JOURNAL OF AGROMEDICINE AND MEDICAL SCIENCES (AMS) ISSN: 2460-9048 (Print), ISSN: 2714-5654 (Electronic)
Available online at http://jurnal.unej.ac.id/index.php/JAMS

Perbaikan Klinis Pasien dengan Dermatitis Atopik yang Disertai dengan Dermatitis Seboroik: Suatu Laporan Kasus

Clinical Improvement in a Patient with Atopic Dermatitis Coexisting with Seborrheic Dermatitis: A Case Report

Umi Miranti [1*)], R. Ristianto Yoga[2], Ayu Lilyana Nuridah[2], Muhammad Irsyad Amien[2], Nurrul Izza Misturiansyah[2]
[1]Departement of Dermatology and Venereology, dr. Haryoto Regional Hospital Lumajang, Lumajang, Indonesia
[2]Faculty of Medicine, University of Jember, Jember, Indonesia

Article Info

Article History:
Received: June 15, 2024
Accepted: October 21, 2024
Published: December 17, 2024

**) Corresponding author:*
umi.miranti@gmail.com

How to cite this article:

Miranti, U, Yoga, R.R, Nuridah, A.L., Amien, M.I, Misturiansyah, N.I, (2024). Clinical Improvement in a Patient with Atopic Dermatitis Coexisting with Seborrhoeic Dermatitis: A Case Report. *Journal of Agromedicine and Medical Sciences. 10*(3): 162-166.

https://doi.org/10.19184/ams.v10i3.48892

Abstract

Atopic dermatitis (AD) is a common chronic inflammatory skin disease affecting individuals of all ages and races. The etiology of AD is multifactorial, involving genetic, immunological, and environmental interactions. Diagnosis is based on patient history, clinical manifestations, and the Hanifin-Rajka criteria, as well as assessments using the Eczema Area and Severity Index (EASI) and SCORing Atopic Dermatitis (SCORAD). This article reports a case of AD accompanied by seborrheic dermatitis. A 15-year-old female presented with itching on the face, accompanied by thick, yellowish scaling on the left side of her face for the past three weeks. Symptoms began with red spots that progressed to pus-filled vesicles and spread to her hands. The patient also experienced yellow, scaly dandruff on her scalp. A history of shrimp allergy and dry skin upon sweating was noted, with poor personal hygiene potentially contributing to the clinical manifestations. The diagnosis of AD with seborrheic dermatitis as a comorbidity was established based on the Hanifin-Rajka criteria (3 major and 3 minor), SCORAD (pre: 67.2; post: 24.3), and EASI (pre: 12.4; post: 5.6), with a negative white dermatographism. Initial treatment included NaCl compresses, oral dexamethasone, and oral cetirizine, which showed improvement after 10 days. Upon follow-up, the patient was prescribed a compounded cream and ketoconazole shampoo, further alleviating symptoms. This management demonstrated positive outcomes, indicating a good response to therapy.

Keywords*: atopic dermatitis, seborrhoeic dermatitis*

Introduction

Atopic dermatitis (AD), also known as atopic eczema, is an inflammatory skin disease and is one of the most common chronic conditions. AD can affect both men and women of all races, children and adults, and often occurs in families with atopic diseases. The prevalence of AD in children is estimated to be between 15-25%, while in adults, it ranges from 1-10% (Torres et al., 2019). The etiology of atopic dermatitis (AD) is multifactorial, involving interactions between genetic, immune, and environmental factors (Nutten, 2015). Generally, AD is classified into three clinical phases, each characterized by specific morphology and distribution patterns. The infantile phase typically presents with eczematous vesicular patches, often scattered over the scalp and cheeks. In the childhood phase, eruptions tend to be dry, with papular lesions, prurigo, lichenification, and excoriated papules occurring on extensor surfaces. The adolescent to adult phase often features dry plaques and lichenification, reflecting a chronic condition. This phase frequently involves areas such as the neck, antecubital fossa, and popliteal region (Torres et al., 2019). Diagnosis is based on the patient's and family's history, as well as clinical manifestations. The Hanifin and Rajka criteria are widely used around the world to support diagnosis. Other scoring systems commonly used to assess the severity of AD include the Eczema Area and Severity Index (EASI) and SCORing Atopic Dermatitis (SCORAD) (Torres et al., 2019). The treatment of atopic dermatitis (AD) focuses on reducing pruritus and controlling the disease. Initial management may include moisturizers, topical corticosteroids, and calcineurin inhibitors. If the response is inadequate, systemic immunosuppressants, phototherapy, or biological agents can be added (Torres et al., 2019).

