International Journal of Integrated Medical Research
Volume 9 Issue 04 October-November-December 2022
https://doi.org/10.57181/ijoimr/vol9i04/78
ISSN (Online): 2393-9869, ISSN (Print): 2350-0360

REVIEW ARTICLE

SEBORRHEIC DERMATITIS - A NARRATIVE REVIEW

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ABSTRACT

The Seborrheic dermatitis and dandruff are chronic skin diseases that belong to the same category. Seborrheic dermatitis is characterized by skin erythema or plaques with varying degrees of itching and scaling, which is usually a response to Malassezia species, and tends to occur in areas with strong sebaceous glands, such as the scalp, face, chest, back, armpits, and groin, caused by Bacillus dandruff breaking down skin oils to produce an inflammatory response. Dandruff is a relatively mild form of seborrheic dermatitis characterized by mild scaling of the scalp without an accompanying inflammatory response.

KEYWORDS: Seborrheic Dermatitis, Inflammasome, Malassezia, Sebaceous Glands, Seborrheic Keratosis.

INTRODUCTION

Seborrheic dermatitis (SD) is a common skin disease in clinical practice. It mainly affects areas with strong sebaceous gland secretion such as the scalp or skin folds. Seborrheic dermatitis will appear red and flaky, plaques, skin inflammation, redness, swelling, and accompanying dander, etc. It may also affect other areas of the body with high sebum secretion, such as the sides of the face, nose, eyelids, and chest. If the symptoms are severe, repeated treatments may be required seborrheic dermatitis in infants and young children may occur simultaneously with atopic dermatitis, and adult seborrheic dermatitis may also occur repeatedly due to seasons or allergens, or occur simultaneously with psoriatic dermatitis, etc.[1]. In addition to common acne (acne, whelk), seborrheic dermatitis is the most common inflammatory skin disease affecting humans, and clinicians can determine the diagnosis of seborrheic dermatitis according to clinical symptoms. Generally diagnosis does not require blood drawing or allergen testing, but in patients with chronic seborrheic dermatitis, it may be difficult to distinguish from chronic AD (atopic dermatitis), psoriasis or contact dermatitis (**Fig. 1**). Sometimes skin biopsy and laboratory serological examination are necessary [2].

CLINICAL FEATURES AND DIAGNOSIS OF SEBORRHEIC DERMATITIS

Seborrheic dermatitis is characterized by irregular, diverse, symmetrical distribution of rashes, severe itching, recurrent attacks, and easy to become chronic. It often recurs or intensifies in autumn and winter, allergies, excessive dryness of the skin, friction or other unknown causes potential to cause seborrheic dermatitis; common degree of seborrheic dermatitis, which is an inflammatory skin disease of the epidermis and superficial dermis caused by a variety of internal and external factors, which is pleomorphic, symmetrical, itchy and prone to recurrence attacks and other characteristics. Chronic seborrheic dermatitis is mostly dry, manifested as hypertrophic plaque-like skin lesions, lichen-like lesions, papules, nodules, etc.[3]. Seborrheic dermatitis is often an acute attack, manifested as primary and polymorphic rash, often presenting a symmetrical distribution, more common on the face, behind the ear, flexor side of the arm, forearm, calf, etc., and can extend to the whole body in severe cases. There are often pinhead to miliary-sized

papules and herpes on the site of erythema. (**Fig. 4: herpes zoster).**

In severe cases, small blisters need to be differentiated from vesicular skin diseases. Irregularities often merge into large eczema-like skin diseases with unclear boundaries. Erosive exudate due to scratching. In case of secondary infection, there may be pustules, pus and scabs, regional lymph nodes may be enlarged [4]. Severe infection may be accompanied by systemic symptoms such as fever, histopathological manifestations are cavernous blisters in the epidermis. The superficial telangiectasia of the dermis is surrounded by lymphocytes, infiltrated by neutrophils and eosinophils. Symptoms include severe itching and burning sensations, which may affect sleep and work with paroxysmal exacerbations at night. It needs to be differentially diagnosed with scabies. The course of the disease recurs for about 2-3 weeks, and may turn into subacute or chronic if left untreated. Typical seborrheic dermatitis is red plaques on both sides of the nose and between the eyebrows, but in severe cases, yellow flaky desquamation of the whole face is an important feature in diagnosis. Seborrheic dermatitis is often caused by staying up late, stress, lack of sleep, etc. Induced, if it is occasional seborrheic dermatitis, external use of weak steroid ointment is usually effective, but for patients with recurrent attacks, long-term use of steroid ointment is prone to side effects such as skin atrophy, and even lead to steroid distiller's grains, etc.

