Phenytoin Induced Erythroderma: A Case Report

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Abstract- *Phenytoin is the oldest Non-Reactive antiseizure/anticonvulsant drug with the chemical name 5,5Diphenylhydantoin belonging to hydantoin derivative. Indicated for the treatment of partial seizures and generalized tonic clonic seizures. Serious dermatological reactions resulted are Bullous dermatosis, Erythroderma, lupus erythematosus, Steven-johnson syndrome, Toxic epidermal necrolysis. Erythroderma is a rare skin disorder that may be caused by a variety of underlying dermatoses, infections, systemic diseases and drugs. The phenytoin induced Hypersensitivity syndrome is characterized by the development of fever, rash, lymphadenopathy, and Hepatitis associated with leukocytosis and eosinophilia. Topical and systemic steroids play a very important role in exfoliative dermatitis along with other symptomatic therapy like antihistamines, antibiotics, liquid paraffin etc.*

Keywords- Phenytoin, Erythroderma, skin reactions, anticonvulsant, Hypersensitivity, rash, topical and systemic steroids.

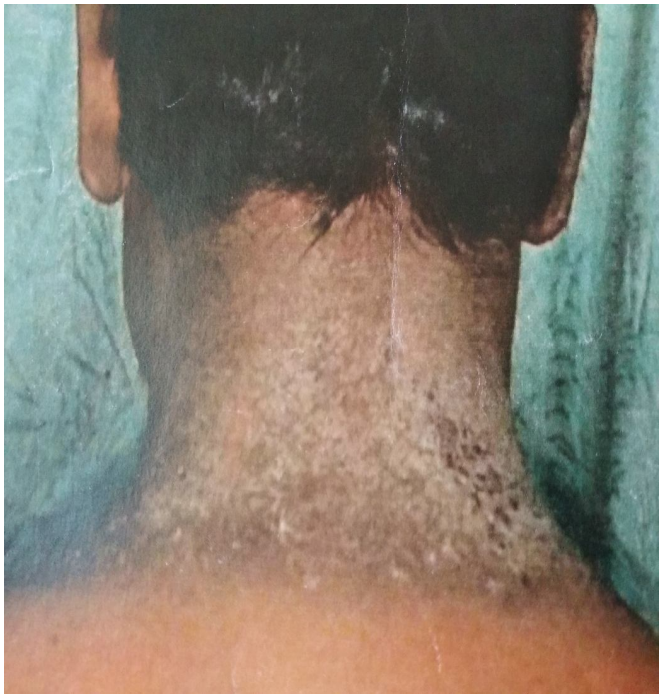
I. INTRODUCTION

Erythroderma is a rare skin disorder that may be caused by a var of underlying dermatoses, infections, systemic diseases and drugs. The most common causative factors were dermatoses, followed by drug reactions, malignencies and idiopathic causes. Carbamazepine was the most common drug. The best clinicopathologic correlations was found in cutaneous T-Cell lymphoma and pityriasis rubra Polaris related Erythroderma. Apart from scaling and erythema that were present in all patients, pruritis was the most common finding, followed by fever, lymphadenopathy, edema and hyperkeratosis. The clinical features of Erythroderma were identical, irrespective of the etiology(1). The Phenytoin induced Hypersensitivity syndrome is characterized by the development of fever, rash, lymphadenopathy and Hepatitis associated with leukocytosis and eosinophilia(2). Phenytoin is the oldest Non-Reactive antiseizure/anticonvulsant drug with the chemical. 5,5Diphenylhydantoin belonging to hydantoin der. It works by enhancing the sodium efflux from the neurons of motor cortex thus reducing the excessive stimulation of membrane sodium. Thus, reduces posttenanic potentiation at synapses and prevents repetitive detonation of cortical seizure foci and hence, is indicated for treatment of partial seizures and generalized tonic clonic seizures(3). Management of patients receiving anticonvulsant drugs is often a matter of balancing medication efficacy against untoward effects. Cutaneous drug reactions(CDRs) to anticonvulsants are widely recognized idiosyncratic effect. Almost 60 years experience with Phenytoin and more than 80 years experience with phenobarbital(phenobarbitone), anticonvulsant induced CDRs remain one of the most difficult challenge in optimising the care of patients with epilepsy and mood disorder(4). The serious dermatological reactions resulted are Bullous dermatosis, Erythroderma, lupus erythematosus, Steven-johnson syndrome, Toxic epidermal (5). Erythroderma or Exfoliative dermatitis is a type of severe skin disorder resulting from many different causes. The causative factors include idiopathic causes, previous dermatological reactions, drug reactions, infections(6).

