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CEFIXIME INDUCED PERIPHERAL CYANOSIS: A CASE REPORT AND REVIEW OF LITERATURE

Pharmacology

Chetan Sharma PG Demonstrator, Department of Pharmacology, Christian Medical College & Hospital, Ludhiana.

Dinesh K Badyal* Professor & Head, Department of Pharmacology, Christian Medical College & Hospital, Ludhiana. *Corresponding Author

Jugesh Chhatwal Professor & Head, Department of Pediatrics, Christian Medical College & Hospital, Ludhiana.

ABSTRACT

Objective: To evaluate the causality of peripheral cyanosis in a patient on cefixime.

Methods: An 8 month old male infant presented with vomiting, diarrhea & fever for the past two days to the outpatient department of pediatrics. He was diagnosed with acute gastroenteritis and was started with syrup cefixime, syrup bifilac, syrup zinconia and syrup domperidone. The infant developed peripheral cyanosis after an hour of starting the treatment. The patient was given hydrocortisone 80 mg, avil 4 mg intravenously immediately and his condition improved and recovered within next 20 minutes. Syrup cefixime was stopped and discontinued. Adverse drug reaction monitoring centre was notified about the reaction and suspected adverse drug reaction reporting form version 1.2 was used to fill in the details. The causality assessment was done by who-umc causality scale (4)

Results: The causality of cefixime was found to be 'probable' and for other concomitant drugs it was 'possible' by the who-umc causality scale. The causal relationships of other drugs with the reaction were evaluated and found to be 'possible'.

Conclusion: Cefixime was found to have 'probable' causality in this case of peripheral cyanosis.

KEYWORDS

cefixime, peripheral cyanosis, adverse effect.

INTRODUCTION

The cephalosporin belongs to a class of antibiotics known as β lactam antibiotics and share a common structural entity known as β-lactam ring. The β-lactam antibiotics are generally considered bactericidal and work by inhibiting bacterial cell wall synthesis (). In general, as the generation of cephalosporin increases the gram positive coverage decreases and that of gram negative increases () Third-generation cephalosporin are much more active than prior generations against the enterobacteriaceae, klebsiella, proteus, haemophilus influenzae, moraxella catarrhalis, citrobacter ,enterobactere; serratia; neisseria gonorrhoeae. Cefixime is orally available preparation in the form of oral suspension. Cefixime has a plasma t1/2 of 3–4 hrs and is excreted in the urine and also eliminated in the bile. Pediatric dosing for children 6 months and older and less than 45 kg is based on weight (8 mg/kg/d).(3)

Case Report

A 8 month old infant presented to pediatric outpatient department (OPD) with chief complaints of vomiting, loose stools and fever for past two days and was subsequently diagnosed as a case of acute gastroenteritis. On examination, the patient was conscious but lethargic. Hydration was fair enough with normal skin pinch and moist oral mucosa. Slight pallor was present. Cardiovascular, central nervous system, respiratory examination and abdominal examination were within normal limits. No visceral tenderness or organomegaly was found on systemic examination. Laboratory investigations including complete haemogram, liver function test, and renal function test was normal. General examination revealed pulse-110/minute, respiratory rate-34/min, raised body temperature (102 degree farenheit) with absence of oedema, jaundice, cyanosis and clubbing. He had no previous history of any drug hypersensitivity reactions. He was co-prescribed syrup cefixime, syrup bifilac, syrup zinconia and syrup domperidone. The infant developed peripheral cyanosis after an hour of starting the treatment. The patient was given hydrocortisone 80 mg, avil 4 mg intravenously immediately and his condition improved and recovered within next 20 minutes. Syrup cefixime was stopped and discontinued, while rest of the medicines were continued. Syrup Cefixime was not rechallenged or reinstituted. Causality assessment using the who umc criteria (4) and naranjo's algorithm(5) revealed that the adverse drug reaction was probable. The causality was not certain as there was no rechallenge and the drug level was also unknown as required for Naranjo's algorithm adr Monitoring Centre was notified about the reaction and Suspected Adverse Drug Reaction reporting form version 1.2 was used to fill in the details.

DISCUSSION

Though extremely rare, cefixime has been known to cause cyanosis .Literature shows that around 0.08% of the patients receiving cefixime can develop cyanosis.(6) This patient developed cyanosis within one hour of starting cefixime. It is recommended that the patient should be ruled out for any cardiac condition leading to cyanosis or conditions that might precipitate cyanosis .Authentic and reliable history regarding drug induced adverse reactions should be noted and highlighted in the history case sheet. Other causes of cyanosis were ruled out in this particular case. Cefixime is categorized under schedule “H” drug in India as per the notification by the Ministry of Health and Family Welfare (Department of Health) and therefore should not be sold loose without a valid prescription (7). Causality assessment revealed that the ADR was 'probable' according to who umc scale(4) and naranjo's algorithm(5).

CONCLUSION

Cefixime-induced cyanosis, though extremely rare, can be life threatening and it is important to record any prior conditions causing cyanosis. This is a rare case of cefixime-induced cyanosis which developed within one hour of starting cefixime. Patient improved within a few hours of stopping cefixime along with medical line of management .

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Mr Abhishek Gautam
Patient Safety Pharmacovigilance Associate, Christian medical college, Ludhiana

Conflict of Interest

There is no conflict of interest.

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