

Experience with red face syndrome: A descriptive case-series study of 102 Iraqi patients

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Abstract

Background: Red face syndrome (RFS) is a chronic burning erythema of the face that occurs after prolonged application of topical corticosteroid (CS) and characterized by flare-ups after trial of corticosteroid withdrawal.

Objective: This study was aimed at providing information on a series of 102 cases of RFS in Al-Diwaniya city, Iraq

Methods : In this descriptive case series study, 102 patients were identified as having red face syndrome by a dermatologist in Al-Diwaniya Teaching Hospital, Al-Diwaniya , Iraq , from September 2013 to March 2014

Results : 102 patients were studied ,their ages ranged from (18-45) . There were 97 females and 5 males .Melasma , skin whitening were the main reasons for topical CS use. The presenting complaints were erythema (96.07%),dryness(69.6 %) , itching (60.7 %) , burning sensation (61.7%) .

Discussion :Red face syndrome is a form of "corticosteroid addiction" mediated by nitric oxide overproduction in response to long term topical corticosteroid use.The mean age of the patients rangeing 18-45 years old. This was probably because people, at this age, start to take care of their appearance. The main reason of using topical corticosteroids was melasma as the topical corticosteroids act as skin lightener owing to their potent bleaching effect. Also this explains the predominance of females in this study which may satisfy their desire. In fact, its recovery usually takes a much longer period of time reaching up to 18 months after stoppage of steroids

Conclusion : RFS is a disease of steroid misuse by patients especially for melasma and skin whitening and it is seen increasingly. Public health information is important about this disease and other side effects of topical CS

Key words :Iraq , red face syndrome.

Introduction

Since 1980, when Marvin Rapaport initiated peculiar red skin syndromes ,various syndromes have been named in the literature for what is purported to be distinct clinical problems. It is believed that they are all related corticosteroid addiction (Table 1)^(1, 2)

Red face syndrome was the most common steroid addiction. The condition started by application of corticosteroids for dry face ,mild acne or melasma, irritation from windy conditions, irritation from eye make-ups or nonspecific pruritus.

Table 1. Erythema syndromes

Red face syndrome
Status cosmeticus
Red scrotum syndrome
Vulvodynia
Perianal atrophoderma
Chronic recalcitrant eczema
Modified from Rapaport and Rapaport (2006).

The rash progressed and worsened as more steroids were used, with larger areas of the face erupting but often sparing the nose and the upper lip ('the headlight sign'). As the problem worsened, edema of the eyelids and vesiculation of the cheeks occurred, associated with a more severe erythema^(2,3). Histologic findings are non

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specific : the epidermis may exhibit variable spongiosis and atrophy, and the dermis shows mild telangiectases with sparse to mild superficial perivascular and interstitial lymphocytic infiltrate^(4,5).

It has been believed that this syndrome is a form of corticosteroid addiction mediated by nitric oxide (NO) overproduction in response to long-term topical corticosteroid use. This chemical which is released by the endothelium of blood vessels as endothelium-derived relaxing factor, is a natural dilator. It is profoundly inhibited by glucocorticoids. When a vessel is constricted with the use of topical corticosteroids various metabolites, including nitric oxide, build up to counteract this constriction. Because of this build up, when the corticosteroid has worn off and the vessels are allowed to return to their normal size, they actually dilate to a size larger than their original diameter. With the daily use of topical corticosteroids of mild or moderate strength, the vessels are constantly being constricted and a continual build up of natural dilators occurs. Instead of returning to their normal size after corticosteroid cessation, the vessels begin to remain dilated for longer amounts of time. This potentiates the erythema, burning and itching⁽⁶⁾.

Aim of The Study:

To evaluate the demographics and clinical features of series of 102 cases of RFS

Patients and Methods

A descriptive (case-series) study of 102 patients with RFS was conducted in Al-Diwaniya, Iraq over period of 5 month (from September 2013 to March 2014) these patients seeking treatment for red face syndrome were diagnosed and assessed by a dermatologist in the outpatient clinic of the Department of Dermatology in Al-Diwanyia Teaching Hospital, Diwanyia, Iraq. Questions

covered age, sex, duration of treatment with topical corticosteroid, and reason for using of topical corticosteroid..

Results

102 patients entered the study. The demographic data and characters of those patient were illustrated in table 2 .

Table (3) showed that mean age of the patients was 33.59 ± 6.3 (18-45) years. There were 97 (95.09%) females and 5 (4.9%) males. The duration of the CS use ranged from 2 month to 5 years, with an average 23.72 months. The types of CS used were 32 (31.3%) clobetasole propionate 0.05%, 31 (30.3%) betamethasone valerate 0.1% , 27 (26.4%) both clobetasole & betemethasone , 8 (7.8%) non-medical mixtures containing CS and 4 (3.9%) medical mixtures containing CS.

The main reasons for using these topical CS included 54 (52.9%) melasma ,32 (31.3%) whitening of skin., 14 (13.7%) mild facial dryness and 2 (1.9%) mild facial acne . Regarding to the following clinical symptoms and signs : erythema, dryness, itching, burning, sensation of tightness, telagiectasia, edema. the patients were found as disclosed in table 3 .

