ejpmr, 2023,10(2), 300-301

SJIF Impact Factor 6.222

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Report

ISSN 2394-3211

EJPMR

A RARE CASE OF TOPICAL CLOBETASOL-INDUCED HYPOCORTISOLISM

Archana Rajan[1]*, Rintu Mary Roy[1], Sharon Susan Raj[2], Philip Finny[3] and Swetha Reba Mathews[4]

[1]Pharm D Interns, Nazareth College of Pharmacy, Othera, Thiruvalla, Kerala.
[2]Pharm D Intern, Karnataka College of Pharmacy, Thirumenahally, Bengaluru.
[3]Senior Consultant & HOD, Department of Endocrinology, Believers Church Medical College Hospital, Thiruvalla, Kerala.
[4]Assistant Professor, Department of Pharmacology, Believers Church Medical College Hospital, Thiruvalla, Kerala.

***Corresponding Author: Archana Rajan**

Pharm D Interns, Nazareth College of Pharmacy, Othera, Thiruvalla, Kerala.

Article Received on 12/12/2022 **Article Revised on 02/01/2023** **Article Accepted on 22/01/2023**

ABSTRACT

Clobetasol is a very active synthetic glucocorticoid. Adverse drug reactions (ADR) associated with clobetasol include gastrointestinal disorders, weight gain, hypersensitivity reactions, adrenal insufficiency (hypocortisolism), Cushing syndrome, etc. Among these, hypocortisolism is one of the most important adverse reactions. A case report of a 56-year-old female patient who was prescribed topical clobetasol and presented with features suggestive of hypocortisolism, namely, fatigue, tiredness, and sudden increase in body weight. This case report serves as a reminder for healthcare professionals regarding ADR of Clobetasol and on the need of healthcare education to patients when topical steroids are being prescribed.

KEYWORDS: Clobetasol, Glucocorticoid, Hypocortisolism, HPA axis suppression.

INTRODUCTION

Topical corticosteroids are commonly used in the treatment of dermatological disorders. Clobetasol is one of the most potent topical corticosteroids.[1] Local and systemic ADR may occur in association with the systemic absorption of these agents. Super potency of topical corticosteroids such as Clobetasol propionate can result in hypothalamic pituitary adrenal axis (HPA) suppression through negative feedback, causing secondary adrenal insufficiency.[2,3]

CASE REPORT

A 56-year-old female patient presented to the Endocrinology department with complaints of fatigue, tiredness, and a sudden increase in body weight over the previous 2 months. She also complained of headaches and dizziness. There was no history of any chronic oral steroid intake. She was on medications for concomitant type 2 diabetes mellitus, hypothyroidism, systemic hypertension, and dyslipidemia. She appeared to have a moon face upon examination. The lab reports reveal low cortisol values in view of which she was admitted for further evaluation.

On medication history inquiry about the use of corticosteroids, she denied using any other oral medications other than those prescribed to manage her comorbid conditions. However, she gave a history of applying Cosvate GM cream(Clobetasol) for Tinea Cruris for the past one year.

The patient was subjected to a Short Synacthen Test, which showed a lack of an expected rise in the cortisol values at 30 minutes and 60 minutes after administration of Synacthen (30-minute cortisol was 28.25 and 60-minute cortisol was 38.9). MRI brain and CECT abdomen was done to rule out other causes of low cortisol level and were found to be normal, except for microcystadenoma in the paramedian aspect of the pituitary gland. She was prescribed Tab. Hydrocortisone as replacement therapy. Considering the possibility of topical steroid-induced hypocortisolism, dermatology consultation was sought to consider stopping the cream and changing the medication. She improved symptomatically during the hospital stay and was discharged. The level of cortisol in serum is shown in Table 1.

Table 1: The level of cortisol in serum.

