Hollistic Management with Family Doctor Approach in a 65-Year-Old Woman With Allergi Contact Dermatitis

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Abstract

Allergic contact dermatitis is an inflammatory skin condition caused by exposure to specific allergens that trigger a type IV hypersensitivity reaction. This condition can affect individuals of all ages, races, and genders, and often presents with erythema, itching, and localized skin lesions at the site of contact. The definitive management of allergic contact dermatitis involves identifying and avoiding the causative allergen, along with appropriate medical therapy to relieve symptoms and prevent recurrence. This study presents a case report of a 65-year-old woman who visited the Kebon Jahe Community Health Center with complaints of red, itchy lesions between the fingers of her right hand for seven days. The symptoms appeared after the patient wore a metal ring for the first time. Diagnosis was established based on detailed history taking and physical examination findings consistent with allergic contact dermatitis. Management was conducted using a holistic approach with a family medicine perspective, addressing not only the patient's clinical condition but also her environmental and behavioral factors. Both pharmacological and non-pharmacological interventions were provided, including topical therapy and patient education. Education was also extended to the patient's family to improve understanding and support adherence to treatment. Follow-up was carried out through three home visits to monitor progress and reinforce preventive measures. This case highlights the importance of a comprehensive and continuous care approach in managing allergic contact dermatitis to improve patient outcomes and prevent recurrence.

Keywords: Allergic contact dermatitis, family medicine, hypersensitivity type IV.

Penatalaksanaan Holistik dengan Pendekatan Dokter Keluarga pada Wanita Usia 65 Tahun dengan Dermatitis Kontak Alergi

Abstrak

Dermatitis kontak alergi merupakan peradangan kulit yang terjadi akibat paparan alergen yang memicu reaksi hipersensitivitas tipe IV. Kondisi ini dapat dialami oleh semua kelompok usia dan umumnya ditandai dengan kemerahan, rasa gatal, serta lesi kulit pada area yang terpapar. Penatalaksanaan utama dermatitis kontak alergi adalah mengidentifikasi dan menghindari alergen penyebab, disertai terapi yang tepat untuk mengurangi gejala dan mencegah kekambuhan. Penelitian ini merupakan laporan kasus pada seorang wanita usia 65 tahun yang datang ke Puskesmas Kebon Jahe dengan keluhan bintik merah disertai gatal di sela jari tangan kanan sejak tujuh hari. Keluhan muncul setelah pasien menggunakan cincin logam yang baru pertama kali dipakai. Diagnosis ditegakkan berdasarkan anamnesis dan pemeriksaan fisik yang sesuai dengan dermatitis kontak alergi. Penatalaksanaan dilakukan secara holistik dengan pendekatan dokter keluarga, yang tidak hanya berfokus pada kondisi klinis pasien tetapi juga mempertimbangkan faktor lingkungan dan perilaku. Terapi yang diberikan meliputi intervensi farmakologis dan nonfarmakologis, termasuk edukasi kepada pasien dan keluarga mengenai penyakit serta pencegahan paparan alergen. Pemantauan dilakukan melalui tiga kali kunjungan rumah untuk mengevaluasi perbaikan kondisi dan meningkatkan kepatuhan terapi. Pendekatan ini menunjukkan pentingnya pelayanan komprehensif dan berkelanjutan dalam meningkatkan luaran klinis serta mencegah kekambuhan.

Kata Kunci: Dermatitis kontak alergi, hipersensitivitas tipe IV, kedokteran keluarga

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Introduction

Dermatitis is an inflammation of the skin (epidermis and dermis) in response to the influence of exogenous and/or endogenous factors, causing clinical abnormalities in the form of polymorphic efflorescence (erythema, edema, papules, vesicles, scales, lichenification) and itching complaints. Polymorphic signs do not always occur together, and may even be only one type, for example only papules (oligomorphic). Dermatitis tends to be recurrent and chronic. The cause of dermatitis can come from outside the body (exogenous), for example chemicals (eg detergents, acids, bases, oil, cement), physical (eg light, temperature), microorganisms (bacteria, fungi);

can also be from within the body (endogenous), for example atopic dermatitis. Some other etiologies are not known for certain.[1]

