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Ofloxacin induced steven johnson syndrome- case report

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ABSTRACT

Steven Johnson syndrome (SJS) or Toxic Epidermal Necrolysis (TEN) is a life threatening immune complex mediated hypersensitivity reaction which mainly involves skin and mucous membrane. SJS is generally induced by the drugs. The manifestations include blisters on skin, facial swelling, and hyper pigmentation. Here, a 20 year old Indian male received 400mg of ofloxacin over 3 days period for bacterial infection and experienced a severe skin reaction which was diagnosed as toxic epidermal necrolysis. Fluoroquinolones have rarely been implicated in cases of toxic epidermal necrosis. There are few case reports of other fluoroquinolones that have been associated with toxic epidermal necrolysis. We hope that this case report create awareness to the health care professionals that ofloxacin will cause toxic epidermal necrolysis.

Keywords: Ofloxacin, Toxic Epidermal Necrosis, Steven Johnson syndrome.

Introduction

Steven Johnson Syndrome is a rare auto immune disorder which mainly includes skin and mucous membrane[1].It was reported that the incidence of SJS is 0.05 to 2 persons million per population per year.The reported mortality ranges from 3-10%. It is a form of toxic epidermal necrolysis which is characterized by the formation of erythema, peeling of the skin, reddish skin rashes and minute blisters.The most common drugs which causes SJS are sulphonamides, non-steroidal anti-inflammatory drugs, imidazole antifungal, cephalosporins, anticonvulsants, allopurinol, broad-spectrum bactericidal agents and HAART regimen. Rarely fluroquinolones may cause serious cutaneous drug reactions. Ofloxacin, an quinolone antimicrobials which belongs to first generation was first introduced in 1980.Oflaxacin inhibits the enzyme bacterial DNA gyrase, which nicks double stranded DNA, introduce negative supercoils and then reseals the nicked ends. This is necessary to prevent excessive positive supercoiling of the strands when they separate to permit replication or transcription.

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The DNA gyrase consists of two- A and two- B subunits, A subunits carries out nicking of DNA, B subunits introduces negative supercoils and then A-subunit reseals the strands. Ofloxacin bind to A-subunit with high affinity and interfere with its strand cutting and resealing function. The common side effects likely to be found are dizziness, headache, restlessness, bad taste, anorexia etc[2]. We report a patient who was in ofloxacin treatment for infection, developed Steven Johnson Syndrome.

Case report

A 20 year old male patient who has undergone therapy with ofloxacin and paracetamol IV for the treatment of fever was admitted in hospital with complaints of hyper pigmented skin and minute blisters initially around right eye and back, then all over the body. Also, He has difficulty in swallowing. After two days peeling of skin over the neck was found. From the past history it was found that before six months he has similar episodes after taking ofloxacin injection for fever and developed blackening of skin all over the body for two days. The condition got cured after the stoppage of injection. Blood tests show that he had raised ESR count-68mm/hr, RDW- 19.5% and decrease in Hb-5.7g/dl, MCV-55.2µm³, MCHC-27.9g/dl, MCH-15.3pg/cell, HCT-20.4%. Urine analysis, Electrocardiogram and liver function tests were

normal. His chest x ray showed that he has para cardiac infiltration. In USG abdomen minimal ascites were found. After the physical examination and by the evaluation of the medical team, it was found that the hyperpigmentation in skin is due to ofloxacin and was diagnosed as ofloxacin induced Steven Johnsons Syndrome. Then the patient was advised to stop fluroquinolones and prescribed with the following medication Amoxicillin (anti-infective), pantoprazole (PPIS), Folvit(folic acid), syp. zincofer, liquid paraffin, dermadew aloe lotion.

Discussion

SJS is a delayed hypersensitivity inflammatory adverse drug reaction which is mainly caused by drugs like sulfonamides and antibiotics. The recent studies have reported SJS is also caused by drugs like NSAIDS, anti-convulsants and anti-retroviral drugs. From these case it was found that flouroquinolones (ofloxacin) is also found to cause Stevens Johnson Syndrome.

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Conclusion

Adverse drug reaction has now become one of the leading causes of hospitalization among patients. This case report is one of the serious and rare adverse drug reactions caused due to ofloxacin. The physician should consider better alternative among antibiotics in these cases and also should advise the patient to stop the drug when these reaction persist.

Reference

1. Harr T, French LE. Toxic epidermal necrolysis and stevens Johnson syndrome.Orphanet Journal of Rare Diseases.2010;5:39.doi:10.1186/1750-1172-5-39.
2. Mohammad Asif.Role of Quinolones and quinoxaline derivatives in the advancement of treatment of tuberculosis. International Journal of scientific World, 3(1)(2015) 18-36 doi:10.14419/ijsw.v3il.3432