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Case Report

Piperacillin - Tazobactam -induce Allergic Reactions: A Case Study of a 70-year-old Female Patient

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Abstract:

ADRs are an important issue in clinical practice, more so in geriatric patients receiving broad-spectrum antibiotic therapy. This case report discusses a 70-year-old woman who had an allergic reaction with generalized itching after the administration of Injection Piptaz (Piperacillin + Tazobactam) for some abdominal symptoms that had persisted for some days. It was initially treated with analgesics, gastric protectants, antibiotics, and antiparasitic agents. Afterward, the situation called for an additional intervention. Using the Naranjo Scale, the reaction was found to have a score above nine; hence, this was labeled a definite ADR. The offending drug, Piptaz, was immediately stopped, and then, antihistamine Levocetirizine and another antibiotic, Amikacin, were given, with symptoms subsiding thereafter. This case strengthens the evidence for constant ADR monitoring, especially in cases of polypharmacy, which are common among the elderly. Objective scales, such as the Naranjo Scale, are recommended for timely detection and mitigation of ADRs, thereby averting adverse clinical effects.

Key words: adverse drug reaction (adr); piperacillin-tazobactam; drug-induced hypersensitivity

Introduction

There is much empirical evidence to suggest that adverse drug reactions (ADRs) are greater with broad-spectrum antibiotics in clinical settings. For instance, 17.1% of hospitalized patients were diagnosed with an adverse drug event by researchers at Osaka University Hospital, with the most common manifestations being gastrointestinal and renal complaints. Similar retrospective cohort studies revealed that broad-spectrum antibiotics were associated with a higher incidence of adverse events than narrow-spectrum ones, recording rates of 3.7% versus 2.7%, respectively. Furthermore, a South Korean study identified that antibiotics accounted for 40.9% of ADRs, the most prevalent among skin and gastrointestinal disorders. Altogether, these threats reinforce the evidence for monitoring and stewardship in antibiotic prescribing practices to try and prevent ADRs, especially with broad-spectrum agents.

Figure 1: Allergic reaction of Injection of Piptaz 4.5 g.

Case report

A 70-year-old female patient came for her regular check-up and reported having abdominal pain for some time now and vomiting (2-3 episodes) for 3 days straight. She was hypertensive and also had a hysterectomy 20 years ago. She had medication use story.

belonging to Tablet Ultracet Semi (Paracetamol 325 mg + Tramadol Hydrochloride 18.75 mg) TID, Tablet Pantodac DSR 40 (Pantoprazole 40 mg + Domperidone SR 30 mg) OD, and Tablet

Buscopan SOS (Hyoscine Butylbromide 10 mg). All were negative for the drug history, allergy, and fever. Setting out she had initial medication start Tablet Meftalspaz (Mefenamic Acid 250 mg + Dicyclomine 10 mg) TID, Tablet PAN 40 (Pantoprazole 40 mg) BD, Tablet Taxim-O (Cefixime 200 mg) BD, Tablet Dolo 650 (Paracetamol 650 mg) TID, Injection Metrogyl 500 mg (Metronidazole) TID, and Tablet Ivoral Forte (Ivermectin + Albendazole) as an initial diagnosis and treatment. As early as the next day, the situation had changed; the vomiting had gone, but pain and nausea persisted. The doctor asked for a C.T. scan, supported the patient to be NPO (Nil Per Os), and provided CST (Clinical Support Team).

On the third day, the patient found herself in the middle of the symptoms of nausea, and tranquillity had given up. The doctor put a stop to Tablet PAN 40 and introduced Injection Magnex Forte 1.5 g (Cefoperazone + Sulbactam) because it would help her. On the fourth day, the patient reported suffering from abdominal pain with stool passage. Tablet Ivoral Forte was eliminated through consultation with a urologist, who introduced Injection of Taxim-O 200 BD at 3.30 pm Injection of Piptaz 4.5 g (Piperacillin + Tazobactam) TID. Nevertheless, at 8:00 PM, the patient had a whole-body itching, which was the first allergic reaction to Injection Piptaz. The medication was suspended immediately, and the patient was treated with an Injection of Amikacin 75 mg and a Tablet of Levocetirizine (5 mg OD) to manage allergic symptoms.