Other conditions can mimic, coexist with, or complicate atopic dermatitis (AD). These include inflammatory skin conditions,

infections, malignancies, genetic disorders, immunodeficiency disorders, nutritional deficiencies, graft-versus-host disease, and drug eruptions. Common inflammatory skin conditions that are often considered in the differential diagnosis of AD include contact dermatitis, seborrheic dermatitis, and nummular dermatitis (Ertam et al., 2018). A descriptive study reported that allergic dermatitis can be a complication of atopic dermatitis (AD) at all ages, and seborrheic dermatitis may also resemble or become a complication of AD, particularly in infants and adolescents (Siegfried & Hebert, 2015). Another retrospective study mentioned that atopic dermatitis (AD) can overlap with seborrheic dermatitis in infants. In this study, of the 87 patients diagnosed with seborrheic dermatitis, 23 also met the diagnostic criteria for AD (Alexopoulos et al., 2014).

Seborrheic dermatitis is a chronic skin condition characterized by papulosquamous lesions and typically appears in areas rich in sebaceous glands, such as the scalp, eyebrows, nasolabial folds, face, trunk, back, and body folds (Anggarini et al., 2021). This condition is more commonly found in men, with a prevalence of 3-5%, compared to women, due to the higher levels of androgen hormones (Adalsteinsson et al., 2020). A related meta-analysis study showed that the global prevalence of seborrheic dermatitis is 4.38%, with significant heterogeneity. Subgroup analysis based on age variation reported that adults experience seborrheic dermatitis more frequently, at 5.64%, followed by children at 3.70%, and neonates at 0.23% (Polaskey et al., 2024). The factors causing seborrheic dermatitis include environmental factors, genetics, and infection with Malassezia spp. fungi, which trigger an inflammatory reaction and abnormal immune cell activity, resulting in excessive immunoglobulin production (Adalsteinsson et al., 2020). In adolescents and adults, the clinical presentation of seborrheic dermatitis consists of mild scaly skin to white-yellowish patches that spread in areas rich in sebaceous glands, such as the scalp, face, and trunk. In infants, the condition primarily occurs on the scalp as yellowish, scaly patches with varying degrees of inflammation, forming what is commonly referred to as "cradle cap." (Dall'oglio et al., 2022). Several diagnostic tests and supportive examinations can be performed to aid in establishing the diagnosis, including potassium hydroxide (KOH) examination of skin scrapings; smears for microscopy, culture, and sensitivity testing; as well as histology and immunofluorescence (Tucker, D et al., 2021). Pharmacological management for this condition may include corticosteroids, antifungal agents, and moisturizers, which can be administered in the form of creams, shampoos, or oral medications.

Case Report

A 15-year-old female patient presented to the Dermatology Clinic at RSUH Lumajang, complaining of itching in the facial area. The itching was accompanied by yellow, scaly thickening on the left side of her face that had developed over the past three weeks (mid-August 2023). The symptoms began with the appearance of red spots on the face, which then worsened. Initially, there were red spots that progressed to pustular lesions. The symptoms then deteriorated into dry skin thickening. The itching also spread to both hands, with red spots that developed into pustular lesions (since early September 2023). At the end of August 2023, the patient noticed dandruff with yellow, scaly edges on her scalp.

The patient has a history of shrimp allergy and often experiences itching after consuming shrimp. She also has a history of dry skin that itches when exposed to sweat. Family history revealed frequent morning sneezing, but no similar complaints were reported in the family. This was the first time the patient experienced such symptoms. She is a junior high school student and previously used an ointment provided by the health center (the patient forgot the name of the medication) for her hands, but her complaints did not improve. The patient had never used balm or other medications apart from what was given by the health center. She washes her face twice daily and shampoos her hair 1-2 times a week. However, after experiencing skin thickening on her face, she stopped using facial soap and shampooing as usual. The patient bathes with antiseptic soap and has not used any makeup products during this time.

