Adrenal Suppression in a patient with Lichen Sclerosus: were topical corticosteroids to blame?

Alizeh Hussain[1], Olayemi Bello[2], Sangeetha Sundaram[3], Ella Seccombe[2], Bronwyn Hughes[4], Helen Lotery[2]

1. Faculty of Medicine, University of Southampton, Southampton, 2. Department of Dermatology, University Hospital Southampton, NHS Foundation Trust, 3. Department of Genitourinary Medicine, Royal South Hants Hospital, Southampton, 4. Department of Dermatology, Portsmouth Hospitals University NHS Trust.

Introduction

- Lichen Sclerosus (LS) is a chronic inflammatory condition affecting the anogenital skin.
- Ultrapotent topical corticosteroids (CS) such as clobetasol propionate 0.05% are first-line treatment for vulval LS, with a maximum recommended dosage of 30g per three months in adult females.
- Although uncommon, topical CS use has been reported to induce adrenal suppression.
- Risk factors for adrenal suppression include CS potency, total body surface area treated, amount of CS used, duration of treatment, age of the patient and use of occlusion.
- Due to the relatively low quantities of CS required and low body surface area in the management of vulval LS, adrenal suppression in this situation is expected to be rarer still.
- Here we present two cases of vulval LS treated with clobetasol propionate 0.05% ointment.

Case 1

- 52-year-old female with vulval LS
- Treated with a twice weekly maintenance regimen of clobetasol 0.05% (estimated cumulative dose of 30 g over 12 months).
- 10 months later, she presented with fatigue, recurrent falls, memory problems and unsteadiness.
- Short synacthen test results demonstrated secondary adrenal insufficiency (AI). She was initially prescribed oral hydrocortisone and later oral prednisolone.
- The Endocrinology team initially attributed her AI to topical clobetasol 0.05%; therefore this treatment was stopped. Fortunately, her vulval LS remained well-controlled with emollients alone. We conducted a literature review with the assistance of our regional Medicines Information Service and liaised with the Endocrinology team regarding the extremely low probability of topical CS being responsible.
- 5 months later, repeat short synacthen tests showed no change in adrenal function, and the Endocrinology diagnosis was amended to “secondary adrenal suppression of unknown cause”.
- The patient’s LS appears to be in remission.

Case 2

- 10-year-old female with vulval and perianal LS
- Treated with a daily regimen of Clobetasol 0.05% for six weeks (60g over a 2-month period).
- On return to clinic, her LS had completely resolved but there were marked striae present perianally and on the inner thighs.
- A short synacthen test demonstrated an impaired cortisol response and low adrenocorticotrophic hormone (ACTH) level.
- She was prescribed oral hydrocortisone for acute illnesses and efcortesol IM for emergency use.
- Her adrenal gland function returned to normal after 15 months and striae reduced in size and colour.
- The patient’s LS remains in remission.

Discussion

- Potentially serious side effects can occur with inappropriate use of ultrapotent topical CS. However, the minimal HPA axis suppression as a result of appropriately used ultrapotent topical CS has not been shown to be clinically significant[1].
- Adrenal suppression was felt to be very unlikely in case 1, due to the limited and appropriate amount of clobetasol 0.05% used. The fact that the adrenal suppression did not show resolution on subsequent testing further challenged the assumption, and indeed the Endocrinology team changed the wording of their diagnosis accordingly to “Secondary adrenal suppression of unknown cause”.
- In contrast, children are more likely to suffer adverse effects of topical CS, due to a higher ratio of total body surface area to weight. In addition, in case 2, excess topical CS was applied liberally to involved and uninvolved areas even after resolution of inflammation. Biochemical evidence of resolution of the adrenal insufficiency further supported the causative role of topical CS in this paediatric case.

- **These two cases highlight the importance of appropriate use of topical CS in the management of vulval LS and the need for sharing expertise with other medical teams involved in such cases, particularly to advise on topical CS risks and benefits.**

Reference:

1. Gilbertson, E. O., et al. (1998). "Super potent topical corticosteroid use associated with adrenal suppression: Clinical considerations." Journal of the American Academy of Dermatology **38**(2, Supplement): 318-321.