

CASE STUDY OF GABAPENTIN INDUCED EXFOLIATE DERMATITIS

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Abstract

OBJECTIVE: *To report a case of possible Gabapentin-induced Exfoliate Dermatitis*

CASE SUMMARY: *A 62 old male patient with the chief complaints of rash since 10 days. He was on treatment with Gabapentin and Pregabalin for paraesthesias by neurosurgeon from last month. Developed rash all over the body since 10 days. Past history includes similar rashes due to Diclofenac. No history of Psoriasis/eczema/no history of weight loss/cough/blood in stools. On examination patient has generalised scaling over background of erythema all over the body, exfoliation with rise of temperature. This presentation is consistent with the features of Exfoliate Dermatitis. Resolution of the clinical manifestations was observed after discontinuation of the drug; all other drugs, infections, or immunologic disorders that could have caused this syndrome were carefully excluded. An objective causality assessment revealed that exfoliate dermatitis was possibly associated with the use of Gabapentin.*

CONCLUSIONS: *Although Gabapentin administration seems to be the underlying cause of the Exfoliate Dermatitis observed in our patient, establishment of a definite causal relationship requires additional cases and supportive data.*

Keyword: *Exfoliate dermatitis, Erythema multiforme*

1.INTRODUCTION

Exfoliative dermatitis, or erythroderma, is an erythematous, scaly dermatitis involving at least 90% of the skin surface. The diagnosis of exfoliate dermatitis is

based on skin findings on physical examination. The term "erythroderma" was first used by Hebra in 1868 to describe exfoliate dermatitis affecting at least 90% of the skin surface area ⁽¹⁾. It is systemic and potentially life-threatening complications include fluid and electrolyte imbalance, thermoregulatory disturbance, fever ⁽²⁻³⁾, tachycardia, high-output failure, hypoalbuminemia, and septicaemia. Common underlying etiologies are psoriasis, atopic dermatitis, and other spongiotic dermatoses, drug hypersensitivity reactions, and cutaneous T-cell lymphoma (CTCL). The cause of ED is unknown (idiopathic) in approximately 20% of cases.

This case report describes a probable association of Exfoliate Dermatitis with Gabapentin. Gabapentin, 1-(amino methyl) cyclohexane acetic acid, was licensed for use as an antiepileptic agent ⁽⁴⁾. While no conclusive report of Exfoliate dermatitis with Gabapentin have been published in the literature ⁽⁵⁻⁷⁾. Exfoliate Dermatitis, commonly iatrogenic, also has a very unpredictable timeline after initiation of the causative agent ⁽⁸⁾.

2.CASE REPORT

A 62 year-old male patient reported with complaints of skin rash since 10 days. Patient treated with Gabapentin and Pregabalin for paraesthesia from last month. Now developed rash all over the body since 10 days. As per past medication history patient is allergic to Diclofenac. On examination, generalised scaling over background of erythema all over the body, and edema and exfoliation with rise of temperature present. No history of Psoriasis/Eczema/ Weight loss/ Cough/Blood in stools. No other complications patient is conscious, coherent and vitals stable.

The course of this patient's Exfoliate Dermatitis was complicated by a slow development over approximately 12 days. The first objective evidence of the patient's skin rash all over the body was documented. Advice skin biopsy, 3mm punch biopsy taken from right leg which shows the epidermis has orthokeratosis with hyperkeratosis and Para keratosis and there is a marked spongiosis with mild focal lymphocytic exocytosis, features favour Spongiotic Dermatitis with few eosinophils' drug induced.



2.1. Laboratory Investigations

1. Slightly decrease in Potassium 2.8(3.6-5.1mmol/L)
2. High glucose such as Random Plasma Glucose 227(70-200mg/dl)
3. WBC 15,300(4000-11000cells/Cumm)

2.2. Differential Diagnosis

3mm punch biopsy taken from right leg showed features suggestive of spongiotic dermatitis which we interpreted as compatible with drug eruption? Drug induced Erythroderma? Exfoliation? lichthyosis.

2.3. Final Diagnosis

Drug induced Exfoliate Dermatitis, Patient came with skin rashes all over the body since 15 days, took gabapentin tablets regularly for paraesthesia. During the course in the hospital the patient has following treatment and chief complaints.

The day wise analysis of patient, Fudic cream was given for skin infection which is applied twice daily on the affected site. Inj.Magnex forte 1.5gm for skin infections, WBC count was increased to decline in the infections, Inj.Avil 2cc which is given twice daily for allergic conditions, Inj.Hydrocortisone 100mg used for itching and Liquid paraffin twice daily for itching and burning.

