored for 30 minutes. Since the patient was doing well, we proceeded with the next dose of 250 mg and the patient was again monitored for 30 minutes. After 30 minutes, patient was given the last oral dose (500mg) and observed for 45 minutes.

RESULTS

The whole procedure remained uneventful, patient remained stable and it was recommended that the patient can go ahead with surgery under the cover of levofloxacin antibiotic. Subsequently the patient was operated upon in the CVTS dept. The post operative period was uneventful and patient was discharged three days later.

CONCLUSION

The Oral Challenge Test was carried out for the first time in our part of the world although drug allergy testing is a routine diagnostic in the dept. Referral of patients to a specialist drug allergy clinic can thus be suggested if drug desensitisation could benefit the management of the patient. Currently we are only giving an oral challenge test for antibiotics only. However, desensitisation can also be important for other drugs, such as certain chemotherapeutic agents or desensitisation to aspirin in patients requiring aspirin thromboprophylaxis. Currently we are working on the standardization of these protocols as it would come a long way in management of drug allergies.

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