II. CASE

A 27yrs old male patient got admitted in the department of Dermatology with the chief complaints of rashes along with itching all over the body since 5-6 days mainly on face then followed by upper limb, lower limb, abdomen,Shortness of breath, pedal edema, hair loss, watery eyes. Intense itching and scaling, fever not associated with chills and rigors. Past medication history was Tab.Phenytoin 100mg OD similar reactions were found 1month back due to drug Phenytoin and stopped the medication. Later re-intake of drug Working since 1week. On examination patient was conscious and coherent, and BP-120/80mmhg, PR-76/m, Heart/Lungs-NAD, pedal edema+, P/A-Soft. Cutaneous examination generalized erythema, scaling present all over the body which includes hair, scalp, palm and soles. Inguinal CN, cervical CN where mucosa, genatilia, nails are found to be normal. Laboratory findings show complete blood picture where RBC, Hb got decreased, WBC increased that is neutrophilicleukocytosis, serum electrolytes were found to be normal, RFT shows increase blood urea, serum calcium got decreased. on the subjective and objective data it was diagnosed as Erythroderma due to phenytoin. As the patient has similar reactions with past medication history 1month back and upon re-administration of Option 1week back the reactions reappeared and we’re severe than before. Due to

reoccurrence of similar reactions to same drug in the patient it is confirmed as Phenytoin induced Erythroderma. This condition is recovered by replacing phenytoin with leviteracetam and with other symptomatic therapy. Treatment started with alternate drug to phenytoin 100mg that is Tab.Leviteracetam 500mg BD, oral corticosteroids, symptomatic therapy with antihistamines, antibiotics, topical emollients, moisturizers and multivitamins for a speed recovery. Improvement in the patient was observed and the patient was discharged with same medication.



III. DISCUSSION

Medications also have known to be the important causative agents such as antiepileptic drugs, antibiotics, antihypertensive, calcium channel blockers few topical agents(7). Withdrawal of the suspected drug helps in betterment of the condition. If any such reactions occur after administration of phenytoin, stop the drug immediately. Erythroderma accounts for about 1percent of the overall admissions of the dermatological conditions in hospital(8). This condition occurs both in men and women but has more prevalence in men of above 55 years although it can occur at anytime(9). Most of the Erythroderma cases does not receive treatment for etiologic diagnosis hence this may lead to T-Cell lymphoma(10). Patients with complications such as septicemia, pneumonia and heart failure lead to death(11). Hence, such cases should be reported to prevent the complications and also it is important to create awareness in the health care system to tackle such problems. Topical and systemic steroids play a very important role in exfoliative dermatitis along with other symptomatic therapy like antihistamines, antibiotics, and liquid paraffin.

IV. CONCLUSION

Phenytoin shows severe adverse reactions. Exfoliative Dermatitis is one of the severe reaction of the drug Phenytoin. Withdrawal of the suspected drug and replacement of alternate drug is necessary to treat the condition. Corticosteroids plays a major role in reducing allergic reaction.a antibiotics can be given for any infections. Topical applications, moisturizers, and emollients helps to reduce dryness of the skin. Supportive therapy for exfoliative Dermatitis include Antihistamines, multivitamins, liquid paraffin and healthy diet.

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