Discussion

It has been considered that red face syndrome is a form of "corticosteroid addiction" mediated by nitric oxide overproduction in response to long term topical corticosteroid use^(2,7). Treatment of the symptoms associated with this syndrome is demanding and involves discontinuation of topical corticosteroids which can result in a dramatic flare up that is frequently complicated by steroid withdrawal symptoms including burning, erythema and edema^(2,3)

Table 2. Demographics and clinical characteristics

Parameters	number (%)
Mean age, years (range)	33.59± 6.30 (18- 45)
Sex : females	97 (95.9 %)
Males	5 (4.9 %).
Mean duration of steroid use (months)(range)	32.72 (2-60)
Topical corticosteroid (CS) used	
Clobetasole propionate 0.05%	32 (31.3 %)
Betamethasone valerate 0.1%	31 (30.3 %)
Both clobetasole & betemethasone	27 (26.4 %)
Nonmedical Mixtures containing CS	8 (7.8 %)
Medical Mixtures containing CS	4 (3.9 %)
Reason for using of topical CS	
Melasma	54 (52.9 %)
Skin whitening	32 (31.3 %)
Mild facial dryness	14 (13.7 %)
Mild facial acne	2 (1.9 %)

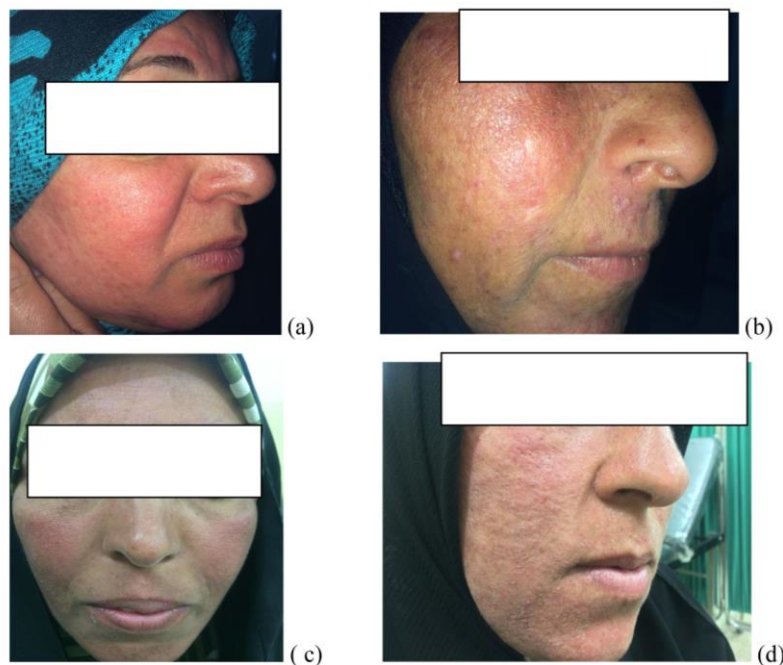


Figure.1 : (a,b,c,d) cases of RFS showing erythema, dryness ,telangiectasia

Regarding to the following clinical symptoms and signs : erythema, dryness, itching, burning, sensation of tightness, telangiectasia, edema . the patients were found as disclosed in table 3 .

Table.3 Clinical features at presentation and their percentage in the patients

Clinical feature	number of the patients
erythema,	98 (96.07 %)
dryness,	71 (69.6 %)
itching,	62 (60.7 %)
burning,	63 (61.7%)
sensation of tightness,	16 (15.6%)
telangiectasia,	23 (22.5%)
edema	12 (11.7%)

Regarding the patients demographics data in this study, it was found that the mean age of the patients enrolled in this study was 33.59 ranging from 18-45 years old. This was probably because people, at this age, start to take care of their appearance.

In this study, most of the patients were female 95.05 % while the male 4.9 %. Also, the results showed that the mean duration of using topical corticosteroids was 32.72 months ranged from 2 months to 5 years. This seems to be acceptable where the addictive phase of topical corticosteroids usually took 4 months to develop⁽²⁾. However, this is not a rule where another study revealed that addiction sets after 4-6 weeks of frequent usage⁽⁴⁾. Unfortunately, the results found that most of the topical corticosteroids used were classed as potent or very potent. Flare of the facial dermatitis (e.g. erythema, itching, burning and dryness) after trial of the patient to discontinue the use of corticosteroid was also very important reason to increase the amounts and potency of topical corticosteroid, so patients were unable to stop the topical corticosteroids.⁽¹⁾ strongly believed that this just perpetuated the problem and did not allow for a full recovery.

In this study, the main reason of using topical corticosteroids was melasma as the topical corticosteroids act as skin lightener owing to their potent bleaching effect^(8,9). Also this explains the predominance of females in this study which may satisfy their desire. In fact, its recovery usually takes a much longer period of time reaching up to 18 months after stoppage of steroids⁽¹⁰⁾

Conclusion

RFS is a disease of steroid misuse by patients especially females for melasma and skin whitening and it is seen increasingly. Public health information is important about this disease and other side effects of topical CS and restriction of prescribing of even mild CS in the pharmacies unless it is under the supervision of dermatologists.

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