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CASE REPORT

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Ulceration of Breast's Skin due to Topical Corticosteroid Abuse

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Abstract

Topical corticosteroids are main therapeutic agents for the treatment of a wide variety of dermatological disorders. Three cases of chronic cutaneous ulceration affecting the skin of the breasts that were caused presumably by previous and continued use of potent topical corticosteroids for the treatment of psoriasis and/or intertrigo lesions were reported here. These three cases were presented to emphasize the potential serious local side effects of topical steroids even progressing to ulceration in breast' skin. These cases highlight the importance of appropriate use of topical corticosteroids, necessity of a strict follow up for adverse effects and the need of warning every patient about possible side effects of topical corticosteroids.

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Running Head: Topical Steroid & Skin Ulceration

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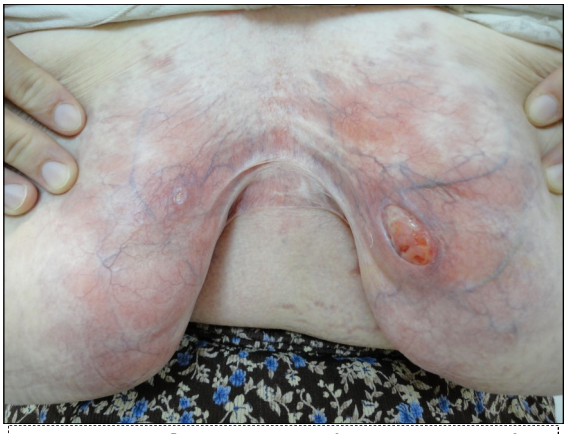
Introduction

Topical corticosteroids are main therapeutic agents in various dermatological disorders (1). However, inevitable and well-known local and systemic side effects develop following uncontrolled and unnecessary usage. Some patients can use topical corticosteroids by themselves for years due to a deficiency in warning them effectively against these side effects in a crowded outpatient clinical environment.

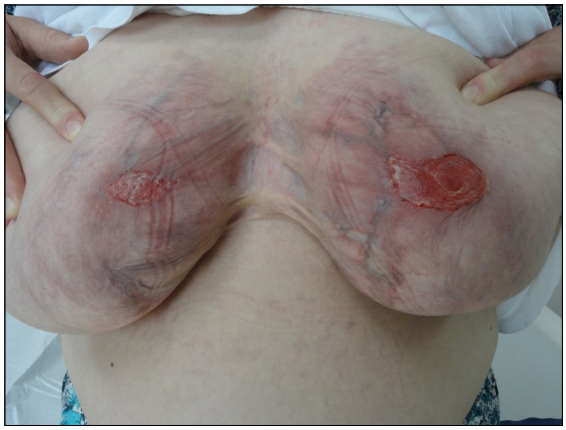
Three cases of cutaneous ulcerations located in the skin of breasts that were caused presumably by prolonged use of potent topical corticosteroids were reported in this manuscript.

Case Reports

Case One: A 25-year-old female patient applied to the outpatient clinic in June 2010 with the complaint of presence of a sore located in her left breast present for 15 days. Her past medical history revealed that she had psoriasis and she had been using topical beclomethasone dipropionate 0.025 % lotion (a class four – midstrength topical corticosteroid) for years to her breasts. She was coming from rural area. Dermatologic examination disclosed a punched out ulcer approximately 3 cm in size with a clear base over the medial side of her left breast and a similar ulcer 4 mm in size over the medial side of her right breast (Figure 1a). There were erythema, severe cutaneous atrophy and widespread vascular ectasias located all over the intermamarian region (Figure 1a). The patient was diagnosed to have severe topical corticosteroid local side effects leading to cutaneous ulcerations. The cutaneous ulcers healed completely following topical wound care within 10 days. However same patient reapplied five years later with a similar sore that had been present for two months in April 2015. She had been using bethametasone 17-valerat 0.1 % lotion (a class four - midstrength topical corticosteroid) for her psoriasis lesions located in scalp and ears. Dermatologic examination disclosed similar ulcers over medial sides of both breasts (Figure 1b). The erythema, severe cutaneous atrophy and widespread vascular ectasias were still present over the whole intermamarian region (Figure 1b). The ulcers healed again with topical wound care.



