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Case Report

Chloramphenicol induced maculopapular rashes

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ABSTRACT

Chloramphenicol is a broad spectrum antibiotic that acts by inhibiting protein synthesis. Though systemic use is rare, their topical preparations are commonly used. Allergic reaction due to chloramphenicol ear drops are less reported. Here, we have reported a maculopapular exanthema due to use of chloramphenicol ear drops.

Keywords: Chloramphenicol, Maculopapular exanthema, Otitis externa

INTRODUCTION

Chloramphenicol is a bacteriostatic broad spectrum antibiotics that are active against anaerobic, Gram-positive as well as Gram-negative bacteria. It is a potent inhibitor of microbial protein synthesis. It binds reversely to the 50s subunit of the bacterial ribosome and inhibit the peptidyl transferase step of protein synthesis.[1] Due to its greater toxicity on systemic use and availability of other safe drug it is rarely used and reserved for treatment of life-threatening infection (e.g. meningitis, rickettsial infection) in patient in which safer antibiotics cannot be used due to resistance or allergies. However, it is very commonly used as ear drop for otitis externa caused by bacteria. The drug penetrates the cell membrane readily. Majority of cases are caused due to pseudomonas aeruginosa, followed by a great no of other Gram-positive and Gram-negative species.[2]

CASE REPORT

Patient was 26-year-old male; weight 58 kg suffering from earache from 1-week. Pain was the predominant complaint. Patient also has itchiness and ear discharge. There was no history of reduced hearing, tinnitus, vertigo or any other medical illness. When the ear was inspected, the canal appears red and swollen, touching or moving the outer ear increases the pain, and this maneuver on physical examination is important in establishing the clinical diagnosis. Patient was diagnosed as otitis externa and prescribed the chloramphenicol ear drop 5% 4 times a day. After 1 day of use on 08 October, 2014 patient develop rashes all around the ear, including pinna. Rashes were round in shape, raised from the body surface, appeared reddish in color, and hot on touch. Therefore, chloramphenicol was stopped on the advice of the consultant, and other antibiotic was given. After 6 days (14 October, 2014) of stopping chloramphenicol the, rashes started subsiding. To confirm this rechallenge test was done, and the reaction reappeared after reintroduction which confirms that this was due to chloramphenicol ear drop.

We carried out the causality assessments as per the Naranjo[3] algorithm and preventability and severity assessments as per the Hartwig[4] scale. The causality assessment revealed

a "probable" association (Naranjo score 7) between the adverse drug reaction and chloramphenicol. The severity was found to be moderate (level 3). The preventability analysis revealed the ADR to be "not preventable.

DISCUSSION

Cutaneous drug eruptions are one of the most common types of the adverse reaction to drug therapy, with an overall incidence rate of 2-3% in hospitalized patients.[5-7] Maculopapular eruption is a very common adverse cutaneous drug reaction. Maculopapular rashes consist of macules (distinctly flat areas) and papules (raised lesions). The rash is usually bright red in color, and the skin may feel hot with burning sensation or itch. Chloramphenicol is known to show delayed-type hypersensitivity following topical application.[8] However, it is associated with low sensitizing potential according to animal studies,[9] and only susceptible individuals tend to demonstrate the reaction. Allergic reaction to the eye drops containing chloramphenicol is more commonly reported,[8,9] compared to the ear drops. Maculopapular exanthema is non-immediate allergic reactions due to drugs and T-helper 1 cytokines, and CD4 (+) T-cells have been shown to play an important role in its pathogenesis.[10] The management of such reactions needed withdrawal of the suspected drug and management of symptoms, if any.[11] In this study, the suspected drug was stopped immediately following the ADR and antihistamines were added to manage associated itching due to drug reaction, to which patient responded well. The severity assessment revealed the ADR to be moderate (level 3), suggesting that the suspected drug should be withheld, discontinued, or changed, and/or on antidote or other treatment is required. Since this patient did not have any past history of skin reaction due to chloramphenicol or any other drugs, therefore this reaction was unpreventable.

CONCLUSION

Otitis externa is a common condition in India and chloramphenicol ear drop are commonly used. Although skin reactions due to chloramphenicol are not well reported, one should be suspicious of maculopapular rashes due to chloramphenicol also. If such reactions occur, the suspected drug should be stopped immediately, and the patient should be managed symptomatically. The patients undergoing treatment on an outpatient basis should be counseled for the early recognition of dermatological manifestations.

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