Antifungal drugs for bacillus dander, combined with appropriate steroids and moisturizing lotions, can relieve most of the symptoms. Physicians in the differential diagnosis of seborrheic dermatitis rarely perform skin biopsy [5-6], but if necessary to exclude other Skin biopsies are required for conditions similar to seborrheic dermatitis, including:

1. Psoriasis: It can also cause dandruff and skin desquamation. Psoriasis usually increases the amount of silvery white flaky dander. **(Fig. 2).**

2. Atopic Dermatitis (AD): Also known as allergic dermatitis or eczema. It can cause skin inflammation on the inner side of the elbow, inner knee or neck. Patients are very itchy and prone to recurrence. Atopic dermatitis tends to occur in children, but a small number of patients still have recurrent atopic dermatitis after adulthood. This may be due to physical factors from childhood to the present, or it may be atopic dermatitis that begins to develop after growing up. Inflammation among the diverse manifestations of atopic dermatitis, facial eczema is also one of them; however, in addition to using steroid ointment for treatment, moisturizing lotion is also required, and covering it with plastic wrap can increase the effect of the drug. **(Fig. 2).**

3. Tinea Vesicular: Commonly known as tinea versicolor, tinea versicolor, etc. The official scientific name is pityriasis discoloration, this rash usually appears on the trunk, unlike seborrheic dermatitis, which is red, and the symptoms usually appear on the face and not too scaly.

4. Rosacea: Rosacea is often accompanied by capillary dilation. The erythroderma of rosacea dermatitis often includes persistent rash and intermittent rash. Intermittent rash means that it lasts for more than 10 minutes at a time, and this situation will last for more than 3 months. he erythema of rosacea is easily aggravated by some factors such as: cold, heat, alcohol, spicy food, hot food, etc. There will be an important basis for diagnosis.

5. Contact Dermatitis: It is divided into two types of contact dermatitis: "allergic" and "irritative". It is induced by the use of facial products such as facial masks that contain this ingredient. The characteristics of this type of skin disease are "itch" and "edema". Irritant contact dermatitis is caused by the use of facial skin care products that can irritate the skin. The most common is that the surfactant in the facial cleanser is too strong and irritates the face, and the skin will appear dry, scaly and tingling, the administration of steroid ointment or cream will have a short-term effect, but if the root cause is not found, it will continue to recur, and the strength of the same steroid ointment is not the same, for irritant contact dermatitis. The repair of the epidermal barrier is better than the use of drugs more important [7]. **(Fig. 3).**

6. Tinea Face: The skin on the face is infected by dermatophytes in molds. Typical tinea face will be in a circle shape and can be easily identified; however, atypical tinea face, especially after steroid ointment, often appears in the form of pimples or red. Plaques are not easy to diagnosis. Generally the distribution of tinea face is asymmetrical. The source of tinea face is often the mold on pets such as cats, dogs, rabbits, etc. The treatment of tinea face is external use of anti-fungal

ointment is the main method. If the patient is given compound ointment containing antifungal and steroids, it will be effective at the beginning, but it is easy to relapse after stopping the drugs.

FIGURE 1- Seborrheic dermatitis

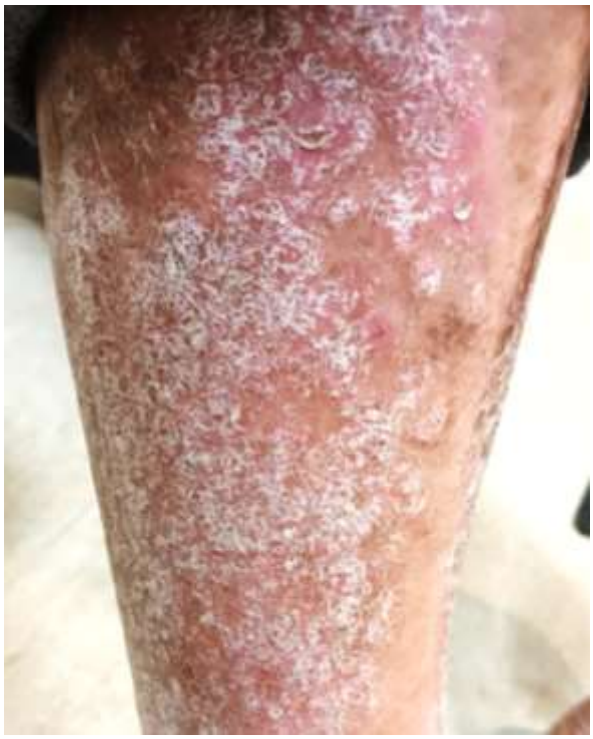

FIGURE 2- Psoriasis combine with atopic dermatitis (Lichenification)

SEBORRHEIC DERMATITIS PATHOPHYSIOLOGY

Studies in recent years have clearly shown that the proliferation of dandruff bacteria plays an important role in dandruff and seborrheic dermatitis, especially *Malassezia globosa* and *restricta* may be the most important; however, it causes dandruff and seborrheic dermatitis the mechanism is not yet clear. Another important factor is the excessive secretion of body surface sebum, and sebum originates from the sebaceous glands and secretes to the skin surface through the duct of the hair follicle. Bacillus dander of the epidermis will decompose triglyceride in sebum, among which saturated free fatty acid is one of the important sources of nutrients for *Bacillus dander*, and the unsaturated free fatty acid left behind will destroy the epidermal barrier, resulting in A series of inflammatory reactions occur in the skin; therefore, as far as we know, the sebaceous glands and dandruff bacteria play an important role in the process of scalp and seborrheic dermatitis [7,8].

