

Case Report

Phenytoin Induced Generalized Pruritis Without Rash in A Patient with Grand Mal Seizure: A Rare Adverse Effect.

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ABSTRACT

Pruritis, commonly known as itching is an irksome sensation that causes scratching on the skin. Apart from the disease, there are several drugs that prompt pruritis due to their adverse effects on an individual's body. Pruritis is known to be one of the reasons for approximately 5% of the drug-induced skin adverse reactions. Drug-induced pruritis can be categorized into two types that is acute pruritis and chronic pruritis. Acute pruritis lasts for a duration of fewer than six weeks whereas chronic pruritis lasts for more than a six-week duration. However, it becomes troublesome to diagnose and manage pruritis since skin lesions are not present every time. Itching associated with pruritis is a dermatological manifestation of systemic disease or allergic reaction in response to a drug. Anti-seizure medications like phenytoin, carbamazepine, and topiramite may impose side effect and cause skin rash or lesions and itching without rash that results in pruritis. A case of phenytoin induced pruritis without rash observed in a 45-year-old female who was diagnosed with tonic-clonic seizures has been discussed in detail.

KEYWORDS

Generalized tonic-clonic seizure, itching, anticonvulsant, adverse drug reaction, phenytoin, cutaneous reaction.

1. INTRODUCTION

The German physician Samuel Hafenreffer elucidated the term pruritis in 1660 as “an unpleasant sensation that provokes the desire to scratch.” Drug-induced pruritis is caused as a result of the side effect of a medication and implicit that only scratch marks are there and no primary rashes are present. [1] Pruritis is known to be one of the reasons for approximately 5% of the drug-induced skin adverse reactions.

Drug-induced pruritis can be categorized into two types that is acute pruritis and chronic pruritis. Acute pruritis lasts for a duration of fewer than six weeks whereas chronic pruritis lasts for more than a six-week duration. However, it becomes troublesome to diagnose and manage pruritis since skin lesions are not present every time. Drug-induced pruritis can be localized or generalized and resolves within a short period of time after the therapy is discontinued or may even continue for several months or years even after the withdrawal of therapy. Itching associated with pruritis is a dermatological manifestation of systemic disease or allergic reaction in response to a drug. [2-3] Whereas, pruritis without rashes can be a clinical problem. Rare cases may occur in which patients suffer from pruritis without rash which may be either due to the side effect of a medication or due to xerosis. According, to The Australasian College of Dermatologists pruritis with no rash, maybe due to systemic disorders, neurological disorders, psychogenic disorders or due to adverse effects of any medication via various mechanisms. In such a condition the natural response of a human is to scratch the skin which leads to more itching. This cycle continues and is commonly called an ‘itch-scratch cycle’. [4]

Anti-seizure medications like phenytoin, carbamazepine, and topiramite may impose side effect and cause skin rash or lesions and itching without rash that results in pruritis. [5] Previously, pruritis with the use of topiramite has been reported in a case series of 5 patients where only one patient improved with a very slow titration of the drug, three of them discontinued therapy and one remained on a sub-therapeutic dose.[6] A study was conducted on 200 patients, with cutaneous drug reactions and 12.5% of them had pruritis without rash. In the case of phenytoin, skin rashes occur in 16% of the patient when therapy is initiated. [7]

Generalized pruritus in the setting of immunocompromised can be an indication of lymphoma, drug reactions, and other conditions associated with generalized itch. Generalized pruritis without a rash can be a symptom of internal conditions such as bile obstruction, renal failure[acute/chronic], hyperthyroidism, Hodgkin disease, other lymphomas, and other myeloproliferative diseases. Medications can also cause generalized pruritus without a rash. [8]

There has been no previous report for phenytoin induced pruritis without rash.

A case of phenytoin induced generalized pruritis without rash observed in a 45-year-old female who was diagnosed with tonic-clonic seizures and hyperuricemia has been discussed in detail.