Case one: Figure 1 a : There were erythema, severe cutaneous atrophy and widespread vascular ectasias located all over the intermamarian region and two punched out ulcers were present on the medial sides of her breasts



Case one: Figure 1 b: Five years later the patient applied with the same clinical findings.

Case Two: A 79 year old female patient applied to the dermatology outpatient clinic with the complaint of presence of a skin sore located in her right breast for two months. She had been experiencing itching and redness of her breasts for about one year. She irregularly used topical clobetasol 17 propionate 0.05 % ointment (a class one – super potent topical corticosteroid) and combined difluocortolon valerate (a class three – potent topical corticosteroid) and isoconazole cream to her breasts by herself. Her past medical history revealed that she was in menaupose, had cardiac failure and hypertension. She was coming from rural area. On dermatologic examination a punched out ulcer approximately 3 cm in size with a clear base and somewhat elevated borders was detected over the lateral side of her right breast (Figure 2). There were mild erythema, cutaneous atrophy and telangiectases located over undersides and both sides of her breasts bilaterally (Figure 2). The patient was diagnosed to have cutaneous ulceration following topical corticosteroids to treat her intertrigo and psoriasis lesions located in the skin of her breasts. The cutaneous ulcer healed completely following topical wound care within 10 days.

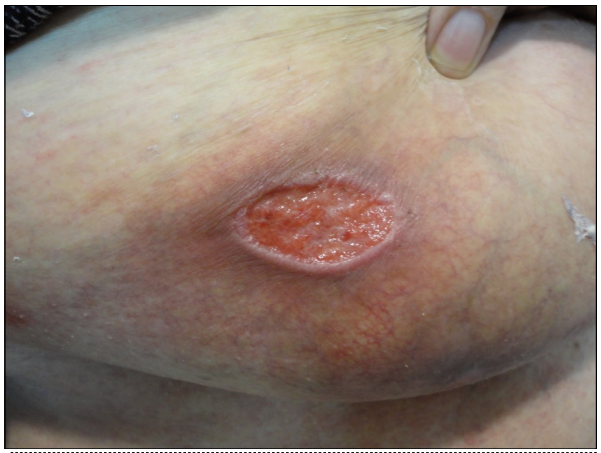


Figure 2: Case two: There were mild erythema, cutaneous atrophy and telangiectases located over the lateral side of her right breast.

Case Three: A 62 year old female patient applied to the dermatology outpatient clinic with the complaint of redness and development of sores in the skin of her breasts present for four months. She had been intermittantly experiencing itching and redness involving her inframamarian areas for about five years. She irregularly used topical combined difluocortolon valerate (a class three – potent topical corticosteroid) and isoconazole cream by herself. Her past medical history revealed that she was in menaupose, had diabetes mellitus, hypertension and hyperlipidemia. She was coming from rural area. Superficial punched out ulcers with erythematous clear bases were detected over the inframamarian regions bilaterally on dermatologic examination (Figure 3). There were mild erythema, mild cutaneous atrophy, ecchmosis and fine telangiectases located all over the inframamarian regions. The patient was diagnosed to have cutaneous ulceration resulting from usage of topical corticosteroid containing antifungal creams to treat her intertrigo. The cutaneous ulcer healed completely following topical wound care within 10 days.

