

Clinical Images

Presentations of Cutaneous Disease in Various Skin Pigmentations: Seborrheic Dermatitis

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Abstract

Description

Seborrheic dermatitis is a common dermatologic disease affecting patients of all ages, ethnicities, and skin pigmentations. The rash often affects the scalp, ears, and central face. The underlying skin pigmentation of the individual may affect how this disease presents. We present several cases of seborrheic dermatitis in individuals of varying ages, genders, and skin pigmentations.

Keywords

seborrheic dermatitis; skin and connective tissue diseases; cutaneous disease; demographics in dermatology; ethnicity; skin of color; skin pigmentation

Introduction

Seborrheic dermatitis affects infants, adolescents, and adults, with primary care offices frequently encountering patients with this common condition. It is more prevalent in men as compared to women. Researchers have estimated the prevalence of symptomatic dermatitis to be 3% among immunocompetent adults. The prevalence of this condition significantly increases in the immunocompromised, with studies indicating a prevalence rate of 80% among patients with AIDS. There is also an increased prevalence in those with neurological

conditions, such as Parkinson's or Alzheimer's disease.¹ The prevalence of seborrheic dermatitis in Black patients has been higher than in White patients in certain population studies (6.5% vs. 1.8%, respectively).² The presentation and symptomatology of this condition varies and may range from completely asymptomatic to significantly debilitating. It also varies in appearance based on the underlying skin pigmentation of the patient, as described by the Fitzpatrick scale (**Figure 1**). In the article "Presentations of Cutaneous Disease in Various Skin Pigmentations: An Introduction," there is a

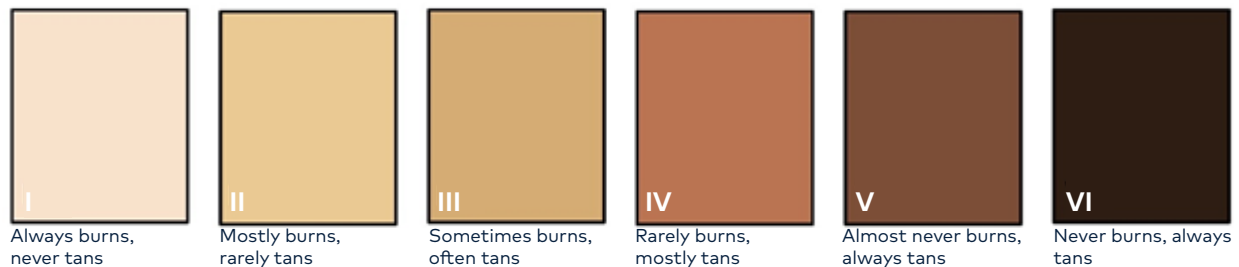


Figure 1. The Fitzpatrick scale provides a classification system for an individual's skin type based on the ability to burn and/or tan when exposed to ultraviolet light. It is used to approximate the degree of skin pigmentation.

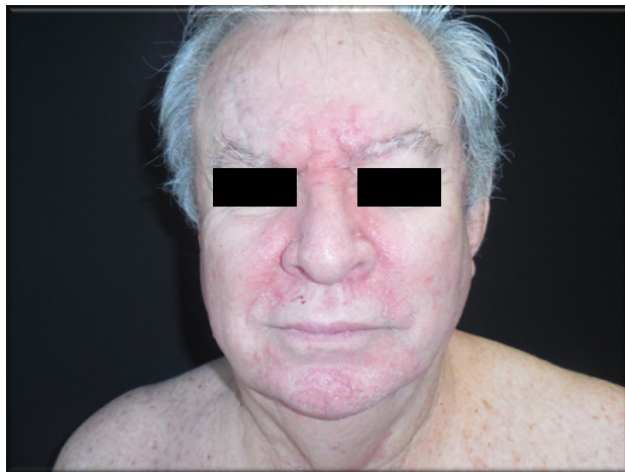


Figure 2. Fitzpatrick skin type II (mostly burns, rarely tans) shows seborrheic dermatitis on the central face without sparing the nasolabial folds in an older male. Pink to orangish plaques (>1 cm, raised) with scale are present. The medial eyebrows and chin are involved, while the perioral area is spared.

detailed discussion of the classification of skin types and the background information on the Fitzpatrick scale.³ Identification of this condition is critical to improving patients' quality of life.

