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Case Report

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PARENTERAL DEXAMETHASONE INDUCED SEVERE GENERALIZED SKIN RASHES: A RARE AND SERIOUS CASE REPORT

Dr. P. Venkata Ramana[1], S. Susmitha[2]*, J. Lavanya[2] and Danish Ahmad Khan[2]

[1]Assistant Professor, Department of Pharmacy Practice, P.Rami Reddy Memorial College of Pharmacy, Kadapa.
[2]Pharm-D intern, Department of Pharmacy Practice, P.Rami Reddy Memorial College of Pharmacy, Kadapa.

***Corresponding Author: S. Susmitha**

Pharm. D Intern, Department of Pharmacy Practice, P.Rami Reddy Memorial College of Pharmacy, Kadapa.

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ABSTRACT

Dexamethasone is a fluorination at position 9 which is highly potent synthetic glucocorticosteroid which has minimal mineralocorticoid activity. It relieves swelling, heat, redness, and pain and is used to treat certain conditions like allergic disorders, skin conditions, ulcerative colitis, arthritis, psoriasis, and breathing disorders. It is also used to treat certain types of cancers. A 40 years male patient was admitted in dermatology ward with chief complaints' of skin patches, itching and burning sensation around patches, irritation, stinging and pain throughout the body and thickened nails since 5 days, and loss of appetite since 3 days and sleep disturbance due to skin itching since 5 days, His past medical history includes he was known psoriasis patient since 3 years, Past medication history includes he was on treatment with liquid paraffin, cap. Vitamin A & D, 0.5% salicylic acid and topical betamethasone was taken. Severe and red color rashes throughout the body after administration of inj. Dexamethasone sodium, this is the reason for hospital admission. Better vigilance is necessary for implementation of safe and effective treatment for each individual patient. In-order to prevent serious adverse drug reactions of this drug, close monitoring during treatment course, creating awareness, recognition of the problem and careful management of all patients who receive this medication are essential, corticosteroids commonly causes dermatological toxic effects like inflammation at the site of skin patches, allergic disorders, dermatitis, psoriasis which causes permanent disability, morbidity, mortality.

KEYWORDS: Dexamethasone, skin patches, psoriasis, adverse drug reaction.

INTRODUCTION

Dexamethasone is a fluorination at position 9 which is highly potent synthetic glucocorticosteroid which has minimal mineralocorticoid activity. A corticosteroid is similar to a natural hormone produced by our adrenal glands. It relieves swelling, heat, redness, and pain and is used to treat certain conditions like allergic disorders, skin conditions, ulcerative colitis, arthritis, psoriasis, and breathing disorders. It is also used to treat certain types of cancers. It blockade by hydrocortisone mesylate and actinomycin D of the inhibitory effect of dexamethasone on leukocyte infiltration in inflammatory sites. Majorly it causes Cushing syndrome, hyperglycemia, muscle weakness, sleep problems, unexplained weight gain, increased sweating, and dry skin.[1] This is a case report of 40 years male patient was admitted with psoriasis vulgaris in dermatology department. Overall incidence rate of 2–3% in hospitalized patients. Almost any medicine can induce skin reactions, and certain drug classes, such as non-steroidal anti-inflammatory drugs (NSAIDs), antibiotics and antiepileptic have drug eruption rates approaching 1–5%.[2] Dexamethasone is most frequently administered intravenously by anesthetists; although patients may be commenced on oral dexamethasone preoperatively. The biological half life is about 3 to 5 hours, although the duration of action may be much longer. Dexamethasone is bound to plasma proteins in much lower levels than other glucocorticoids. Hepatic metabolism (both glucuronidation and sulfation) occurs to produce inactive metabolites, with 65% of the dose of dexamethasone excreted in the urine within 24 hours.[3]

CASE REPORT

A 40 years male patient was admitted in dermatology ward with chief complaints' of skin rashes, itching and burning sensation around rashes, irritation, stinging and pain throughout the body and thickened nails since 5 days, and loss of appetite since 3 days and sleep disturbance due to skin itching since 5 days. Patient not had any relevant past medical and medication history. On general examination the patient was conscious and coherent and his physical examination includes PR-82bpm, BP-120/80 mm/hg, on systemic examination CVS-S_1S_2+, RR-20CPM, RS- clear. On dermatological examination, erythematous, scaling plaques on the scalp, trunk and both limbs were observed. Histopathology of

the skin was consistent with "psoriasis vulgaris" it was showed in following figure (1).