2. CASE REPORT

The patient is a 45-year-old female who presented to the medicine department for her regular checkup. She was already diagnosed with generalized tonic-clonic seizures. While obtaining the medical history of the patient she complained of itching all over her body after having her

medicine which was an anticonvulsant that is Eptoin 300[phenytoin] prescribed 20 days back and suffered from joint pain from a long time. She used to apply an unknown topical cream all over for relief from itching but the problem did not resolve. She also used ayurvedic oils for her joint pain. Although, on examination, no rashes were observed.

She was advised to consult a dermatologist for her issue of itching. While being investigated by a dermatologist she denied consuming any new medication, soap, cosmetics or any detergent. No history of chills, fever, or night sweat was known. She did not have any history of atopic eczema. While inquiring her regarding her past medical history it was known that she was diagnosed with grand mal seizure 20 days back for which she was having phenytoin 300 mg once a day before bed. While asking about the family history, the patient denied any of her members suffering from pruritis or any atopic disease. The patient was married and was a housewife with two children and no pets at home. She was a non-smoker and non-alcoholic. She was in stress, due to continuous itching on her body and felt uncomfortable. No adenopathy was observed. The abdomen was soft, non-distended, no masses or hepatomegaly were felt. No rashes were seen on her body. Laboratory investigations of CBC were normal except for the erythrocyte sedimentation rate [ESR] which turned out to be 72 mm/hr. Her uric acid levels were also elevated to 8.2 mg/dl. Based on the investigations, the patient was diagnosed to be the case of phenytoin induced pruritis without rash. She was asked to stop the drug phenytoin as that was being the cause of her itching. She was asked to consult the respective doctor for an alternative treatment for phenytoin. Therapy advised to treat pruritis is given in table1. Apart from this, she was advised not to take stress regarding itching as it will resolve with the medication now and use a mild moisturizer all over the skin.

The lady then came back to the medicine department for further investigation and treatment. While investigating her blood pressure, B.P was observed to be 160/100 mmHg and as per the reports of uric acid patient was advised to take tablet Zyloric 300 mg [allopurinol] once a day for ten days. The drug phenytoin was immediately stopped and Levipil 500 mg [levetiracetam] once a day was given as an alternative for seizure control. She was asked to have tablet Ozotel 20 mg [telmisartan] for her control on raising blood pressure.

As for now, the patient is doing well after the change in treatment and has recovered.

3. DISCUSSION

Pruritis is the most common cutaneous symptom and is difficult to diagnose and treat. Since skin lesions are not present in every case as in this one also itching might be a dermatological manifestation due to any underlying systemic disease. It appears to be an allergic reaction that is seen rarely in patients on phenytoin drugs and results in either a sub-therapeutic dose or drug discontinuation. the diagnosis is made by a dermatologist and is completely based on the past medical history including any current treatment going on skin examination. The most important step to treat pruritis is to identify any underlying cause and reverse or treat the cause. If ignored it has the potentiality to compromise the quality of life of the suffering individual. [9]

4. CONCLUSION

Many patients may benefit from a nonpharmacological treatment like moisturizing, avoiding over bath and breaking the itch-scratch cycle. But for those who do not get satisfied with nonpharmacological therapy undertake topical and systemic therapies available. Physicians who treat patients with skin disorders like pruritis should be aware of the adverse effects associated with the medications and be aware of the complaints as seen in this case and act accordingly to improve quality of life and avoid any uneasiness to the patient.

CONFLICT OF INTEREST

None declared.

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Table 1. Drug therapy initiated for treating pruritis.

DRUG	DOSE	FREQUENCY	ROUTE
Tab. Zempred (Methyl prednisolone)	8mg	OD (after breakfast) x 10 days followed by 4mg for next 10days.	P/O
Tab. Teczine (Levocetirizine)	5mg	BD x 20days	P/O
Tab. Pan 40 (Pantoprazole)	40mg	OD (before breakfast)	P/O

OD- Once a day; **BD-** Twice a day