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Case Report

Metformin induced yellow nails: a rare entity

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ABSTRACT

This article reports an interesting and a rare case of metformin induced nail disorder in a middle aged female with type 2 diabetes. The patient had been receiving metformin one 1500mg daily from the last 6 months and noticed her finger nails gradually thickened and turned yellow. On stopping the metformin, the nails gradually normalized. The patient was treated further with glimepiride and insulin glargine. After 3 months of discontinuation of metformin there was a significant improvement in the nails. Clinicians should be aware of metformin induced yellow discolouration of nails, though a curable and reversible condition if diagnosed well in time.

Keywords: Adverse drug reaction, Metformin, Yellow nails

INTRODUCTION

Metformin, a drug from biguanide class is used orally as a first choice drug in newly diagnosed patients of type 2 diabetes mellitus.[1] Metformin is a drug having pleiotropic effects due to which it is indicated as therapy in insulin resistant states such as PCOD.[2] The most common adverse drug reactions associated with metformin is gastrointestinal symptoms[1] (anorexia, nausea and bloating). Other commonly reported ADRs such as vitamin B12 deficiency, rash, metallic taste, myalgias and tiredness are frequently seen and are non-serious in nature.[3] Serious side effect such as lactic acidosis is very rare and is usually associated with other comorbid conditions.[4] This is a unique case report presenting thickening and yellowish discoloration of all the finger nails on continuous metformin treatment.

CASE REPORT

A 36 year old married female was diagnosed with type 2 diabetes mellitus two years back. She was put on life style modification and was well controlled without drugs. For last one year her blood sugar levels were uncontrolled and then along with the lifestyle modifications she was treated with metformin 1000 mg in two divided doses. Because of uncontrolled hyperglycaemia, it was further increased to 1500 mg daily in divided doses after which her blood glucose levels became normal. About 6 months after increasing

the dose, the patient noticed that her finger nails started turning yellow and got thickened (Figure 1). The patient herself got bilirubin levels done thinking to be jaundice but levels were normal. The patient was taking no other medicine except for metformin. Keeping the possibility of causal association and thinking of metformin as causative agent metformin was stopped and patient was put on insulin glargine and glimepiride for blood sugar control. The patient was followed for next three months during which the nail changes regressed and became normal.

Figure 1: Yellowish discoloration of nails.

DISCUSSION

In this case report a type 2 diabetes mellitus patient on metformin alone experienced thickening and yellowish discolouration of nails. This yellowish discolouration of nails appeared six months after increasing the metformin dose from 1000 mg to 1500 mg. The nail discolouration disappeared after three months of stopping of metformin, indicating the relationship between metformin and adverse drug reaction (ADR). This patient totally recovered after discontinuation of metformin without any treatment. Other causes of thickening of nails and discolouration such fungal infections were not present in this patient. The patient was not on any other concomitant drugs known to cause such symptoms. On causality assessment using the WHO- UMC Causality assessment scale, it was found to be probable in nature.[5] Metformin induced yellow finger nails is a rare condition which can be easily diagnosed and treated. The exact mechanism of metformin induced yellowish discolouration is not known. Only a single case report has been published till far regarding metformin induced toe nail disorder.[6] Metformin is one of the important drugs used in the management of type 2 diabetes mellitus, so this ADR should be kept in mind while prescribing metformin.

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