Print ISSN 2319-2003 | Online ISSN 2279-0780

IJBCP International Journal of Basic & Clinical Pharmacology

doi: 10.5455/2319-2003.ijbcp20140433

Case Report

Nevirapine-induced Stevens-Johnson syndrome from a tertiary care hospital in Central India

Vandana Badar, Swapnil Deshmukh*, Dharmendra Mishra, Sangita Chaudhari

Department of Pharmacology, IGGMC, Nagpur, Maharashtra, India

Received: 17 February 2014
Accepted: 28 February 2014

***Correspondence to:**
Dr. Swapnil Deshmukh,
Email: deshmukhswapnil697@gmail.com

ABSTRACT

A 42 year old man, a known case of AIDS receiving antiretroviral therapy – stavudine, lamivudine, and nevirapine since 4 weeks, was admitted with erythematous rash, with blisters, and abnormal liver function test. A diagnosis of Steven-Johnson syndrome was made excluding other opportunistic infection and differential diagnosis. Nevirapine was discontinued until the patient recovered. After recovery patient was started with stavudine, lamivudine, and efavirenz treatment without re-challenge with nevirapine.

Keywords: Nevirapine, Stevens-Johnson syndrome, Antiretroviral therapy

INTRODUCTION

Nevirapine, an antiretroviral non-nucleoside reverse transcriptase inhibitor (NNRTI), directly inhibit HIV reverse transcriptase without intracellular phosphorylation. Rashes are the most common adverse effect followed by nausea and headache. Fever and rise in transaminase occur dose dependently and is potentially hepatotoxic. Occasionally skin rashes caused by nevirapine are very severe.[1] Among NNRTIs nevirapine, delaviridine there is a high frequency of rash associated with administration.[2] With nevirapine this is often a generalized maculopapular erythematous reaction which is generalized usually sparing palms and soles.[3]

CASE REPORT

A 42 year old male patient, a known case of AIDS, with CD4 count of 190 cells/mm^3 receiving antiretroviral therapy (ART) consisting of stavudine 150 mg, lamivudine 150 mg, and nevirapine 150 mg since 4 weeks, was referred from ART center to medicine OPD with complains of rashes all over the body and fever since 8 days. The patient presented with erythematous rash all over the body, which progressed to blisters within 2 days. There were multiple red, macular lesions of skin and erosions of buccal and anal mucosa with conjunctivitis. On examination, patient was toxic. Pulse was 120/min. Skin was tender. Patient was unable to eat and drink because of painful lesions. Hemorrhagic crusting was present on lips, hands, and trunk. On investigation, urine albumin and sugar were normal. On liver function test examination, serum glutamate oxaloacetate transaminase (SGOT:81.4IU) and serum glutamate pyruvate transaminase (SGPT:61.7) were raised. Serum total proteins (8.8 g%) and serum albumin (4.14 g%) were normal. Serum bilirubin indirect were 0.38 mg%, direct were 0.11 mg%. No other organs were involved. A diagnosis of Steven-Johnson syndrome (SJS) was made excluding other opportunistic infections and differential diagnosis. Patient was referred to skin wards from medicine OPD. Patient was treated with methylprednisolone 16 mg 1BD and then in tapering doses

for 3 days. Patient was given azithromycin, topical steroid triamcinolone acetate cream, betamethasone lotion, anti-allergic, and prompt discontinuation of nevirapine. The rash lasted for 7 days, and then slowly faded. The patient was continued with topical steroids, stavudine, lamivudine, without re-challenge with nevirapine. Efavirenz was included instead of nevirapine.

DISCUSSION

Over the past 35 years, HIV infection has emerged as a major global health problem. Though with the use of effective ART, the prevalence is declining in the present century.[4] WHO estimates in 2009 showed that 33.3 million people infected with HIV and AIDS killed 1.8 million people in 2010.