Patient has complaint of mild itching and on treatment with T.Atarax 25mg. Patient developed Hypokalaemia potassium level 2.8 because of the treatment with steroids and antibiotic, so Syp.Potklor was advised 10ml thrice daily. Scaling and erythema was reduced, had complaint of swelling of hand and feet continue the same treatment.

Punch biopsy was done decreased LA, decreased Aseptic condition, site on the right leg. Haemostasis maintained. Advice CBP, TPMT (Thiopurine methyl transferase) RBS, RFT. Patient developed Hypokalaemia potassium level is 2.8 because of the treatment with systemic steroids and antibiotics. Advice spot urine potassium and on treatment with Syp.Potklor 10ml TID. The report of RBS is found to be 227. The case reviewed Serum Potassium is 3.7 and Urine Potassium is 37.

She was started on Inj.Magnex Forte 1.5gm which is used to treat bacterial infections, Inj.Avil IM 2cc which is an antihistamine used to treat allergic reactions, Liquid Paraffin is used for itching and burning, Inj. Hydrocortisone 100mg is used for skin infections, redness and itching and T.Atarax 25 mg used to treat itching, Syp.Potklor 10 ml used for deficiency of potassium. Plan for discharge.

3.DISCHARGE MEDICATION

S. N O	BRAND NAME	GENERIC NAME	THERAPEUTIC USE	DOSE AND FREQUENCY

1	Tab.Nek sium	Esomeprazo le	Prophylaxis	40 mg OD (before breakfast)
2	Tab. Defcort	Deflazacort	Allergic reactions, Skin disorders	30 mg OD (after breakfast)
3	Tab.Atar ax	Hydroxyzine hydrochlori de	Skin Itching, allergies	25 mg BD (after breakfast and dinner)
4	Halovat e F Cream+ Venusia Max Cream		Itchy & Dry skin conditions	BD

4.DISCUSSION

Gabapentin is an anti-epileptic agent but now it is also recommended as first line agent in neuropathic pain. Gabapentin has also been shown to induce modulate other targets including transient receptor potential channels, NMDA receptors, protein kinase C and inflammatory cytokines. It may also act on supra-spinal region to stimulate noradrenaline mediated descending inhibition, which contributes to its anti-hypersensitivity action in neuropathic pain⁽⁹⁾.

In therapeutic use Gabapentin has associated with the adverse effects of swelling of the hands /ankles/feet, Drowsiness, Dizziness, loss of coordination, tiredness, blurred/double vision, unusual eye movements, or shaking. .

Exfoliate dermatitis is an uncommon adverse reaction to the administration of Gabapentin. Exfoliate toxins are responsible for a spectrum of disease ranging from localised blisters to extensive exfoliation, which has previously been called dermatitis exfoliate, pemphigus neonatorum, Lyell's disease and Ritter's disease.

Exfoliate dermatitis begins in most people with extreme reddening, which spreads over large portions of the body. This change in skin colour is known as erythroderma. Erythroderma and exfoliate dermatitis are both names for this condition. Massive peeling of the skin follows the reddening and inflammation. The skin may be rough and scaly. The dryness and peeling of your skin can cause itching and pain.

Treatment of Exfoliate dermatitis begins by discontinuing the causative agent as soon as Exfoliate dermatitis is suspected. Supportive care, which involves the use of sterile dressings, topical antimicrobials, and aseptic technique, should be provided. Although prophylactic antibiotics are indicated, special care should be used to avoid possible transmission of pathological agents. Immunosuppressant, most commonly corticosteroids have also been used to halt the progression of lesions and improve survival in patients with Exfoliate dermatitis. There is minimal information concerning the use of topical corticosteroids, and the use may not be effective. In this case Patient developed Hypokalaemia potassium level is 2.8 because of the treatment with systemic steroids and antibiotics.

Management includes cessation of the responsible drugs or treatment of the precipitating infection, administration of intravenous fluids and topical anesthetics, as well as prevention of secondary infections. Although our patient was given corticosteroids, the value of systemic steroids in this syndrome is controversial. So to this patient Gabapentin was stopped and Inj.Magnex forte 1.5 gm, Inj.Avil IM 2cc and Atarax 25 mg for allergies.

5.CONCLUSION

In order to avoid morbidity and mortality associated with Exfoliate Dermatitis, it is at most significance to be vigilant while giving drugs known to cause Exfoliate Dermatitis, early diagnosis, identification of the culprit drug, its prompt withdrawal and specialised supportive care. Since, Gabapentin has been reported to cause Exfoliate Dermatitis.

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