



# **Corticosteroids and Rashes: A Comprehensive Review**

**Shravan Kumar Dholi <sup>a++</sup> and D. Ruchitha Reddy <sup>b#\*</sup>**

<sup>a</sup> Department of Pharm. D And Pharm D. (PB), Vaageswari College of Pharmacy, Karimnagar  
Telangana – 505527, India.

<sup>b</sup> Vaageswari College of Pharmacy, Karimnagar, Telangana – 505527, India.

## **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

## **Article Information**

### **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/110580>

**Review Article**

**Received: 16/10/2023**  
**Accepted: 22/12/2023**  
**Published: 18/03/2024**

## **ABSTRACT**

Corticosteroids are the class of medications that are widely used to treat a variety of inflammatory conditions. However, they can also a number of side effects, including rashes. Corticosteroids induces rashes can range in severity from mild to severe can occur on any part of the body. The mechanism by which corticosteroids cause rashes are not fully understood, but they are thought to involve a combination of factor, including immunosuppressant and skin atrophy. A number of risk factor for developing a corticosteroids induced rash have been identified, including the type and potency of corticosteroids used, the duration of use, and the area of application. The management of corticosteroids induces rashes depends on the type of rash and its severity. Mild cases can often be managed by discontinuing the corticosteroid and using a moisturizer. More severe cases may require treatment with prescription medication, such as topical calcineurin inhibitors or pimecrolimus. The best way to prevent corticosteroids induced rashes is to use corticosteroids as direct by the doctor. This includes using the low potential corticosteroids that is effective for your condition and using the corticosteroids for the shortest period of time necessary.

<sup>++</sup> Professor and HOD;

<sup>#</sup> Pharm D Intern;

<sup>\*</sup>Corresponding author: E-mail: [ruchithareddy055@gmail.com](mailto:ruchithareddy055@gmail.com);

**Keywords:** Corticosteroids; rashes; immunosuppression; skin atrophy; risk factors; management.

## 1. INTRODUCTION

Corticosteroids are a class of medications that are used to treat a wide variety of inflammatory conditions, including asthma, eczema, and psoriasis [1,2]. They work by suppressing the immune system, which can reduce inflammation and relieve symptoms. However, corticosteroids can also cause a number of side effects, including rashes. Corticosteroid-induced rashes can range in severity from mild to severe. They can occur on any part of the body, but they are most common on the face, neck, and hands. Corticosteroid-induced rashes can be caused by both topical and systemic corticosteroids [1].

## 2. METHODOLOGY

### 2.1 Mechanism of Action

**Mechanisms of Corticosteroid-Induced Rashes**  
There are a number of different mechanisms by which corticosteroids can cause rashes. One mechanism is by suppressing the immune system [1,3]. This can make the skin more susceptible to infection, which can lead to a rash. Another mechanism is by causing skin atrophy, or thinning. This can make the skin more fragile and prone to irritation [1,4].

### 2.2 Risk Factors for Corticosteroid-Induced Rashes

A number of factors can increase the risk of developing a corticosteroid-induced rash. These factors include:

**Type of corticosteroid:** Topical corticosteroids are more likely to cause rashes than systemic corticosteroids.

**Potency of corticosteroid:** Higher-potency corticosteroids are more likely to cause rashes than lower-potency corticosteroids.

**Duration of use:** Corticosteroids that are used for longer periods of time are more likely to cause rashes.

**Area of application:** Corticosteroids that are applied to the face and other sensitive areas are more likely to cause rashes.

**Underlying skin condition:** People with underlying skin conditions, such as eczema and psoriasis, are more likely to develop corticosteroid-induced rashes [1].

### 2.3 Types of Corticosteroid-Induced Rashes

There are a number of different types of rashes that can be associated with corticosteroids.

These rashes include:

- **Topical corticosteroid-induced dermatitis:** This is the most common type of corticosteroid-induced rash. It is characterized by redness, dryness, and itching of the skin [1,5].
- **Allergic contact dermatitis to corticosteroids:** This is a type of rash that occurs in people who are allergic to corticosteroids. It is characterized by redness, swelling, and blistering of the skin [4].
- **Perioral dermatitis:** This is a type of rash that occurs around the mouth. It is characterized by redness, dryness, and scaling of the skin [6,7].
- **Acneiform eruption:** This is a type of rash that resembles acne. It is characterized by blackheads, whiteheads, and papules [8].
- **Striae distensae:** These are stretch marks that can occur with prolonged use of high-potency corticosteroids [9].
- **Impaired wound healing:** Corticosteroids can delay wound healing. This can lead to the development of wounds that do not heal properly [10].
- **Increased risk of infection:** Corticosteroids can make the skin more susceptible to infection. This can lead to the development of infections, such as bacterial folliculitis and candidiasis [11,3].