On general physical examination, the patient was alert and oriented. Vital signs were as follows: blood pressure 120/85 mmHg, pulse 88 beats/min, respiratory rate 20 breaths/min, and axillary temperature 36.7°C. Dermatological examination revealed scalling with yellow crust with well-defined edges on the facial region (Figure 1), multiple erythematous papules on the right arm and left hand (Figure 2), and clinical features consistent with seborrheic dermatitis, including thick yellow scales on the scalp (Figure 3). White dermatographism testing yielded negative results. The diagnosis of atopic dermatitis accompanied by seborrheic dermatitis was established based on the clinical findings, matched with the Hanifin-Rajka Criteria, SCORAD, and EASI to confirm atopic dermatitis in the dermatology clinic at RSUH.

During the first visit, the patient received treatment with 0.9% NaCl solution for compressing the face, to be applied twice daily for 10-15 minutes each time, oral dexamethasone tablets at 0.5 mg three times daily, and oral cetirizine at 10 mg once daily. At the second visit, ten days after treatment, there was clinical improvement, with significant reduction in itching and scaling (Figures 4 and 5). The complaint related to dandruff on the scalp also showed improvement. At the first follow-up, the patient was prescribed a compounded cream containing 5 g of vaseline, 5 g of mometasone furoate, and 5 g of fusidic acid to be applied to the face twice daily, as well as a compounded cream containing 10 g of vaseline, 10 g of desoximetasone, and 5 g of fusidic acid for the scalp and both hands, to be applied twice daily. The patient was also prescribed ketoconazole shampoo and oral cetirizine at 10 mg once daily.

Discussion

Atopic dermatitis cases can resemble, overlap with, or complicate into seborrheic dermatitis, especially when the condition progresses to severe stages. In this case, the symptoms began with itching in the facial area, accompanied by thickening of the left side of the face that started three weeks ago. Skin thickening was also observed on the nose, cheeks, and around the lips extending to the chin. Prior to the development of skin thickening resembling wounds, the itching was preceded by the emergence of multiple hyperpigmented erythematous macules that progressed into multiple pustules, which subsequently discharged pus.

Figure 1. Clinical symptoms of right hemifacial (A), facial region (B), and left hemifacial(C)

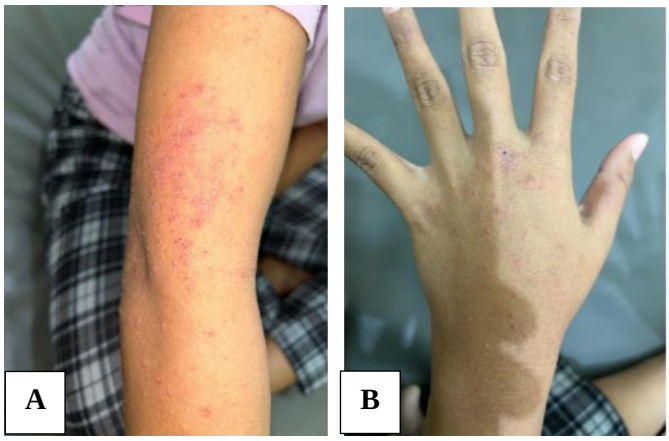

Figure 2. Clinical symptoms in the right brachial region (A) and left hand (B)

Figure 3. Clinical symptoms of seborrheic dermatitis, characterized by thick yellow scales in the scalp region.