Contact dermatitis is skin inflammation caused by contact with exogenous substances, this contact can cause two types of contact dermatitis, namely allergic contact and irritant contact.[2] Irritant contact dermatitis (ICD) is a non-immunological skin inflammation reaction that occurs directly without being preceded by a recognition or sensitization process. While allergic contact dermatitis is skin inflammation caused by antigens that cause type IV hypersensitivity reactions.[1]

According to data from the World Health Organization (WHO), 90% of health complaints related to skin disorders are caused by dermatitis, and 4-7% of the total are caused by contact dermatitis.[2] According to the Ministry of Health of the Republic of Indonesia in 2018, epidemiology showed that 97% of the 389 cases of skin diseases reported were contact dermatitis, consisting of 66.3% irritant contact and 33.7% allergic contact. According to the Lampung Provincial Health Office in 2016, Contact Dermatitis was ranked 6th as one of the 10 most common diseases in Lampung Province. In 2018, cases of contact dermatitis were reported to have reached 63% in Bandar Lampung City. The results of the annual survey by the Bandar Lampung City Health Office in 2020 stated that contact dermatitis was the most common skin disease.

Allergic contact dermatitis can be caused by various factors including genetics, age, gender, occupation, and other comorbidities.[2] Causes Allergic contact dermatitis is a simple chemical with low molecular weight, lipophilic, highly reactive, and can penetrate the stratum corneum to reach the epidermis cells. The mechanism of skin disorders in ACD follows the cell-mediated immune response or type IV immunological reaction, or delayed hypersensitivity reaction. ACD reactions occur through two phases, namely the sensitization phase and the elicitation phase.[1]

Allergic contact dermatitis can be diagnosed with acute clinical symptoms which are usually in the form of erythematous patches on the skin which are then followed by papulovesicles, vesicles, or bullae. While in the chronic phase, clinical symptoms are usually in the form of dry skin, scaly, papules, or lichenification with indistinct boundaries. To support clinical symptoms, further examinations can also be carried out in the form of Patch Tests on patients suspected of ACD. [3]

Contact dermatitis must be managed adequately to prevent complaints that can affect daily productivity to quality of life including emotional, social, and economic aspects. Contact dermatitis can also cause relapses to complications in the form of secondary infections that can worsen the patient's condition. [4]

Management of patients with contact dermatitis is carried out to reduce and prevent relapses and reduce the severity of symptoms experienced by the patient.[1] Definitive management is to find and avoid re-exposure to the causative allergen. Patients must also be given treatment related to inflammation that occurs on the skin.

In cases of mild allergic contact dermatitis, prognosis is highly dependent on the ability to avoid the irritant.[3] This shows the importance of holistic and comprehensive management of allergic contact dermatitis. Accurate diagnosis, management, and education for patients and their families are required.

Case Presentation

Patient Mrs. P, 65 years old, came to the Kebon Jahe Health Center on Wednesday, October 9, 2024 with complaints of red spots accompanied by itching between the fingers of the patient's right hand since 7 days ago. Initially, the patient complained of itching between the ring finger of the patient's right hand accompanied by itching which was then scratched by the patient and caused reddish spots. Complaints were then also felt between the other fingers of the right hand. The reddish spots were initially only between the fingers of the patient's right hand, but because it was very itchy, the patient continued to scratch until the reddish spots spread to the back of the patient's fingers. According to the patient's confession, 3 days before the complaint appeared, the patient had just worn a ring given by the patient's child. The patient wore the ring on the ring finger of the patient's right hand. The patient did not know for sure what the basic

material of the ring was, but the patient suspected that the ring was made of some kind of metal. This was the first time the patient had worn the ring.

The itching complaint is still felt continuously without being affected by time and activity. The patient complained that the patches felt itchier when the patient's hands were sweaty. The patient also kept scratching the patches so that some of the skin peeled off. The patient had no history of allergies to food, dust, or drugs. A history of using new types of soap or lotion was denied. The patient had no history of atopy in the family. The patient had never experienced similar complaints before. The patient had no history of skin disease or other systemic diseases. There were no family members or people around the patient who had similar complaints. The patient had not sought treatment for the complaint because the patient thought the complaint would subside on its own, but over time the complaint did not improve so the patient checked herself into a health center.