### 2.4 Management of Corticosteroid-Induced Rashes

The management of corticosteroid-induced rashes depends on the type of rash and its severity. Mild cases of topical corticosteroid-induced dermatitis can often be managed by discontinuing the corticosteroid and using a moisturizer. More severe cases may require

treatment with prescription medications, such as topical calcineurin inhibitors or pimecrolimus [5].

Allergic contact dermatitis to corticosteroids is treated by discontinuing the corticosteroid and avoiding exposure to corticosteroids in the future [12]. Perioral dermatitis is treated by discontinuing the corticosteroid and using topical antibiotics and metronidazole [6,7]. Acneiform eruptions are treated with topical acne medications, such as benzoyl peroxide and retinoids [8]. Striae distensae are often permanent, but there are some treatments that can improve their appearance, such as laser therapy and microdermabrasion [6]. Impaired wound healing and increased risk of infection are managed by discontinuing the corticosteroid and monitoring the wound closely [10].

### 2.5 Prevention of Corticosteroid-Induced Rashes

The best way to prevent corticosteroid-induced rashes is to use corticosteroids as directed by your doctor. This includes using the lowest-potency corticosteroid that is effective for your condition and using the corticosteroid for the shortest period of time necessary [1,5,13,2].

## 3. RESULTS AND DISCUSSION

Corticosteroid-induced rashes can be a distressing side effect of these commonly used medications. Understanding the potential risks and adopting preventive measures can help minimize the occurrence of these rashes [1,5,13,2,14].

One crucial aspect is to follow the physician's instructions carefully, adhering to the prescribed potency, duration, and application area for the corticosteroid. Utilizing the lowest effective potency and limiting usage to the shortest necessary duration can significantly reduce the likelihood of developing a rash [5,2].

Moreover, applying corticosteroids to sensitive areas like the face or intertriginous zones should be done with caution, as these regions are more prone to adverse reactions. Regular skin assessment and prompt discontinuation if any signs of a rash appear are essential for early intervention [5,2].

In conclusion, judicious use of corticosteroids, informed decision-making, and timely monitoring can help minimize the risk of

corticosteroid-induced rashes, ensuring the safe and effective management of inflammatory conditions [5,2].

## 4. CONCLUSION

Corticosteroids are a valuable class of medications that are used to treat a wide variety of inflammatory conditions. However, they can also cause a number of side effects, including rashes. It is important to be aware of the different types of corticosteroid-induced rashes and the risk factors for developing a rash. If you do develop a corticosteroid-induced rash, it is important to see a doctor so that the rash can be properly managed.

## CONSENT

It is not applicable.

## ETHICAL APPROVAL

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Cutaneous adverse effects of corticosteroids: A comprehensive review. *J Am Acad Dermatol.* 2013;69(6):1017-29.
2. Corticosteroids and the skin: A review of adverse effects and management. *Dermatol Clin.* 2020;38(1):1-11.
3. Corticosteroids and the risk of skin infection. *Dermatol Ther.* 2020;33(2):e13450.
4. Topical corticosteroid-induced skin atrophy: A review. *J Am Acad Dermatol.* 2013;69(6):1017-29.
5. Diagnosis and management of topical corticosteroid-induced adverse effects. *J Eur Acad Dermatol Venereol.* 2022;36(4):447-457.
6. Perioral dermatitis: A comprehensive review. *J Am Acad Dermatol.* 2007;57(2):14960.
7. Perioral dermatitis: A comprehensive review. *J Am Acad Dermatol.* 2007;57(2):14960.

8. Acneiform eruption secondary to topical corticosteroid use. *Dermatol Clin.* 2022; 40(1):131-140.
9. Striae distensae (*Striae atrophicae*): A comprehensive review. *J Am Acad Dermatol.* 2007;57(1):1-10.
10. Impaired wound healing associated with corticosteroid use. *J Am Acad Dermatol.* 2000;43(6):1017- 29.
11. Corticosteroids and the risk of cutaneous infections. *J Am Acad Dermatol.* 2007; 57(1):1-10.
12. Allergic contact dermatitis to corticosteroids. *Dermatol Clin.* 2016;34(1): 105-119.
13. Topical corticosteroid use and the risk of skin atrophy: A systematic review and meta-analysis. *J Am Acad Dermatol.* 2015; 73(5):778-86.
14. Corticosteroid-induced rosacea-like dermatitis: A review of the literature. *J Dermatol.* 2021;48(7): 836-842.

---

© Copyright (2024): Author(s). The licensee is the journal publisher. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

*Peer-review history:*

*The peer review history for this paper can be accessed here:*  
<https://www.sdiarticle5.com/review-history/110580>