Case Presentation

We have compiled a few diverse patients with moderate to severe seborrheic dermatitis.

Figures 2 and 3 depict the central face, ears, and chest involvement in an older white male with Fitzpatrick type II (burns more often than tans) skin. Sharply demarcated erythematous to orangish plaques appear on the central forehead, nasal root, medial cheeks, nasolabial folds, and chin. Scattered papules of the same color appear on the upper chest and anterior neck. A white scale covers certain lesions.

Erythematous, scaly, and fissured plaques also affect the left retro-auricular ear.

Figure 4 demonstrates seborrheic dermatitis of a young Indian adult male with Fitzpatrick type IV (rarely burns, mostly tans) skin. The erythema is more difficult to define from the surrounding skin. Still, it is possible to appreciate erythematous plaques with scale, without a well-defined border, involving the same distribution as the previous patient. On closer examination, the scale becomes more apparent in the perinasal and hair-bearing areas of the beard (**Figure 4B**).

Figure 5 contains photographs of seborrheic dermatitis of the scalp and face in 2 different patients with Fitzpatrick type V (almost never

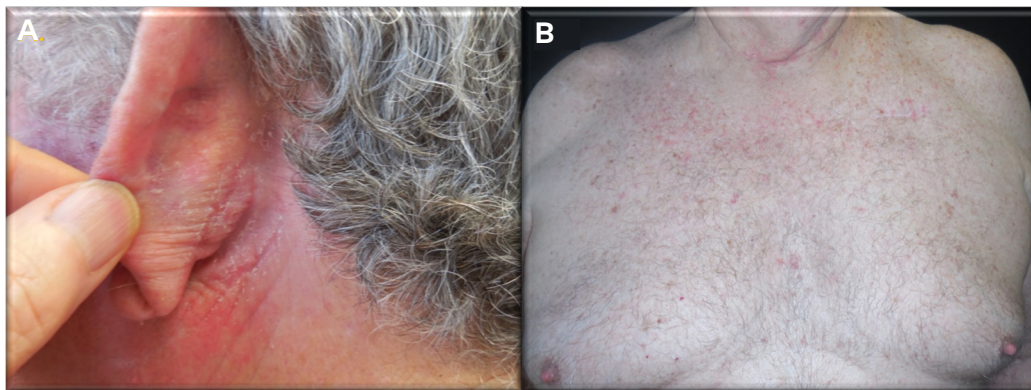


Figure 3. (A) Fitzpatrick skin type II (mostly burns, rarely tans) shows seborrheic dermatitis on the left retro-auricular skin. The erythematous plaques (>1 cm, raised) exhibit maceration and longitudinal fissures. These lesions also have a layer of scale on top. **(B)** The chest and anterior neck exhibit pink scaly papules (<1 cm, raised).

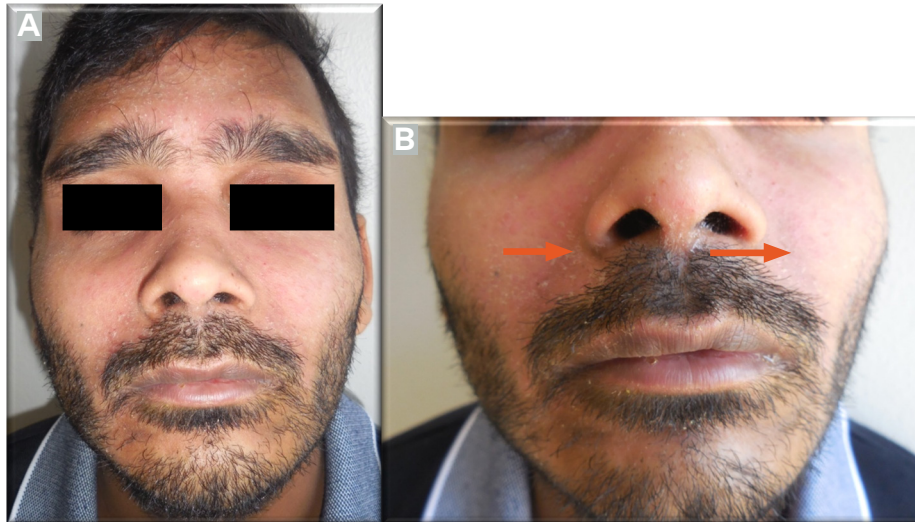


Figure 4. (A) Fitzpatrick skin type IV (rarely burns, mostly tans) shows seborrheic dermatitis on the central face and forehead of a young adult male. There is a faint erythema and a fine scale. (B) On closer examination, one can better appreciate the scale in the bilateral nasolabial folds (orange arrows) and the involvement of the mustache and beard on the upper lip, cheeks, and chin.

burns, always tans) skin. The scalp scale predominantly affected the patient in **Figure 5A**. In **Figure 5B**, the patient had some faint erythema and hyperpigmentation in the right nasolabial fold with a thin granular scale.