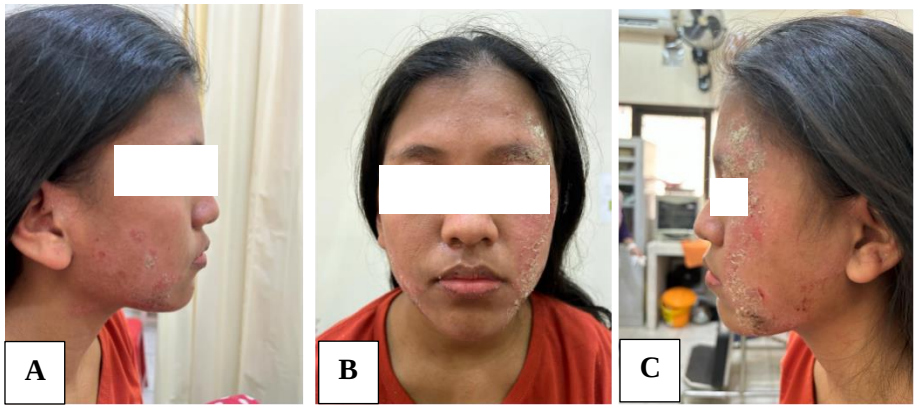

Figure 4. Clinical symptoms at the first follow-up in the right hemifacial region (A), facial region (B), and left hemifacial region, including the eyebrows and surrounding area(C).

Figure 5. Clinical symptoms at the first follow-up in the upper extremities (A), left hand (B), and right hand (C).

The presence of multiple pustules releasing pus may indicate a secondary infection. The symptoms then worsened into widespread yellow crusting with well-defined edges on the bilateral facial regions (major), malar areas, nasolabial folds, and external acoustic meatus of both auricles. Additionally, multiple erythematous papules were found on both upper arms and hands. The clinical manifestation of itching is the most frequently reported symptom by patients with dermatitis. This is consistent with a study conducted at RSUD Soetomo in 2017, which showed that the most common complaint among dermatitis patients was itching, reported by 74% of patients (Taslim & Ardi Munir, 2020). Increased transepidermal water loss (TEWL) and decreased moisture levels in the stratum corneum are among the causes of itching. (Widia & Hutomo., 2015).

The diagnosis of atopic dermatitis can be established based on clinical findings that align with the Hanifin-Rajka Criteria. In this case, there are three major criteria and three minor criteria present. The major criteria include the presence of pruritus, dermatitis accompanied by the formation of maculopapular rashes with an erythematous base on the facial and flexural areas (facial, brachial, and manual), and a family history of allergic rhinitis. The minor criteria in this case include atopic dermatitis triggered by food (shrimp), the presence of facial erythema (scalling with yellow crust), and other symptoms such as xerosis that worsens with sweat exposure. In addition to using the Hanifin-Rajka criteria, other scoring systems used include SCORAD (SCORing Atopic Dermatitis) and EASI (Eczema Area and Severity Index) scores. The SCORAD scoring system is employed to evaluate clinical improvement before and after therapy for atopic dermatitis. This tool assesses the severity of inflammation through three components: the area of the lesions (A), the intensity of symptoms (B), and subjective complaints such as itching and sleep disturbances (C) (Yunila Prastyawati et al., 2022). The area of the lesions is measured using a percentage based on the Rule of 9, with a maximum score of 100%. The intensity of symptoms is assessed based on six criteria—erythema, swelling, scaling, excoriations, skin thickening, and dryness—categorized as None (0), Mild (1), Moderate (2), and Severe (3). Subjective symptoms (C) are rated on a scale of 0 to 10 for itching and sleep difficulties, with a maximum total score of 20. The total SCORAD score is calculated using the formula A/5 + 7B/2 + C and categorized as Mild (<25), Moderate (25-50), and Severe (>50) (Oranje, 2011).

In this case, the area of the lesions (A) pre-treatment was 26% (with the facial and scalp region accounting for 8% and the upper and lower extremities accounting for 18%). The intensity of symptoms (B) pre-treatment was assessed as follows: erythema (2), swelling (2), scaling (3), excoriations (1), skin thickening (3), and dryness (3), resulting in a total score of 14. The subjective symptoms scored 13 (itching: 5 and difficulty sleeping: 8). The SCORAD score was 67.2, categorizing it as Severe.

After 10 days of treatment, the SCORAD was recalculated as part of the therapy evaluation, resulting in a post-treatment area of lesions (A) of 14% (with the facial and scalp region at 5% and the upper and lower extremities at 9%). The intensity of symptoms (B) post-treatment was assessed as follows: erythema (1), swelling (1), scaling (1), excoriations (0), skin thickening (1), and dryness (1), yielding a total score of 5. The subjective symptoms scored 4 (itching: 3 and difficulty sleeping: 1). The post-treatment SCORAD score was 24.3, categorizing it as Mild. These SCORAD results indicate that the patient experienced clinical improvement in both physical and psychological aspects.