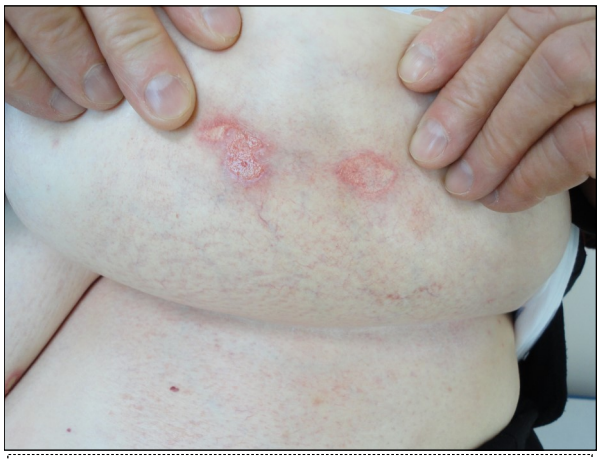


Figure 3: Case three: Mild erythema, mild cutaneous atrophy, fine telangiectases and superficial punched out ulcers with erythematous clear bases located in the inframamarian region on the left side.

Discussion

Topical application of corticosteroids can cause cutaneous atrophy due to a suppressive action on both cellular proliferation and collagen synthesis (1,2). Intertriginous areas are more susceptible to atrophy and this is related to thinner skin, elevated temperature, increased moisture and partial occlusion caused by opposing skin in these areas (2). Topical corticosteroids delay wound healing by their effects on keratinocytes (epidermal atrophy, delayed reepithelization), fibroblasts (reduced collagen and ground substance production, decreased fibroblast growth), vascular connective tissue support (telangiectasia development, purpura, easy bruising) and angiogenesis (delayed granulation tissue

formation) (2). All these adverse effects are worsened by continued use of topical corticosteroids. In patients with large breasts like our cases the chance of cutaneous ulceration is high because friction between skin surfaces and between skin surface and garment worn are increased. This explains the formation of skin ulcers in our patients.

To date topical medications containing betametasone or a combination of corticosteroid and antifungal / antibacterial agents were the most common topical therapeutic agents to cause topical corticosteroid adverse effects (2). Topical corticosteroids are the most common drugs prescribed to treat psoriasis. Physicians other than dermatologists prescribe topical corticosteroids or combination products frequently (2,3). Additionally combination products used worldwide for the treatment of diaper rash and intertrigo (2). The cases reported here highlight the importance of appropriate use of topical corticosteroids, necessity of a strict follow up for adverse effects and the need of warning every patient who is given a prescription of topical corticosteroid about possible side effects. Kligman (3) reported 3 cases of fissured, scaly, erythematous and painful penile eruptions that were probably related to inadvertent use of potent topical corticosteroids for the treatment of herpes genitalis lesions. This author predicted that continued use of fluorinated topical corticosteroids could lead to ulceration (3). Adams and Sheth (4) reported iatrogenic perianal ulceration following the use of clotrimazole and betamethasone dipropionate topically. The author of this paper could not find any other report of true skin ulceration resulting from prolonged topical corticosteroid use in the medical literature.

The differential diagnoses of ulceration of breast skin may include infectious diseases, pyoderma gangrenosum, ulceration due to haematologic disorders and malignant disorders. All of these disorders are excluded by the clinical presence of punched out clear skin ulceration without induration in the background of widespread cutaneous steroid atrophy. Moreover ulcers are located in the most opposing points of the breasts. All of the ulcers healed with wound treatment.

These three cases were presented to emphasize the potential serious local side effects of topical steroids even progressing to the development of cutaneous ulceration. It is important to use appropriate topical corticosteroid in appropriate location for an appropriate duration and we should not forget the necessity of follow up. The best approach to prevent these serious side effects is to inform patients about these side effects. Physicians are advised to refrain from prescribing any topical steroid medication (especially the ones combined with other molecules) to patients belonging to low socio-cultural level to treat intertrigo or chronic cutaneous disorders like psoriasis in intertriginous skin. These rules must especially be obeyed when there is a strong suspicion that the patient will not come back for a control examination.

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