Figure 6 shows severe seborrheic dermatitis in an older male with Fitzpatrick type V (almost never burns, always tans) skin. There is an underlying reddish tone to the affected areas of the face. The forehead, nasal root, and nasolabial folds exhibit fine, scaly plaques. The scale coalesces in the nasolabial folds and nasal root, forming white plaques (**Figure 6B**).

Discussion

Seborrheic dermatitis is a common skin condition marked by erythematous to red scaly plaques with flaking on the scalp, nasolabial folds, ears, eyebrows, beard, and chest. The presentation undergoes a dramatic transformation, with some patients having a predominance of erythema, while others present with thick greasy scaling on the face and scalp with no erythematous discoloration.

We have a limited understanding of the cause of this condition.¹⁴ The face, scalp, and chest contain many sebum-producing sebaceous glands. Sebum production fluctuates based

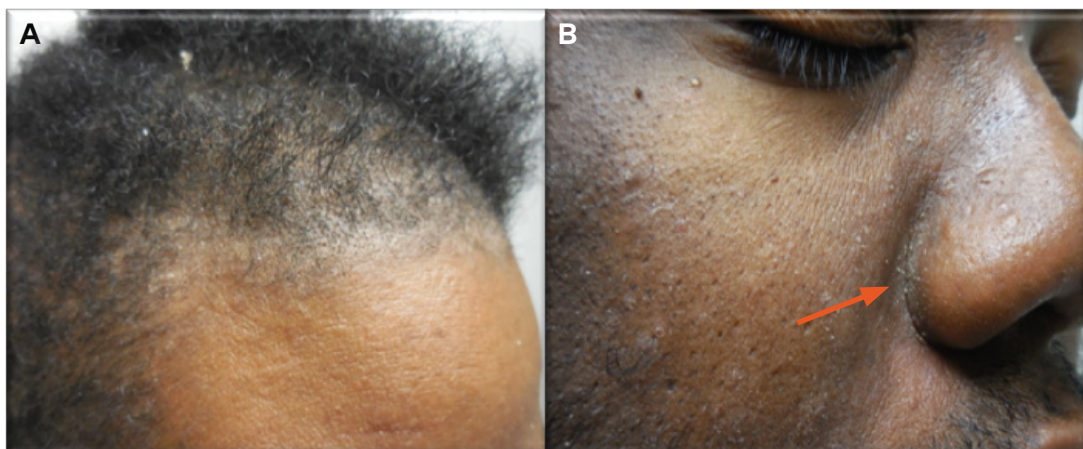


Figure 5. (A) Fitzpatrick skin type V (almost never burns, always tans) shows seborrheic dermatitis on the scalp. There is a fine, white scale. (B) On the right perinasal ala, there is a faint erythema and fine white scale (orange arrow) extending inferiorly onto the cheek and superiorly onto the nasal dorsum.