We described a case of SJS caused by nevirapine, a NNRTI for HIV therapy. It frequently causes adverse cutaneous events: rash (32-48%) with 2-6 weeks after starting therapy; severe cutaneous reaction (8% grade 3-4 of WHO scale and SJS (0.3-1%).[5] Severe rashes have been observed in 3% of patients taking neviarpine in clinical trials, 85% of whom were men.[6] A hypersensitivity is well recorded.[7]

Nevirapine is the leading cause of SJS and TEN related to AIDS in Europe.[8] In AIDS patient combination therapy is commonly preferred (stavudine + lamivudine + nevirapine). There are many references showing nevirapine is the most common drug responsible for severe cutaneous adverse drug reaction. Nevirapine was stopped and the patient was treated with steroids, antibiotics and anti-allergics. When the lesions were resolved completely, once again the patient was started with ART but nevirapine was replaced with efavirenz (stavudine + lamivudine + efavirenz) and discharged from hospital. Re-challenge was not done with nevirapine. SJS or TEN has been reported to occur in 0.3% of the patients taking nevirapine within first 4-6 weeks of treatment.[9] Patients infected with HIV are at increased risk of developing severe cutaneous or mucocutaneous drug reactions. The identification of single drug as the cause of a drug eruption is difficult because antiretroviral agents are not used in monotherapy and are often associated with many other drugs, such as antibiotics.[5] In this patient, SGOT and SGPT were raised owing to nevirapine as other risk factors like CD4 >250 mm^3 was present.[10] In the present case, the patient was administered stavudine 300 mg and lamivudine 150 mg both of which have no association with SJS. WHO-Uppsala Monitoring Center causality assessment criteria indicated a probable association with nevirapine.[11] A strict vigilance should be kept for patient receiving ART for first 2 months and dose of nevirapine should be gradually increased 200 mg OD for 2 weeks and then 200 mg BD to avoid long-term ADRs.

CONCLUSION

Given the association between HIV infection and a hypersensitivity reaction, all patients who developed SJS should be screened for HIV.[12]

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Tripathi KD. Antiviral drugs. In: Tripathi KM, editors. Essentials of Medical Pharmacology. 7th Edition, Chapter 58, Section 12. New Delhi: Jaypee Publication; 2013: 808-9.
2. Breathnach SM, Smith CH, Chalmers RJG, Hay RJ. Systemic therapy. Antiviral drugs. In: Breathnach S, Cox N, Griffith C, editors. Rook's Textbook of Dermatology. 8th Edition. Oxford: Blackwell Science; 2010: 74.50.
3. Monosuthi W, Sungkanuparph S, Tansuphasewadikul S, Inthong Y, Prasithsirikul W, Chottanapund S, et al. Incidence and risk factors of nevirapine associated skin rashes among HIV infected patients with CD4 count <250 cells/mm^3. Int J STD AIDS. 2007;18(11):782-6.
4. Tripathi KD. Antiviral drugs. In: Tripathi KM, editors. Essentials of Medical Pharmacology. 7th Edition, Chapter 58, Section 12. New Delhi: Jaypee Publication; 2013: 806.
5. Warren KJ, Boxwell DY, Drolet BA. Nevirapine associated Steven Johnson syndrome. Lancet. 1998;351:567.
6. Bersoff-Matcha SJ, Miller WC, Aberg JA, van Der Horst C, Hamrick HJ Jr, Powderly WG, et al. Sex differences in nevirapine rash. Clin Infect Dis. 2001;32(1):124-9.
7. Wit FW, Kesselring AM, Gras I, Richter C, van der Ende ME, Brinkman K, et al. Discontinuation of nevirapine because of hypersensitivity reactions in patients with prior treatment experience compared with treatment naïve patients. The ATAENA cohort study. Clin Infect Dis. 2008;46(6):933-40.
8. Mason AR, Cortes GY, Pollack RB. Nevirapine induced Steven Johnson Syndrome in a pediatric patient. Pediatr Dermatol. 2008;25(1):128-9.
9. Metry DW, Lahart CJ, Farmer KL, Hebert AA. Steven Johnson Syndrome caused by the antiretroviral drugs: Nevirapine. J Am Acad Dermatol. 2001;44:354-7.
10. Wit FW, Weverling GJ, Weel J, Jurians S, Lange JM. Incidence of and risk factors for severe hepatotoxicity associated with antiretroviral combination therapy. J Infect Dis. 2002;186:23-31.
11. The use of WHO-UMC system for standerdised case causalty assessment Uppsala: The Uppsala Monitoring Centre. S-8-2010. Available from: http/www.who-umc.org/graphics/4409.pdf.
12. Wirima JJ, Harris AD. Steven Johnson Syndrome during antituberculosis chemotherapy in HIV seropositive patients: Report on six cases. East Afr Med J. 1991;68(1):64-6.

doi: 10.5455/2319-2003.ijbcp20140433
Cite this article as: Badar V, Deshmukh S, Mishra D, Chaudhari S. Nevirapine-induced Stevens-Johnson syndrome from a tertiary care hospital in Central India. Int J Basic Clin Pharmacol 2014;3:408-9.