Date	Parameters	Values	Normal range
14/11/2022	Cortisol, 11 P.M., Serum	<4.0 ng/mL	67-226ng/mL
15/11/2022	Cortisol 8 AM	<4.0 ng/mL	67 – 226 ng/ml
	Cortisol, Free (in 24 hours Urine)	5.49 µg/24 hours	30 – 350 µg/24 hours

	24 hours Urine Volume	3290 mL/24 hours	1500 – 2500 mL/24 hours
16/11/2022	Cortisol 8 AM	6.69 ng/mL	67 - 226 ng/mL
	Cortisol (before administration of Synacthen)	28.25 ng/mL	67 - 226 ng/mL
	Cortisol (after administration of Synacthen)	38.9 ng/mL	67 - 226 ng/mL

DISCUSSION

Secondary adrenal insufficiency is one of the most serious ADRs, which can be caused by the continued use of topical corticosteroids. HPA axis suppression recovers after the discontinuation of glucocorticoids, but the timing of recovery may vary and it can take 6-12 months.[3]

To date, hypocortisolism constitutes 3.9 percent of all reported ADR caused by Clobetasol (adrenal insufficiency, HPA axis suppression, and Cushing Syndrome), which have been reported globally to Uppsala Monitoring Centre (UMC), Sweden, through the World Health Organisation (WHO) program for international drug monitoring.[4] This is the only case of Clobetasol (Cosvate -GM) induced hypocortisolism (WHO-UMC ID: IN-IPC-300697835), reported to date by our ADR Monitoring Centre (AMC).

In this case, the patient used topical corticosteroids for one year which led to secondary adrenal insufficiency. On evaluation at our AMC, the causality was assessed as probable using the WHO-UMC causality assessment scale, the type of ADR was evaluated according to Rawlins–Thompson classification, and found to be type C (Continued use ADR); seriousness assessed by WHO criteria, was 'life threatening'; severity was assessed by Hartwig's scale as level 4 severity; and the outcome of the reaction, according to WHO criteria, was 'recovering'. Upon assessment of preventability, this reaction was found to be a preventable one. It is important to take proper medication history to find out the exact source of exogenous steroids. When a specific medication is suspected as the cause of adverse effects, its usage should be ceased instantly. Counseling on proper use of topical steroids- including adequate hand washing after topical application, ensuring periodic revisits for the timely cessation of topical steroid use as well as warning not to refill the prescription over the counter are some of the possible ways that could have prevented this ADR.

CONCLUSION

This case presents strong evidence of secondary adrenal insufficiency caused by topical corticosteroids. It is important to obtain a complete medical history while evaluating secondary adrenal insufficiency. Care should be taken to address the usage of creams, shampoos, or other harmless products containing corticosteroids because in many cases, the patients are usually unaware of the composition of the products they use.

Appropriate education to patients on the correct usage of topical corticosteroids and their potential ADR is essential while prescribing these products which have a propensity for misuse, considering their over-the-counter availability.

ACKNOWLEDGEMENT

The authors would like to thank the ADR Monitoring Centre functioning under PvPI at Department of Pharmacology, BCMCH, Department of Endocriniology, Believers Church Medical College Hospital, Thiruvalla, and Department of Pharmacy Practice, Nazareth College of Pharmacy, Othera for their immense guidance and support.

Conflicts of interest

There are no conflicts of interest.

Abbreviations

ADR: Adverse Drug Reaction
AMC: ADR Monitoring Centre
CECT: Contrast Enhanced Computed Tomography
HPA: Hypothalamic Pituitary Axis
MRI: Magnetic Resonance Imaging
UMC: Uppsala Monitoring Centre
WHO: World Health Organisation

REFERENCES

1. Pels R, Sterry W, Lademann J.Clobetasol propionate-where, when, why?Drugs Today(Barc), 2008; 44(7): 547-57.
2. Alhamadi HA, Alsulaiti R, Abdulla J. Topical steroids induced Adrenal insufficiency. Bahrain Medical Bulletin, 2020; 42(3): 226-227.
3. Younes AK, Younes NK. Recovery of steroid-induced adrenal insufficiency. Transl Paediatr, 2017; 6(4): 269-273
4. Centre UM. VigiAccess API [Internet]. UMC. WHO; 2022 [cited 2022Dec19]. Available from: https://who-umc.org/vigibase/vigibase-services/vigiaccess-api/