The patient is a housewife who spends her daily life doing activities at home. The patient does household activities assisted by her youngest child who lives with the patient. The patient has a habit of eating 3 times a day and bathing 2 times a day. The patient goes to the health center when there is a complaint. The patient has BPJS health insurance. The patient is worried that the complaint she feels will get worse and can interfere with her daily activities. Patients hope that these complaints will be reduced and even disappear.

Patient Mrs. P, 65 years old, is a housewife. Both of the patient's parents have passed away. The patient is the second of 3 children. The patient has a husband and 4 children. The patient's husband passed away two years ago due to a stroke. The patient has 2 sons, aged 42 and 37, and 2 daughters, aged 33 and 30 (Figure 1). All decisions regarding family matters are discussed together and decided together. The patient's psychology in the family seems quite good. The relationship between family members is good. The family always makes time to gather together at night.

The patient is no longer working and only gets income from the patient's children and in-laws. The patient feels that it is enough to meet daily needs. The patient's family has a good relationship with the neighbors around their house. The patient's family always worships at home.

Family function is assessed using the family APGAR score, namely Adaptation 2, Partnership 2, Growth 2, Affection 2, Resolve 2. Thus, this family function is good because it has a total value of 10 (value 8-10, good family function). The pathological function of the family can be assessed using the SCREEM Score, with a result of 23, it can be concluded that Mrs. P's family function has adequate resources.

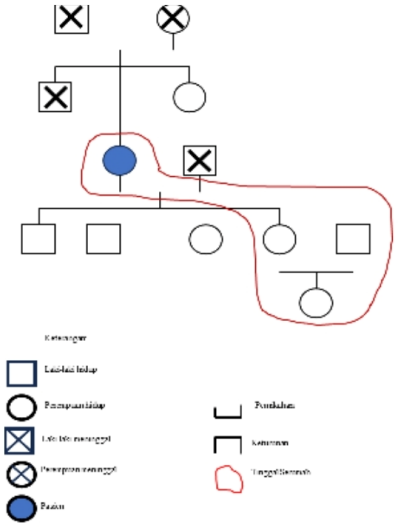

Figure 1. Mrs. P's Family Genogram

The patient lives in his own house with 4 people living there, consisting of the patient, the patient's daughter, son-in-law, and the patient's granddaughter. The patient's house is 10 x 12 m2 with brick walls and ceramic floors. There are three bedrooms, one living room, one family room, one kitchen, one dining room, one bathroom and one toilet with a squat toilet. The patient washes his clothes in the bathroom using a washing machine. Sufficient sunlight enters the house, there is ventilation and windows in each room. The house has electricity, the water source is from a well, the kitchen facilities use a gas stove, drinking water needs come from boiled water.

On physical examination, the patient's

vital signs and general status were within normal limits. On dermatological status, it was found in the II-V interdigiti region of the right hand and dorsum of the right hand, there were erythematous plaques, firm boundaries, multiple in number, irregular in shape, nummular in size, distributed regionally accompanied by a single layer of white scales with a dry surface (figure 2)

Figure 2. Image of patient's skin lesions

Based on anamnesis and physical examination, an initial holistic diagnosis was obtained in this patient, namely:

1. Personal Aspects
   - Reason for visit: Red, itchy spots and peeling skin between the fingers of the right hand
   - Concern: The patient is worried that the complaints will get worse and can hinder daily activities.
   - Perception: The patient thinks that the disease is caused by fungus on the patient's skin.
   - Expectation: Complaints will decrease and disappear so that the patient can do activities as usual.
2. Clinical Aspects
   Allergic Contact Dermatitis (ICD 10: L23, ICPC-2: S.88)
3. Internal Risk Aspects
   - Patients are less aware of the causes of DKA and its prevention.
   - Patients use rings made of metal that are new to the patient's use
4. External Risk Ascpects
   - Family treatment patterns that are still curative
   - Lack of knowledge of the patient's family regarding the disease suffered by the patient
5. Functional Degree
   The patient can still do daily work as before the illness so the functional level is 1

The interventions given to this patient are divided into patient-centered, family-approached, and community-based. **Patient-centered interventions** include:

Non-Medicine

1. Education about DKA disease including its causes and treatment efforts.
2. Education about skin care behavior by avoiding scratching and maintaining skin moisture.
3. Education not to use metal rings which are suspected to be allergens that trigger complaints in patients.
4. Education about the importance of the first treatment pattern as early as possible so as not to worsen the disease suffered.

