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REVIEW ARTICLE

A CASE REPORT ON METOPROLOL INDUCED PSORIASIS

Anju Mariya Joy*, Agilesh N V

Padmavathi College of Pharmacy, Periyanahalli, Dharmapuri, Tamil Nadu, India

Correspondence

Anju Mariya Joy*

Department of Pharmacy Practice
Padmavathi College of Pharmacy, Periyanahalli, Dharmapuri, Tamil Nadu, India

✉ mariyajoseph95@gmail.com

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ABSTRACT

Case Report: A 36 year old male patient was admitted in the In Patient department of Govt. District Headquarters hospital, Krishnagiri due to appearance of Itchy Erythematous scaly skin Lesions on his hands and legs. Past medical history reveals patient was a known case of Hypertension and Diabetes Mellitus and was on treatment. Patient history reveals known case of Psoriasis with no exacerbations for more than 10 years and also that he was changed over from Propranolol 80mg to Metoprolol 100mg (beta-blockers) last week due to inadequate response. Metoprolol was immediately withdrawn and topical Corticosteroids were prescribed to treat Psoriasis with Chlorpheniramine and Liquid Paraffin. Laboratory reports were normal and remained within normal limits. Metoprolol was discontinued and the patient was initiated with Atenolol for treatment of Hypertension. Conclusion: Review of History for knowledge of Medical History and Allergic history can help overcome such instances in the future.

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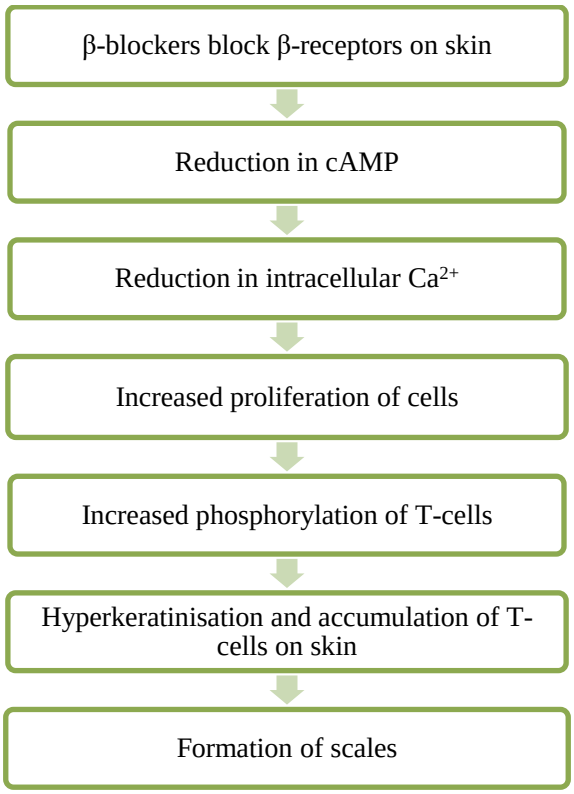
INTRODUCTION

Psoriasis is a Chronic inflammatory disease localized on the skin, scalp, nails and joints. It is manifested as red, flaky, crusty patches [1,2]. They may or may not be accompanied with intense itching and burning sensation. Psoriasis is an autoimmune disorder which can be triggered by several factors like environmental factors, stress and can be drug induced. Psoriasis can be induced by a majority of drugs like Beta-Blockers, Anti-Malarial, Lithium, Tetracycline and Non-Steroidal Anti-inflammatory drugs (NSAIDs). This case report focuses on drug induced Psoriasis induced by a Beta-Blocker (Metoprolol). Psoriasis is further divided in various subtypes namely: Plaque, Guttate, Pustular, Erythrodermic and Inverse Psoriasis. Plaque Psoriasis is the most common type of Psoriasis. It is characterized by hyper proliferation of Keratinocytes and accumulation of T-cells on the Dermis and Epidermis. [3,4]. Drug induced Psoriasis can affect a person in a variety of ways like Exacerbation of pre-existing Psoriatic lesions, Induction of Psoriasis in normal individuals and growth of treatment resistant Psoriasis.[5]

PATHOPHYSIOLOGY

B_2 receptors are found in keratinocytes which leads to decreased cAMP and increase in intracellular calcium→ increases cell proliferation. [6]

The pathophysiology of beta-blocker induced psoriasis is depicted illustratively in Fig. 1



cAMP- cyclic Adenosine Monophosphate

Fig.1: Mechanism of β-blocker induced Psoriasis.

CASE REPORT

A 36 year old male patient was admitted in the Govt. Headquarters Hospital with complaints of appearance of itchy, Erythematous scaly lesions on the skin of hands and legs which started 4 days ago. On evaluating past history it was found that he was a known case of Hypertension and

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Diabetes Mellitus under treatment. Physical Evaluation of the skin by Dermatologist revealed Psoriaform lesions. Laboratory test results showed slightly elevated and ESR and all other parameters remained well within normal limits. On further questioning the patient it was found that the patient had a known history of Psoriasis and wasn't exacerbated for more than 10 years and that he was changed over from propranolol 80mg to Metoprolol 100mg by his private physician last week due to inadequate response to propranolol. Metoprolol was immediately withdrawn and atenolol 50mg was prescribed for the patient. His Psoriaform eruptions were treated with Topical Corticosteroids and Liquid Paraffin. He was prescribed Chlorpheniramine 4mg TID to relieve Allergic reaction and Itching. After initiation of treatment with topical agents and discontinuation of Metoprolol, the Psoriatic eruptions began to reduce gradually.

DISCUSSION

Metoprolol is a selective β_1 antagonist used in the treatment of Hypertension and Cardiac Arrhythmia. The use of Metoprolol may be linked with side effects like Rash, photosensitivity and Exacerbation of existing Psoriasis or Induction of Psoriasis in healthy individual. The major cause of this side effect is due to the activation of T-cells mediated by reduction of cAMP as mentioned above in the Fig.

A retrospective study of patients with psoriasis found that, out of a total of 26 patients treated with beta-blockers, 72% of the patients developed exacerbation of Psoriasis.[7] The latency period between drug exposure and Psoriatic eruptions varies between several days to several weeks. Anti-Psoriatic drugs do not work unless the precipitating drug is withdrawn from part of treatment. The drug Metoprolol was immediately withdrawn and the lesions gradually healed by the time the patient was discharged.

CONCLUSION

Exacerbation of Psoriasis by Metoprolol (Beta-Blocker) is a rare incidence and the immediate solution to such incidence would be substitution of Metoprolol with other Antihypertensive drugs. In this article we report a case of Metoprolol induced Exacerbation of Psoriasis. It is very important for health care practitioners to collect all relevant patient information before commencing therapy. A clinical pharmacist plays a major role in collection of patient history and individualising

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treatment accordingly. Critical evaluation of patient history by a Clinical Pharmacist may help in preventing the occurrence of such incidents in future.

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