In addition to using SCORAD, the author also utilized the EASI (Eczema Area and Severity Index) to assess the severity of eczema through several steps. First, the area affected by eczema is estimated across four body regions: head and neck, upper extremities, trunk, and lower extremities. In the EASI, each area affected by eczema is scored based on the percentage of involvement, ranging from 1 (1%-9%) to 6 (90%-100%). The intensity of lesions is assessed based on four signs: erythema, swelling, excoriations, and skin thickening, scored from 0 (none) to 3 (severe), only in inflamed areas. Each area is also assigned an appropriate multiplier for adults (>8 years) or children, reflecting its relative contribution to the total body surface area (BSA). The area score is calculated by multiplying the intensity score by the area score and the multiplier. The total EASI score, ranging from 0 to 72, is obtained by summing the four area scores. A score of 0 indicates no eczema, while higher scores indicate severity from nearly clear to very severe (Hanifin et al., 2022).

The EASI score pre-treatment was calculated with the following breakdown 1) Head and Neck (2+3+2+3 x 4 x 0,1 = 4); 2) Trunk (0+0+0+0 x 0 x 0,3 = 0); 3) Upper extremities (2+1+2+2 x 6 x 0,2 = 8,4) dan 4) Lower extremities (0+0+0+0 x 0 x 0,4 = 0) This resulted in a total EASI score of 12.4, categorizing it as

Moderate. A re-evaluation was conducted 10 days post-treatment, yielding the following results 1) Head and Neck (1+1+1+2 x 4 x 0,1 = 2); 2) Trunk (0+0+0+0 x 0 x 0,3 = 0); 3) Upper extremities (1+0+1+1 x 6 x 0,2 = 3,6) dan 4) Lower extremities (0+0+0+0 x 0 x 0,4 = 0) The total post-treatment EASI score was 5.6, placing it in the Mild category. The pre- and post-treatment EASI scores reflect clinical improvement evaluated through erythema, swelling, excoriations, and skin thickening.

The patient has a history of shrimp allergy and frequently experiences itching after consuming shrimp. Previous studies have shown that food can be one of the triggers for atopic dermatitis (AD), influenced by population variations, severity levels of AD, and food allergy diagnostic criteria. Generally, food allergies tend to appear earlier and are associated with increased severity of AD (Katta & Schlichte, 2014). In this case, it was also noted that the patient washed her face twice a day and shampooed her hair once or twice a week. However, after experiencing skin thickening on her face, the patient stopped using facial soap and shampooing her hair. The occurrence of atopic dermatitis (AD) is often associated with personal hygiene practices. Good hygiene can reduce exposure to disease-causing organisms, while poor hygiene can increase the risk of skin diseases. According to the International Scientific Forum on Home Hygiene (2018), hygiene plays a significant role as a trigger for skin disorders, including atopic dermatitis, which can be linked to immune dysfunction and allergies. The patient's infrequent face washing and hair washing habits could be contributing factors to her skin condition. Atopic dermatitis can manifest as a type of skin inflammation that affects individuals of all ages and can persist and evolve into adulthood (Yunila Prastyawati et al., 2022).

At the end of August 2023, the patient developed dandruff with yellow, scaly edges on her scalp. This condition refers to seborrheic dermatitis, which can resemble, overlap with, or complicate atopic dermatitis (AD). The relationship between AD and seborrheic dermatitis (SD) has been discussed by several authors who consider AD to be a clinical variant that precedes the development of SD (Siegfried & Hebert, 2015). Other authors in their articles agree that seborrheic dermatitis (SD) may arise concurrently from the early stages of its manifestation or gradually develop over time into other more common skin conditions, such as atopic dermatitis (AD), especially when sebum production decreases due to scratching reflexes (Alexopoulos et al., 2014).

