

Metformin Induced Fixed Drug Reaction

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Abstract

Case Report

It is to report a rare case of fixed drug reaction (FDR) due to metformin. Young male recently diagnosed as a case of diabetes mellitus (DM) developed FDR as discoid brownish non itchy rash over hands on next day of metformin 1000 mg (Exermet SR) initiation. The medicine (metformin) was stopped. He was given glimpride 1mg BD initially and later on added Teneligliptin 20 mg once a day. His FDR lesions have subsided considerably. When some other physician prescribed Zetin plus (Teneglyptin 20 mg plus metformin 1000 mg), same type of lesions appeared at the same areas over hands. Because of rarity, and probably the first case in India, we report patient with FDR upon initiation and rechallenge with metformin.

Keywords: fixed drug reaction, FDR, metformin, Young male.

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INTRODUCTION

Metformin is widely recommended in treating type 2 diabetes mellitus (T2DM) as first-line medication. It is known for its safety profile. Though gastrointestinal side effects to metformin are reported often, yet skin reactions rare or uncommon [1] and are reported as 'Case Reports' e.g. Lichen planus [2], erythema multiforme [3], Rosacea-like facial rash [4] and pseudoporphyria [5]. Fixed drug reaction (FDR) are rare and only 3 cases have been reported in literature so far [6]. FDRs occur / recur as solitary or multiple rusty to brownish macule(s) usually at the same site after administering the same offended medicine.

CASE REPORT

A 42 years old male patient was diagnosed as diabetic when evaluated for gradually increasing generalized weakness and easy fatigability. He was non – alcoholic and not consuming any medicine for any illness. Except BMI (27.8 Kg/m²), Clinical examination including ophthalmological examination was unremarkable. Routine haematological parameters were normal, blood sugar (fasting) 148 mg/dl, HbA1c 7.2. Serum Triglyceride 167mg/dl, LDL 101 mg/dl, HDL 42/dl. Other routine biochemical parameters and serum electrolytes were normal. ECG was normal. He was prescribed metformin sustained release (Exermet SR) 1000 mg OD a day half an hour before morning meal. He was encouraged to resume daily activities, to undertake recommended physical activity. He was

counselled to adhere to dietary recommendations and weight reduction. He achieved diabetic control and felt improvement in symptoms. During his subsequent follow ups, he could not achieve desired weight reduction and failed to adhere to dietary and physical activities recommendations. He was not taking any other medicine for diabetes or other illness during this period. On next day he noticed non itchy discoid reddish macular rashes over dorsum of hands initially, which turned deep brownish black later on. He did not report the rash because of symptomatic improvement and diabetic control. He consumed Cetrizine (self-medication) to get rid of rash but no relief. When he reported for subsequent follow up, metformin was stopped and replaced with glimpride 1 mg twice a day with morning and evening meals. FDRs rashes gradually decreased in severity over next few weeks. He did not report for follow up for longer period. He stopped all anti diabetic medicines with the notion of getting fully cured.

He felt reappearance of general weakness and easy fatigability, he consulted other doctor. He could not recollect and informed name of drug (metformin) causing rash. Anti-diabetic medicine, Zetin Plus (Teneligliptin 20 mg and Metformin 1000 mg) was prescribed as morning dose. On second day, in response to Zetin Plus, he developed similar brownish discoid macular lesions at the same areas of dorsum of hands (Fig – 1 and Fig - 2). Though FDRs are described to affect most commonly the lips, palms of hands, soles of

feet, and groin areas, and are often small and well circumscribed, but in this patient rash appeared only on dorsum of hands. He reported in this hospital and Zetin Plus was discontinued. He was prescribed Zetin (Tenegliptin) that resulted in appreciable improvement in diabetic control and symptoms. The skin lesions

started resolving but very slowly after discontinuation of metformin. Repeat rechallenge with metformin to confirm the reappearance of same dermatological eruptions (FDR) being unethical and hence not considered.



Fig-1: Arrowheads depicting fixed drug reaction



Fig-2: Arrowheads depicting fixed drug reaction

DISCUSSION

Metformin is still a front line runner as ‘first line’ or ‘add on’ medicine in the management of T2DM. Except for gastrointestinal side effects, metformin is known for its safety profile. Rarely dermatological eruptions due to administration of metformin are reported as case reports only e.g. lichen planus [2], erythema multiforme [3], Rosacea-like facial rash [4], pseudoporphyria [5] and Psoriasiform drug eruption [7]. Metformin induced FDR are also rare, till date only 3 cases are reported in literature [6]. On scrutiny of literature, no case of metformin induced FDR reported from India till now. Frequently implicated drugs to cause FDRs are antibiotics (tetracyclines sulfamethoxazole), anticonvulsants (carbamazepine), analgesics and barbiturates [8]. We did not use Naranjo Algorithm - *a method for estimating the probability of adverse drug reactions* [9] because of ethical reasons and non-availability of facility to measure drug concentration in blood or urine in this Tertiary Health Care Centre. It is unusual, though not impossible, that FDR has been identified off and on with metformin which is frequently used in treatment of T2DM for decades together.

Limitation observed in reporting this Case

Invariably Naranjo Algorithm is used to estimate the probability of adverse drug reactions. Naranjo Algorithm is not applied due to ethical reasons and non-availability of facility to measure drug concentration in blood or urine in this Tertiary Health Care Centre.

CONCLUSION

We detected a rare FDR induced by metformin and probably being the first of such case in India we felt necessary to report the case for publication.

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