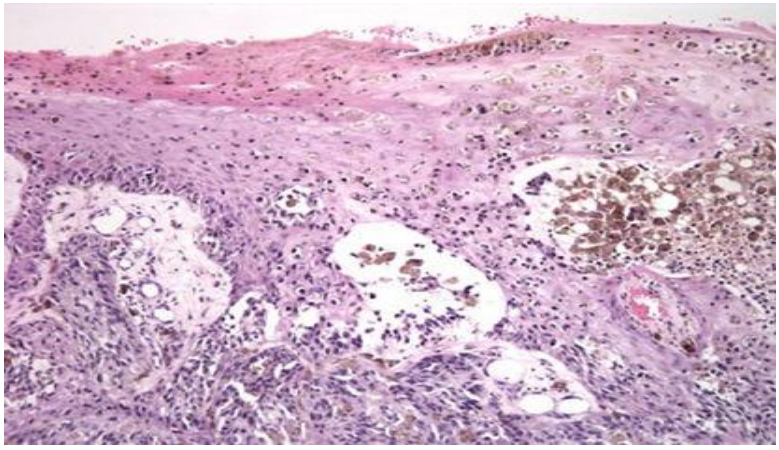

Fig (1): Shows histopathology of psoriasis.

The treatment was given as follows Tab. Cetrizine in dose of 10mg two times in a day, Tab. Chlorphenaramine malate in dose of 4 mg two times in day, ointment. Betamethasone 0.1% w/v in dose of three times in a day and injection dexamethasone in dose of 8 mg, Tab. Augmentin in dose of 625 mg two times in a day, capsule Vitamin A&D in dose 5400 I.U. of two times a day, Tab. Methotrexate 2.5 mg once in a day. The patient was showed response to the given therapy without any other complaints but on 2nd day of treatment, he had complaints of severe red color rashes throughout the body with continuous itching immediately after administration of parenteral dexamethasone sodium. Then the patient was shifted to intensive care unit and again examined by dermatologist, and conformed as drug induced severe generalized skin rashes. Based on the above information here we have suspected it as possible ADR (severe generalized skin rashes) which was shown in following figure (2).

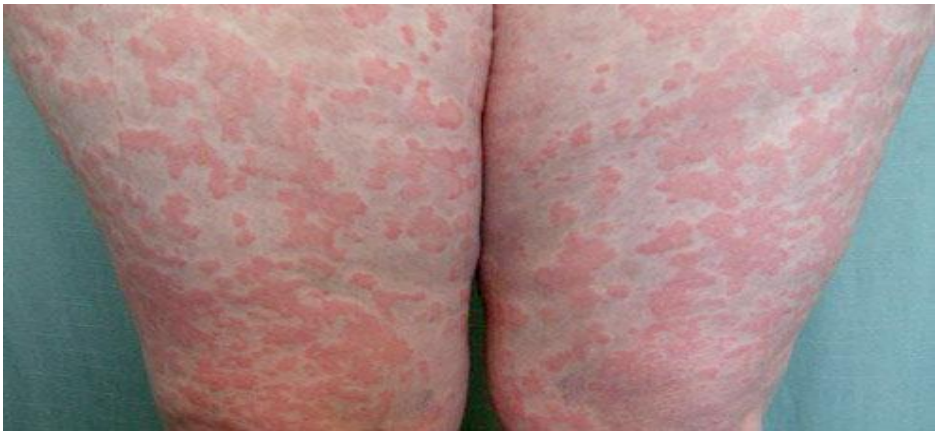

Fig (2): Shows skin rashes after administration of Dexamethasone.

On analysis compared to all other drugs prescribed, dexamethasone pharmacology and literature support the occurrence of severe generalized skin rashes. In order to conform the relationship between the effect and drug we have also done dechallenge test i.e. drug was withdrawn from the treatment regimen. We followed the patient continuously and on 5th day the severity of skin rashes was subsided.

