

Teicoplanin Induced Anaphylaxis: A Case Report

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Abstract

Antibiotics have been known to cause various drug adverse events. Antibiotics are the commonest cause of life-threatening immune-mediated drug reactions that are considered off-target, including anaphylaxis, and organ-specific and severe cutaneous adverse reactions. Anaphylaxis can be mild to severe. Antibiotics can result in adverse drug reactions (ADRs) and hypersensitivity reactions (HSRs) through a variety of mechanisms. ADRs include any untoward medication effect experienced at normal therapeutic doses of the drug, and HSRs are ADRs that are immunologically mediated. Though any antibiotic can cause adverse drug reaction, severe anaphylaxis has rarely been reported with teicoplanin. We report here a case of severe anaphylaxis due to teicoplanin. The patient required medical intensive care support but recovered.

Key words: Teicoplanin, Anaphylaxis, Adrenaline

Introduction

Drugs are known to cause adverse effects and some drugs are more commonly implicated in causation of allergic reactions compared to others. Antibiotics are a class of drugs which are more commonly implicated in causing adverse effects. A risk-benefit analysis is necessary whenever a medication is prescribed. Most adverse drug reactions are dose-related; others are allergic or idiosyncratic.

Case report

Teicoplanin has rarely been reported as the cause of serious allergic reactions. Serious life-threatening complication due to teicoplanin is very rare with hardly few cases reported.

We report here a case of 35 years female who was undergoing treatment for acute myeloid leukemia. She had received 3+7 induction chemotherapy and was on supportive care. On day 4 of chemotherapy, she had developed fever and was treated with meropenem for febrile neutropenia. She was also getting oral posaconazole as anti-fungal prophylaxis. She had received

blood component support as per her requirements. Her fever had subsided and her meropenem was stopped after 2 weeks when her absolute neutrophil count also started improving. On day 22 post chemotherapy the patient complained of pain in the throat and had bilateral neck swelling. She also had temperature of 101.0°F. She was given inj Teicoplanin but within 10 minutes she developed bluish discoloration of lips, ghabrahat, restlessness and hypotension. Her systolic blood pressure fell to 80 mmHg systolic. She was immediately started on oxygen, intravenous fluids and supportive care. Inj hydrocortisone and Inj pheniramine maleate (Avil) were given immediately. In spite of these resuscitative measures patient continued to be in hypotension and she was given Inj adrenaline intramuscular stat. Her blood pressure remained below 90 mmHg systolic and she was started on adrenaline infusion and was shifted to medical intensive care unit (ICU). With resuscitative measures she hemodynamically improved after 8 hours. Her blood and urine cultures were repeated which later came as normal.

Teicoplanin is commonly used for Gram-positive coverage. Life threatening reactions are rare with this drug.^{1,2} Anaphylaxis is a

systemic hypersensitivity reaction characterised by histamine release via degranulation of mast cells and basophils. Symptoms and signs of anaphylaxis can affect any organ, although most commonly the skin (88%), respiratory (76%), cardiovascular (42%) and gastrointestinal (13%) systems are affected.³

This case highlights a rare but serious adverse reaction to Teicoplanin. Mortality has been reported due to anaphylaxis following teicoplanin.⁴ Since this reaction cannot be predicted immediate resuscitative measures as per hospital guidelines for anaphylaxis should be started.

Discussion

Antibiotics remain some of the most commonly prescribed drugs, and as such adverse reactions and hypersensitivity are inherent to their use. Prevention of adverse drug reactions requires familiarity with the medication and potential reactions to it. For dose-related adverse drug reactions to medications, modifying the dose or eliminating or reducing precipitating factors may suffice. For allergic and idiosyncratic adverse drug reactions, the drug usually should be discontinued and not tried again.

Scientific literature has estimated that across all clinical settings, antibiotic adverse reaction prevalence is seen in 11% of patients.⁵ Cutaneous skin reactions are the most commonly reported adverse drug reaction, followed by gastrointestinal manifestations. Anaphylactic reactions are reported less frequently than both.⁶

Antibiotics are among most commonly prescribed drugs given to patients to treat bacterial infections and mitigate bacterial growth. Though readily effective against bacterial pathogens, antibiotics can cause adverse drug reactions due to hypersensitivities in patients.⁷ Some antibiotics are considered to be more allergic than others but no antibiotic or drug is safe as far as allergic or anaphylactic reactions are concerned. This case highlights that a drug which is less frequently reported to cause anaphylaxis can result in severe life-threatening reactions.

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