The patient did not mention any new complaints on the fifth day, and her health improved. She was released from the ward in a comfortable and stable condition, and the undertaker was satisfied.

Method and materials:

The Naranjo assessment scale was used for adverse drug reactions. Data were collected at a tertiary care hospital, focusing on follow-up cases.

Discussion and management:

Naranjo score

Sl No.	Question	yes	no	Do not know	Score in our case
01	Are there previous conclusive reports on this reaction?	1	0	0	1
02	Did the adverse event appear after the suspected drugs was given?	2	-1	0	2
03	Did the adverse reaction improve when the drug was discontinued or a specific antagonist was administered?	1	0	0	1
04	Did the adverse reaction appear when the drug was re-administered?	+2	1	0	0
05	Are there alternative causes (other than the drug) that could have caused the reaction?	-1	+2	0	+2
06	Was the drug detected in any body fluids in toxic concentration?	+1	0	0	1
07	Did the reaction re -appear when a placebo was given?	-1	+1	0	0
08	Was the reaction reaction more severe when the dose was increased, or less severe when the dose was decreased	+1	0	0	1
09	Did the patient have a similar reaction to the same or similar drugs in any previous exposure?	+1	0	0	1
10	Was the adverse events confirmed by objective evidence?	+1	0	0	1

This case of a 70-year-old lady, with abdominal pain and vomiting, emphasizes the very essence of systemic handling in the aged, particularly where there is hypertension as a comorbidity. She started out on a regimen of analgesics (Mefenamic Acid + Dicyclomine) along with gastric protectants (Pantoprazole) and antibiotics (Cefixime, Metronidazole) and antiparasitic (Ivermectin + Albendazole) medication. Yet once all this was done, she still suffered from nausea, which meant that investigations needed to be extended further and modification of treatment was required.The symptoms were to be assessed through a C.T. scan to ascertain the reason for the continued complaint of abdominal discomfort. While symptoms progressed, Injection Magnex Forte (Cefoperazone + Sulbactam) was initiated with a view to covering a wider spectrum of bacterial infections. Referral to the urologist seems to have actually spelt out the required multi-disciplinary management of a complainant's difficult abdominal symptoms in the aged. The introduction of Injection Piptaz (Piperacillin + Tazobactam) on 4th day, although it was effective against severe infections, led to allergic reaction manifested as whole-body itching. On the Naranjo Adverse Drug Reaction Probability Scale, this event scores greater than 9 thus qualifying it a definite ADR (Adverse Drug Reaction), Piptaz discontinuation immediately followed by Injection Amikacin and Tablet Levocetirizine was an appropriate pharmacological intervention for managing drug-induced hypersensitivity. This incident proves the need for very close monitoring of drug tolerance, especially in the elderly who have higher susceptibility to having ADRs due to age-related physiological change variables and polypharmacy. Localisation of exercise location. Frequently, a lot of couples find exercise routine so terrific that they cannot add another item to their packed daily schedule. Other travel-related fitness options are becoming more attractive and common. Then, there are physical limitations to exercising outdoors during this time of the year. In addition, it creates an extra challenge for those who really want to work out outside their homes. They can be inspired more by exercising outside than they are usually by exercising at home or in a fitness studio.

Results

The patient presented with abdominal pain and vomiting for three days and was initially managed on analgesics, gastric protectants as well as antibiotics, and antiparasitic medicines. She later developed persistent symptoms that warranted further interventions that included broad-spectrum antibiotics (Piperacillin + Tazobactam), causing an allergic reaction (itching all over the body). According to the Naranjo Scale, the ADR was classified under definite cases (>9 scores). This ADR was managed by stopping the offending agent and beginning treatment with antihistamines (Levocetirizine) and an alternative antibiotic (Amikacin). Symptom resolution was there, and the patient was discharged on the fifth day in stable condition.

Conclusion

This case reiterated the need for careful surveillance in ADRs, especially in the elderly population who might have more general, probably chronic diseases. The application of the Naranjo Scale made the ADR objectively assessable for more timely interventions. The multi-disciplinary approach taken together with cautionary monitoring of drugs remains fundamental to ensure the safety of patients and have better clinical outcomes

Ethical approval and informed consent: NA

Declaration of conflict: NA

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