Causality assessment: To evaluate the relationship between the drug and reaction, we have performed causality assessment by using scales like WHO causality assessment scale, naranjo's scale and karsch lasagna scale and analysis of observed ADR (Table 1) & (Table 2).

Table 1: Causality assessment of suspected ADR.

ADR SCALE	WHO-UMC	NARANJO'S	KARSCH&LASAGNA
ASSESSMENT	Certain	Definite	Definite

Table 2: Analysis of observed ADR.

SEVERITY ASSESSMENT	Severe level-5
PREVENTABILITY	Definite Preventable
PREDICTABILITY	Unpredictable

DISCUSSION

Psoriasis is a chronic inflammatory dermatitis that affects about 2% of the population. It usually appears first between the age of 15 and 30 years. In about 25% of cases, peculiar thickening of nails is seen. Psoriatic arthritis resembling rheumatoid arthritis is produced in about 5% of cases but rheumatoid factor is absent[4] it is equally common in males and females. Although rarely life-threatening, psoriasis has an adverse physical and emotional impact on quality of life.[5] Psoriasis has several distinct susceptibility loci. Recent studies suggest that disease results when specifically sensitized populations of T cells enter the skin. Because certain HLA types are preferentially affected it is likely that lesion development requires a combination of genetic and immune factors. T cells infiltrating the skin may create an abnormal micro environment by secreting cytokines and growth factors that influence keratinocyte replication and senescence pathways resulting in the characteristic inflammatory and proliferative lesions.[6] Glucocorticoids have immunosuppressant effect. It inhibits both T-cell, and B-cell functions and impairs the humoral and cell mediated immunity.[7] These cell mediated responses may be inhibited by inhibiting the production of cytokines including TNF-α and interleukins and suppress all types of hypersentivity and allergic reactions.[8] In our case dexamethasone was given in skin patches at all over the body it will reduces the inflammation at the site of skin patches but common adverse drug reactions like allergic disorders, dermatitis, arthritis, psoriasis. In our case patient had complaints of skin patches and itching at all over the body this condition is called psoriasis. In our case patient had history of usage of Inj. Dexamethasone and he had developed severe generalized skin rashes. During treatment course as a clinical pharmacist we have identified adverse drug reactions as follows, the patient was under the medication with inj. Dexamethasone, based upon the literature reviews and based on local examination and other investigations we have concluded that this condition is due to the drug betamethasone and performed causality assessment, severity, preventability, predictability. After the identification we have immediately withdrawn the drug dexamethasone and provided appropriate treatment.

CONCLUSION

Better vigilance is necessary for implementation of safe and effective treatment for each individual patient. In-order to prevent serious adverse drug reactions of this drug sensitivity test is need to perform through intra dermal route before giving this drug, close monitoring during treatment course, creating awareness, recognition of the problem and careful management of all patients who receive this medication are essential, because by the use of corticosteroids commonly causes dermatological toxic effects like inflammation at the site of administration, allergic rashes, dermatitis etc. if not providing close monitoring during treatment course, which can cause permanent disability, morbidity, mortality.

REFERENCES

1. KD. Tripati; Essentials of medical pharmacology, 7th edition, Jaypee the health science publishers Pg.no: 293.
2. Rang and Dales Text book of Pharmacology, 7th edition, Elsevier publisher's pg.no: 406.
3. HL Sharma, KK Sharma, Principles of pharmacology, 2nd edition Paras medical publishers; Pg. no: 623.
4. Harsha Mohan, Text book of Pathology, 7th edition, Jaypee publishers, Pg. no: 768.
5. Joseph T. Dipro Pharmacotherapy a pathophysiologic approach, 7th edition, pg. no: 1603.
6. Robbins et al Basic pathology, 7th edition, Elsevier publisher's pg. no: 794.
7. Tara. V. Shanbhag, Pharmacology, 2nd edition Elsevier publishers' pg. no: 336.
8. JS Pasricha, Illustrated textbook of Dermatology, 3rd edition, Jaypee publishers Pg.no: 142.