Review Article

Cefuroxime Induced Drug Eruptions: A Systematic Literature Review

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Aroza *et al.*: Systematic Review of Cefuroxime Induced Drug Eruption

Skin reactions pose a great challenge to the treating physician in the differential diagnosis. Cefuroxime with a good profile has the potential of being used as empirical therapy for a range of community acquired infections. The purpose of the review was to identify and assess various cases of drug eruptions caused by cefuroxime. The review was conducted in compliance with preferred reporting items for systematic reviews and meta-analyses guidelines. A total of nine case reports were included for the current systematic review in which the drug dose ranged from 500 mg/d to 1000 mg/d. The treatment duration varied from 1 d to 15 d across the studies. The indications for treatment were as per Food and Drug Administration guidelines. The presentation of the skin reactions was found to be symmetric in nature either in the form of erythematous rash alone or along with inflamed erosions and oozing. There was no fatal case reported. In most of the cases, the reaction subsided on the withdrawal of the intervening drug. The use of multiple doses of cefuroxime is prone to cause drug eruptions. Further research is necessary to understand the occurrence of reaction to prevent misdiagnosis of such reactions. Patients on antibiotics should be subjected to counseling on discharge regarding the occurrence of adverse drug reactions for better patient safety and qualitative care.

Key words: Cefuroxime, immunology, pharmacokinetics, drug eruption

Cefuroxime is a broad-spectrum antibacterial agent, which is found to be effective in treating various infectious diseases[1]. Its pharmacokinetic profile provides a well-tolerated, twice-daily dosage regimen for providing better patient compliance[2]. Cefuroxime is a well-behaved and well-tolerated antibiotic with the potential of being used as an empirical therapy to treat a wide range of community-acquired infections, such as infections of the lower and upper respiratory tract, urinary tract, skin, and soft tissue[3]. In the year 1997, the drug was permitted by the Food and Drug Administration (FDA) in the treatment of respiratory tract infections due to its beneficial antibacterial activity. Being a second-generation cephalosporin, it covers an extensive range of both gram-negative and gram-positive bacteria, especially targeting organisms like gram-positive cocci and bacilli[4]. Effective treatment and ease of administration increased the use of cefuroxime regimen[5]. Based on the literature evidence, the incidence of Adverse Drug Reactions (ADR) occurring due to cefuroxime was noted to be 2.5 % of which the majority of the cases were found to be Gastrointestinal (GI) in nature followed by cutaneous reactions[6]. The nature of the cutaneous reaction is indistinguishable and poses a great challenge to the treating physician in the differential diagnosi[7]. The clinical presentation of drug eruptions can vary from mild maculopapular rashes to severe cutaneous ADRs, which may include drug-induced hypersensitivity reactions and also fatal reactions like Toxic Epidermal Necrolysis (TEN) and Stevens-Johnson Syndrome (SJS)[8]. Many drugs may induce SJS or TEN, some of which are infrequently prescribed and others that are widely used[9]. Cefuroxime is used commonly in a range of community-acquired infections and has been shown to develop cutaneous reactions in certain patients. Even though the reactions were not