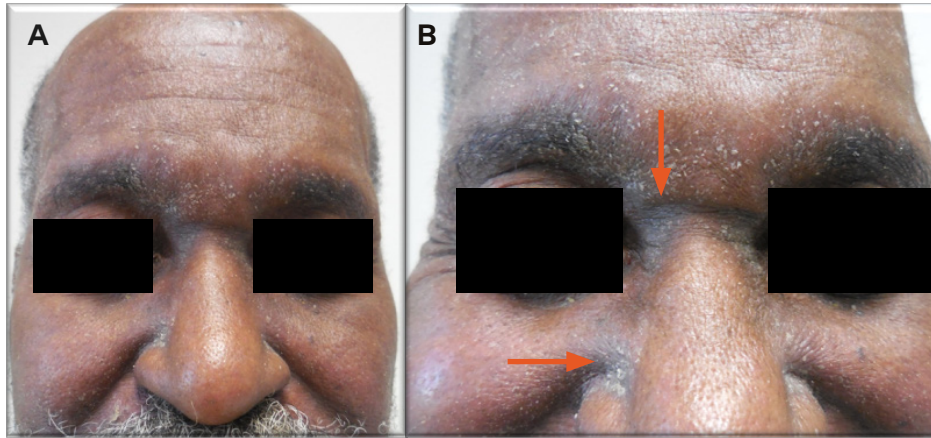


Figure 6. (A) Fitzpatrick skin type V (almost never burns, always tans) with faint erythematous plaques (>1 cm, raised) with a fine, white scale involving the bilateral eyebrows, central forehead, and bilateral nasolabial folds. (B) The scale coalesces in the nasolabial folds and on the nasal root, giving the skin a whitish hue (orange arrows).

on age, hormonal activity, and environmental changes.¹ *Malassezia* yeasts are regular residents of the healthy human microbiome. In areas that produce large amounts of sebum, these yeasts thrive by producing lipases that break the sebum apart. Their colonization of clinically affected areas does not necessarily correlate with the severity of disease and flaring seborrheic dermatitis skin does not necessarily have an overabundance of *Malassezia* species. However, seborrheic dermatitis responds promptly to antifungal agents.⁵ Additional studies have suggested that the free fatty acids and reactive oxygen species stimulate a strong host response in certain individuals, resulting in visibly apparent erythema and scale.⁶

The condition is prevalent and has a broad range of presentations. In Fitzpatrick skin type I-III patients, erythema is the most notable characteristic of seborrheic dermatitis. A thick, overlying, or adherent scale is more easily

appreciated, but some present with a fine granular scale that is difficult to perceive and easily overlooked. Patients may present with a pink to erythematous eruption that predominantly affects the scalp, central face, ears, and chest. There may or may not be pruritus. Fitzpatrick skin types IV and V mask most of the erythema. It may be difficult to appreciate any discoloration without appropriate lighting during a physical exam. The primary notable feature may be scaling. Recognizing seborrheic dermatitis in Fitzpatrick skin type VI (never burns, always tans) patients with suspected seborrheic dermatitis.

Other conditions to consider in the differential diagnosis are cutaneous lupus erythematosus, scalp/facial psoriasis, and tinea capitis. Cutane-



Figure 7. (A and B) Fitzpatrick skin type III (sometimes burns, often tans) in a middle-aged female, involving the sun-exposed face. There are erythematous, hypertrophic plaques (>1 cm, raised) involving the bilateral malar cheeks and sparing the nasolabial folds (black arrow).



Figure 8. (A-C) Fitzpatrick skin type V (almost never burns, always tans) presents here in a young adult male. Pink, well-defined plaques (> 1 cm, raised) densely cover the central face, nasolabial folds, forehead, and scalp. The scale is adherent to the plaques. A biopsy of a scalp plaque (>1 cm, raised) showed psoriasis. This patient also had other lesions on his bilateral axillae and his lower extremities.

ous lupus has several presentations but commonly appears as a rash involving the cheeks and nasal bridge but sparing the nasolabial folds. There is a recent history of photoexposure, and there may be a history of a positive anti-neutrophilic antibody (ANA) on labwork (**Figure 7**). Scalp psoriasis may be difficult to differentiate from seborrheic dermatitis. In fact, clinicians often call this disease “sebopsoriasis” due to the clinical overlap. The scalp plaques have more defined borders, and the scale is denser in psoriasis. The key to differentiating the 2 diseases is the identification of other plaques on the body suggestive of plaque psoriasis with scalp involvement (**Figure 8**). Tinea capitis may present as a scaly plaque on the scalp. Typically, this is present in young children or immunocompromised adults. There is a boggy sensation when pressure is applied to these plaques. There may be posterior occipital chain lymphadenopathy. A fungal culture may hold diagnostic value.⁴

Conclusion

Seborrheic dermatitis is a common and persistent disease that can present in any skin type and age. It presents on the scalp, face, and chest as diffuse, indistinct erythematous plaques with fine, white scales. It may cause patients significant debilitation from pruritus or social embarrassment. Therefore, recognizing this common condition is vital in the

prompt diagnosis and treatment by primary care physicians and internists.

Conflicts of Interest

The authors declare they have no conflicts of interest.

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