Medicine

1. Hydrocortisone cream 1% applied 2 times a day to the lesion.
2. Cetirizine 10mg 1 time a day if itching occurs.
3. Urea cream 10% 2 times a day after bathing

Family Focused

1. Counseling the patient's family about DKA disease, including its causes and treatment efforts.
2. Counseling the family to always remind and monitor the patient about the risk factors for allergens that can cause recurrence, namely metal rings.
3. Counseling about the importance of supporting the first treatment pattern as early as possible so as not to worsen the disease suffered by family members.

Community Oriented

1. Providing information about allergic contact dermatitis including the

definition, causes, and treatment efforts that can be done.
2. Providing information about the importance of maintaining skin health to avoid skin diseases.

Discussion

This coaching was carried out as a form of family medicine service to Mrs. P, 65 years old with a diagnosis of allergic contact dermatitis and her family. This coaching was carried out holistically with three visits. On the first visit, October 11, 2024, an introduction was made to the patient and the purpose and objectives of the visit were explained. After conducting informed consent, an anamnesis was carried out on the patient regarding the patient's illness and family circumstances.

The diagnosis of the patient's disease was confirmed through anamnesis and physical examination. From the results of the anamnesis, the patient said that the complaint was the appearance of red spots accompanied by itching between the fingers of the patient's right hand since 7 days ago. According to the patient's statement, 3 days before the complaint appeared, the patient wore a metal ring given by the patient's child. Previously, the patient had never worn a metal ring. The patient is a housewife and only does activities inside the house. The patient has no history of other skin diseases. The patient has no history of allergies to food, drugs, or dust before.

On physical examination, the general condition was mildly ill, compos mentis consciousness, blood pressure 138/86 mmHg, temperature 36.90C, pulse rate 87x/minute, respiratory rate 20x/minute, SpO2 98%, body weight 55 kg, height 150 cm, BMI 24.4 kg/m2 (normal). The general status impression was within normal limits. Dermatological status in the II-V interdigiti region of the right hand and dorsum of the right hand, there were erythematous plaques, firm boundaries, multiple in number, irregular in shape, nummular in size, regionally distributed with a single layer of white scales with a dry surface.

Allergic contact dermatitis is skin inflammation caused by antigens that cause type IV hypersensitivity reactions. DKA is an immune reaction that tends to involve the surrounding skin (spreading phenomenon) and can even be outside the affected area so that there is a complete spread. [2]

Allergic contact dermatitis can be caused by various factors including genetics, age, gender, occupation, and other comorbidities.1 The cause of allergic contact dermatitis is a simple chemical with a low molecular weight, lipophilic, highly reactive, and can penetrate the stratum corneum to reach the epidermis cells.[1] The mechanism of skin disorders in ACD follows a cell-mediated immune response or type IV immunological reaction, or delayed hypersensitivity reaction.

History of contact with an allergen that is often used in daily activities, both at work and at home, is also a factor that triggers skin reactions in the form of lesions at the exposed body site. [3]

Diagnosis of allergic contact dermatitis can be done through anamnesis and physical examination. From the anamnesis, clinical symptoms were obtained in the form of erythematous plaques accompanied by itching since the last 7 days. 3 days before the complaint appeared, the patient used a metal ring that was used for the first time by the patient. The skin complaint felt very itchy so that the patient continued to scratch so that the reddish spots widened. According to Menaldi (2016), the clinical symptoms felt by DKA patients were lesions accompanied by itching, the itching was not continuous, usually when and after exposure to allergens, when complaints appeared, the patient found it difficult to resist scratching, after scratching the patient began to feel comfortable then the itching became more pronounced a few moments later, so that the itch-scratch cycle was continuously carried out by the patient.[1] Apart from clinical symptoms, a history of contact with an allergen that is often exposed during activities is a factor that triggers skin reactions in the form of lesions at the exposed body site. The skin reactions that occur depend on the allergen and the duration of exposure between the skin and the allergen.[6]