During the initial consultation, the patient was treated with a 0.9% NaCl solution for facial compresses, applied twice daily for 10-15 minutes each session. Additionally, the patient received oral dexamethasone tablets at a dosage of 0.5 mg three times daily and oral cetirizine at a dosage of 10 mg once daily. Upon the second visit, ten days post-treatment, there was clinical improvement observed, characterized by a significant reduction in pruritus and scaling of the skin (as shown in Figures 4 and 5). The patient also reported an improvement in the symptoms related to dandruff on the scalp. The patient did not visit for follow-up examination after the second visit.

In this study, corticosteroid cream was not administered initially due to the presence of secondary efflorescence. The application of 0.9% NaCl compresses was aimed at facilitating the removal of crusts, allowing for the clear visibility of primary efflorescence. Dermatological evaluation conducted after two weeks of NaCl compress application revealed scalling with yellow crust covered with thin scales and well-defined borders in the facial region (major), malar areas, nasolabial folds, and external acoustic meatus of both sides. Multiple erythematous papules were observed in the right and left brachii and manus regions and these had diminished, indicating an overall improvement. Once the primary efflorescence became apparent, corticosteroid cream could be introduced as the definitive therapy. Topical corticosteroids are the most commonly utilized medications for the treatment of inflammatory skin conditions, proving effective in reducing inflammation and alleviating associated symptoms (Perdoski., 2017). The U.S. Food and Drug Administration has approved the use of topical corticosteroids as a therapeutic option for addressing inflammation and pruritus associated with dermatitis, based on their steroid potency and capacity for transdermal penetration (Stacey & McEleney, 2021). Low-potency corticosteroids are used in children with mild conditions or on thin skin areas such as the face. Mid-potency to high-potency corticosteroids are applied to most body areas, such as the trunk and extremities. Super-potent corticosteroids are useful for severe conditions in thick-skinned areas like the palms of the hands and soles of the feet (Stacey & McEleney, 2021).

The treatment initiated after the primary efflorescence became evident consisted of a compounded cream formulated with 5g of white petroleum, 5g of mometasone furoate, and 5g of fusidic acid for application on the face twice daily. A compounded cream containing 10g of white petroleum, 10g of desoximetasone, and 5g of fusidic acid was prescribed for the scalp and both hands, also to be applied twice daily. Fusidic acid was included in the regimen to address the secondary infection associated with the presence of multiple pustules that exhibited purulent discharge. The decision to employ different therapies for the facial and bodily regions is based on the varying characteristics of these areas, particularly considering the presence of seborrheic dermatitis, which necessitates maintaining dryness and minimizing oiliness (Borda et al., 2018; Clark et al., 2015)

Conclusions

Atopic dermatitis occurring concurrently with seborrheic dermatitis is a rare condition. Both subjective and objective identification of the efflorescence associated with each disease must be accurately conducted to achieve a specific diagnosis. With an accurate diagnosis, appropriate management can be implemented to address the simultaneous manifestations of both types of dermatitis. Effective education and the application of precise and optimal management techniques can improve the patient's condition, thereby providing a better prognosis.

Conflict of Interest

The authors declare that there are no conflicts of interest in this case report.

Acknowledgments

We would like to express our gratitude to the Department of Dermatology and Venereology at RSUD dr. Haryoto Lumajang and the Faculty of Medicine, University of Jember.

References

Adalsteinsson, J. A., Kaushik, S., Muzumdar, S., Guttman, E., & Ungar, J. (2020). An update on the microbiology, immunology and genetics of seborrheic dermatitis. In *Experimental Dermatology* (Vol. 29, Issue 5, pp. 481–489). Blackwell Publishing Ltd. https://doi.org/10.1111/exd.14091

Alexopoulos, A., Kakourou, T., Orfanou, I., Xaidara, A., & Chrousos, G. (2014). Retrospective analysis of the relationship between infantile seborrheic dermatitis and atopic dermatitis. In *Pediatric Dermatology* (Vol. 31, Issue 2, pp. 125–130). Blackwell Publishing Inc. https://doi.org/10.1111/pde.12216

Anggarini, D. R., Pasaribu, S. D., & Wahidin Sudiro Husodo Kota Mojokerto Jawa Timur, R. (2021). April Laporan Kasus Laporan Kasus: Pria 60 tahun dengan Eritroderma et causa Dermatitis Seboroik. In *Majalah Kedokteran UKI* (Issue 1).