SEBORRHEIC DERMATITIS TREATMENT

Adults with seborrheic dermatitis can use an over-the-counter anti-dandruff shampoo containing the following ingredients: coal tar, ketoconazole, salicylic acid, selenium sulfate, zinc pyrithione and so on. Seborrheic dermatitis treatments include:

1. Moisturizing: Allow new keratin to gradually replace damaged keratin and return to a healthy skin state [9].

2. Topical Corticosteroids: good anti-inflammatory and antipruritic effects can be achieved in mild to moderately severe eczema [10].

Medications commonly used in eczema patients to relieve itching; topical steroid creams are still the standard practice in atopic dermatitis, especially for most mild dermatitis patients, it is best to prescribe appropriate strength. The topical steroid ointment should be stopped as soon as possible after the inflammation is suppressed. This intermittent use of steroid ointment can greatly reduce the possibility of adverse effects of long-term use [11,12].

3. Topical Immunosuppressant's: Physicians will worry about the side effects of skin atrophy or thinning caused by long-term use of steroids, so they sometimes

use topical immunosuppressants such as tacrolimus or pimecrolimus).

4. Antibiotics and Antifungal Agents: used on eczema patients with bacterial or fungal infections. These drugs can control the infection and prevent the infection from making the eczema worsing [11].

5. Oral antihistamine drugs.

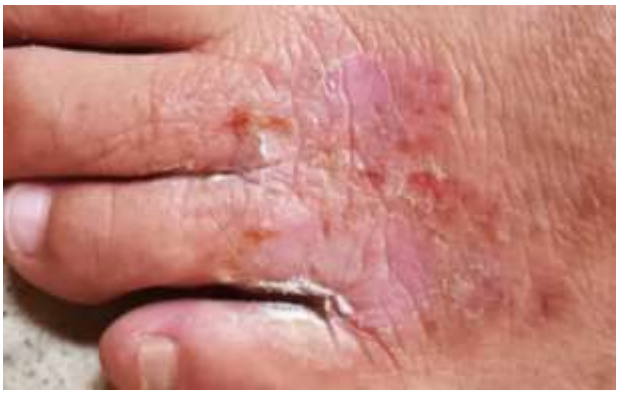

FIGURE* 3- *Contact dermatitis

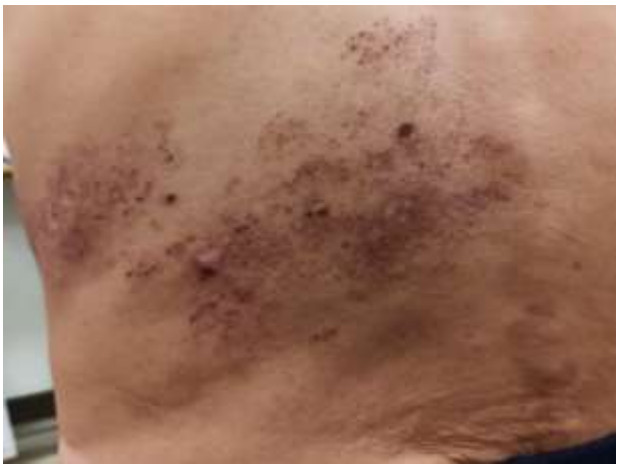

FIGURE 4- Herpes zoster

CONCLUSION

Common symptoms of seborrheic dermatitis such as: scalp, cheeks, nose, eyebrows, ears, eyelids, chest, armpits, groin, lower breasts and other places where the sebaceous glands of the skin are developed, covered with white snowflake-like dander or yellow scabs, hard skin, etc., mainly caused by bacillus dander, often appear as red papules and sometimes combined with pustules, which are difficult to distinguish from acne, but the most common locations are the chest, back, neck, and shoulders. The curative effect of only using general antibiotics is not good. Oral and topical antifungal drugs should be used for treatment. It is recommended to keep the skin dry as much as possible. Details of multiple skin lesions and more detailed medical history inquiries, the possibility of differential diagnosis of other skin diseases, timely referral to dermatologists, so that patients can receive rapid and correct treatment.

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