Case Report

Diclofenac-induced hypersensitivity reaction in a patient suffering from rheumatoid arthritis: A case report

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ABSTRACT

Hypersensitivity reactions against nonsteroidal anti-inflammatory drugs like diclofenac (DF) can manifest as Type-I-like allergic reactions including systemic anaphylaxis. Angioedema is a transient subcutaneous or submucosal swelling that is non-pitting when pressure is applied. This case report was collected in the outpatient department of the tertiary care hospital in Punjab. This included a female patient who was having a hypersensitivity reaction on administering drug DF. The patient was diagnosed with drug-induced angioedema of the arm and was asked to discontinue the drug. Complete remission was seen after 1 week of discontinuing the medication.

Keywords: Angioedema, hypersensitivity reaction, nonsteroidal anti-inflammatory drugs

INTRODUCTION

Hypersensitivity reactions (HR) are immune responses that are exaggerated or inappropriate against an antigen or allergen. Anaphylactic Responses mediated by IgE antibodies that are produced by the immune system in response to environmental proteins (allergens) such as pollens, or dust mites. These antibodies (IgE) bind to mast cells and basophils, which contain histamine granules that are released in the reaction and cause inflammation. Type I hypersensitivity reactions can be seen in bronchial asthma, allergic rhinitis, allergic dermatitis, food allergy, allergic conjunctivitis, and anaphylactic shock. Hypersensitivity reactions are very common. Fifteen percent of the world population is affected by any type of allergic reaction during their lives.

CASE REPORT

A 32-year-old female patient reported to our outpatient department with swelling of both arms with rashes as shown in Figure 1. On eliciting history, the patient reported that these lesions started the 2nd day of consuming the diclofenac (DF) that is after two doses (100 mg) which were prescribed for pain, as the patient was suffering from rheumatoid arthritis. The patient had a history of consuming DF previously also, but no similar history of rashes and swelling was reported. The patient was not having any history of allergy to any medications or any allergic disorders.

The patient was moderately built and nourished. DF usage was withdrawn and no other medications were prescribed as the rashes were in the healing stage. The patient was recalled after 3 days. After 3 days, the rashes had healed. A Naranjo score of 6 was calculated, indicating a probable association between DF use and fixed drug eruption as shown in Table 1.

The Naranjo algorithm, or adverse drug reaction (ADR) probability scale, is a method to assess whether there is a causal relationship between an identified untoward clinical event and a drug using a simple questionnaire to assign probability scores.[1] Drugs are evaluated independently for causality, and points deducted if another factor may have resulted in the adverse event, thereby weakening the causal association.[2,3]

DISCUSSION

ADRs are the main cause of morbidity and mortality.[4] Nonsteroidal anti-inflammatory drugs (NSAIDs) are the first-line treatment for

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Table 1:The Naranjo ADR probability scale

The Naranjo ADR probability scale; to assess the ADR, please answer the following questionnaire and give the pertinent score	Yes	No	Do not know	Score
Are there previous conclusive reports of this reaction?	+1	0	0	0
Did the adverse event appear after the suspected drug was given?	+2	−1	0	+2
Did the adverse reaction improve when the drug was discontinued or a specific antagonist was given?	+1	0	0	+1
Did the adverse reaction reappear on readministering the drug?	+2	−1	0	−1
Were there other possible causes for the reaction?	−1	+2	0	+2
Did the adverse reaction reappear on administration of placebo?	−1	+1	0	0
Was the drug detected in the blood or other fluids in toxic concentrations?	+1	0	0	0
Was the reaction worsened on increasing the dose? Or was the reaction lessened on decreasing the dose?	+1	0	0	+1
Did the patient have a similar reaction to the drug or a related agent in the past?	+1	0	0	0
Was the adverse event confirmed by any other objective evidence?	+1	0	0	+1
				Total=6
Score				Interpretation of scores
>9				Definite
5–8				Probable
1–4				Possible
≤0				Doubtful

ADR: Adverse drug reaction

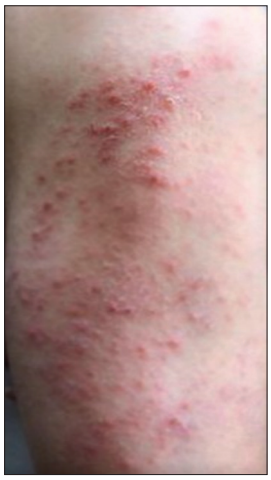

Figure 1: Rashes on the arm after administering diclofenac

rheumatoid arthritis.[5] DF is considered to be safe, with a worldwide administration to 7.6 million patients per year[6-12] against NSAIDs such as DF can manifest as Type I-like allergic reactions including systemic anaphylaxis. Angioedema is a known side effect of the drugs commonly used in day-to-day practice.[13] It is generally self-limited most of the times but sometimes may result in respiratory tract obstruction, which can prove fatal.[14,15] Knowing the possible cause for the reaction is necessary before treating the reaction.[16-19] An antihistamine such as diphenhydramine[20,21] (Benadryl) or hydroxyzine (Atarax and Vistaril) may be given which may reduce swelling, itching, and other allergic symptoms. Corticosteroid therapy[22,23] can also be preferred to reduce swelling, redness, and itching in angioedema.[24] It has also been found to be effective in angioedema. In our case, the patient had developed angioedema due to DF and did not require any treatment other than withdrawal of the factor. According to Sharma *et al*. case report, a 46-year-old patient had to be hospitalized with rashes all over the body after being prescribed with DF and levofloxacin.[25] The patient was prescribed with antihistamines and topical applications to reduce the severity of the reaction.

CONCLUSION

NSAIDs lead to a frequent cause of adverse reactions. Angioedema may be visible in patients without a previous history of any drug allergy. DF-induced hypersensitivity is more common among Indian population due to the lack of awareness and irrational drug usage. Therefore, proper follow-up for the patient needs to be programmed and the patient needs to be counseled about its side effects before prescribing DF.

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