Borda, L. J., Perper, M., & Keri, J. E. (2018). Treatment of seborrheic dermatitis: A comprehensive review. Journal of Dermatological Treatment, 30(2), 158–169. https://doi.org/10.1080/09546634.2018.1473554

Clark, G. W., Pope, S. M., & Jaboori, K. A. (2015). Diagnosis and treatment of seborrheic dermatitis. *American Family Physician*, *91*(3), 185–190.

Dall'oglio, F., Nasca, M. R., Gerbino, C., & Micali, G. (2022). An Overview of the Diagnosis and Management of Seborrheic Dermatitis. In *Clinical, Cosmetic and Investigational Dermatology* (Vol. 15, pp. 1537–1548). Dove Medical Press Ltd. https://doi.org/10.2147/CCID.S284671

Ertam, İ., Su, Ö., Alper, S., Sarıcaoğlu, H., Karadağ, A. S., Demirsoy, E. O., & Borlu, M. (2018). The Turkish guideline for the diagnosis and management of atopic dermatitis-2018. *Turkderm Turkish Archives of Dermatology and Venereology*, *52*(1), 6–23. https://doi.org/10.4274/turkderm.87143

Hanifin, J. M., Baghoomian, W., Grinich, E., Leshem, Y. A., Jacobson, M., & Simpson, E. L. (2022). The Eczema Area and Severity Index-A Practical Guide. In *Dermatitis : contact, atopic, occupational, drug* (Vol. 33, Issue 3, pp. 187–192). NLM (Medline). https://doi.org/10.1097/DER.0000000000000895

Nutten, S. (2015). Atopic dermatitis: Global epidemiology and risk factors. *Annals of Nutrition and Metabolism*, *66*, 8–16. https://doi.org/10.1159/000370220

Oranje, A. (2011). *Pathogenesis and Management of Atopic Dermatitis* (T. Shiohara, Ed.; Vol. 41, pp. 149–155). S. KARGER.

PERDOSKI RI. (2017). Panduan Praktik Klinik Bagi Dokter Spesialis Kulit dan Kelamin Indonesia

Polaskey, M. T., Chang, C. H., Daftary, K., Fakhraie, S., Miller, C. H., & Chovatiya, R. (2024). The Global Prevalence of Seborrheic Dermatitis: A Systematic Review and Meta-Analysis. *JAMA Dermatology*, *160*(8), 846–855. https://doi.org/10.1001/jamadermatol.2024.1987

Siegfried, E. C., & Hebert, A. A. (2015). Diagnosis of atopic dermatitis: Mimics, overlaps, and complications. In *Journal of Clinical Medicine* (Vol. 4, Issue 5, pp. 884–917). MDPI. https://doi.org/10.3390/jcm4050884

Stacey, S. K., & McEleney, M. (2021). Topical Corticosteroids: Choice and Application. *American Family Physician*, *103*(6), 337–343.

Taslim, W., & Ardi Munir, M. (2020). DERMATITIS KONTAK ALERGI. In *Jurnal Medical Profession (MedPro)* (Vol. 2, Issue 2).

Torres, T., Ferreira, E. O., Gonçalo, M., Mendes-Bastos, P., Selores, M., & Filipe, P. (2019). Update on atopic dermatitis. *Acta Medica Portuguesa*, *32*(9), 606–613. https://doi.org/10.20344/amp.11963

Tucker, D., & Masood, S. (2021). Seborrheic Dermatitis. In StatPearls. StatPearls Publishing

Widia, Y., & Hutomo, M. (n.d.). *Studi Retrospektif: Pengobatan Oral pada Dermatitis Atopik (Retrospective Study: Oral Medications for Atopic Dermatitis)*.

Yunila Prastyawati, I., Dede Kusumawan Sose, F., Studi DIII Keperawatan STIKES Katolik St Vincentius Paulo, P., & Tahanan Negara Kelas II-B Kupang, R. (2022). SCORING ATOPIC DERMATITIS (SCORAD), HYGIENE PERSONAL DI RUMAH TAHANAN NEGARA KELAS II-B KUPANG. *Jurnal Keperawatan Dirgahayu*, *4*(1), 60241.