On local physical examination, there are erythematous plaques in the II-V interdigiti region of the right hand and the dorsum of the right hand, with clear boundaries, multiple,

irregular shapes, nummular in size, distributed regionally with a single layer of white scales with a dry surface. Lesions in DKA depend on the extent of the skin surface exposed to the allergen. Predilection can be anywhere depending on the part of the body that comes into contact with the allergen, but the most common predilection is found on the hands and feet.

The most important treatment effort for DKA is to avoid exposure to the allergen that is the cause, whether mechanical, physical, or chemical, and to eliminate aggravating factors. If this can be done perfectly, and there are no complications, then the DKA can be cured. If necessary, topical corticosteroids with mild to moderate potency can be given to overcome inflammation. Topical corticosteroids are approved by the US Food and Drug Administration (US FDA) to eliminate inflammatory and pruritic manifestations of dermatitis that is responsive to corticosteroids. The effectiveness of corticosteroids may vary depending on the thickness of application, skin condition, and duration of treatment.[5]

This patient's guidance was carried out by visiting the patient's home three times. The first visit was made on October 11, 2024, an approach and introduction were made to the patient and explained the purpose and purpose of the visit, followed by an anamnesis about the family and the illnesses that had been suffered. From the results of the visit, by observing the patient as a whole from biological, psychological and social aspects so that after a holistic review of the patient's problems, other problems related to the illness were found.

The problems in question include internal and external factors that affect DKA in patients. The results obtained were the lack of knowledge of patients and families regarding DKA, especially the causes and how to prevent it so that complaints do not recur; the patient used a metal ring that was the first time the patient had used it, which could be the cause of the patient's illness.

Based on these problems, a solution was chosen in the form of drug and non-drug therapy that was considered appropriate for the patient. Patients are educated and given an explanation about the disease they suffer from, namely allergic contact dermatitis, which includes the definition, causes, risk factors, and treatment efforts using posters and educating patients to avoid using soap that causes complaints, always maintain personal hygiene, and use skin moisturizer regularly.

Pharmacological treatment given to the patient was in the form of 1% hydrocortisone cream applied 2x1 to the affected skin, cetirizine tablet 10mg 1x1 if itching occurs, and 10% urea cream 2x1 after bathing to moisturize the skin. In Mrs. P's case, topical treatment was given in the form of 2.5% hydrocortisone cream which is a low-potency corticosteroid. This selection was based on Mrs. P's lesions being classified as acute and being on thin skin (between the fingers). Management of allergic contact dermatitis aims to reduce inflammatory reactions due to contact with allergens, reduce itching symptoms, and minimize wounds due to scratching or friction.[7]

The second home visit was conducted on October 14, 2024. Non-pharmacological interventions were carried out by providing information about DKA including understanding, risk factors and triggers, prevention, and treatment efforts using poster media. In addition, education is also provided to patients to no longer use rings or other accessories made of metal, to comply with the rules for using medication given by the doctor, and to use moisturizer regularly.

The third home visit was conducted on October 19, 2024, anamnesis and physical examination were conducted again on the patient. The anamnesis showed that the red and itchy spots between the fingers of the right hand had begun to decrease. Physical examination found in the interdigiti II-V region of the right hand and dorsum of the right hand there were hyperpigmented macules, firm boundaries, multiple, nummular size, irregular shape, spread regionally. The use of drugs is in accordance with the rules and prevention of contact with suspected allergic substances has also been carried out.

Conclusion

Internal factors in a 65-year-old female patient were found to be lack of knowledge and inappropriate perceptions regarding allergic contact dermatitis. External factors

were the patient's family's knowledge of the patient's illness. Holistic and comprehensive non-drug and drug management was carried out for the patient.

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