CLINICAL CHARACTERISTICS OF CONTACT DERMATITIS PATIENTS EXAMINED AND TREATED AT THAI BINH DERMATOLOGY HOSPITAL IN 2021

My Thi Hai[1*], Luong Thi Kim Oanh[2], Nguyen Thi Phuong[1], Ta Thi Lan Anh[2]

ABSTRACT

Objective: To describe the clinical characteristics of contact dermatitis patients examined and treated at Thai Binh Dermatology Hospital, Facility 1, in 2021.

Method: A cross-sectional descriptive study of 52 contact dermatitis patients examined and treated at Thai Binh Dermatology Hospital, Facility 1, from March 2021 to September 2021.

Results: The most common site of contact dermatitis was the face (65.4%). The highest proportion of disease duration was less than 15 days (44.2%). The most frequently reported symptom was itching (86.5%). Contact dermatitis was predominantly observed in female patients (76.9%). The most affected age group was 15–29 years (26.9%). The most common occupational group affected was freelancers (26.9%), while retirees had the lowest incidence (1.9%). The leading cause of contact dermatitis was cosmetics (50%), whereas dyes and fabric finishing agents accounted for the lowest percentage (1.9%). The most common skin lesions were erythema (86.5%), followed by scaling (46.2%). There was a significant difference between irritant contact dermatitis and allergic contact dermatitis, with allergic contact dermatitis being more prevalent (76.9%).

Conclusion: The clinical characteristics of contact dermatitis are diverse and unevenly distributed across gender, age, occupation, and causative allergens. The findings provide a foundation for developing appropriate and effective treatment strategies to reduce recurrence and improve patient care.

Keywords: contact dermatitis, clinical characteristics, patients.

I. INTRODUCTION

Contact dermatitis is a skin disorder caused by exposure to exogenous agents, leading to irritant and/or allergic reactions [1]. The disease can affect individuals of all ages, genders, and occupations. It is also one of the leading causes of occupational skin diseases, with treatment costs reaching nearly 1 billion USD annually [2], [3]. Irritant contact dermatitis accounts for approximately 80% of cases, while the remaining cases are allergic contact dermatitis [4], [5]. Notably, as economic development improves living standards, the incidence of contact dermatitis continues to rise due to increasing environmental pollution and frequent exposure to dust, chemicals, medications, and cosmetics. In developed industrial countries, occupational contact dermatitis accounts for the highest proportion, reaching up to 30%. The disease has two main forms: allergic contact dermatitis and irritant contact dermatitis. Irritant contact dermatitis is an inflammatory skin reaction caused by direct exposure to external agents, primarily triggered by immune activation. This condition can affect almost anyone exposed to irritants, regardless of individual predisposition. In contrast, allergic contact dermatitis is a delayed hypersensitivity reaction, typically manifesting as eczema-like dermatitis at the site of allergen exposure. The disease may present acutely with erythema, edema, and vesicles of varying severity or progress to a chronic condition if exposure persists. Notably, more than 3,700 allergens have been identified as potential triggers of allergic contact dermatitis in humans. Raising awareness, minimizing exposure to irritants, and adopting appropriate skin protection measures are key strategies for reducing disease risk and effectively safeguarding skin health. The causes of allergic contact dermatitis are highly diverse, stemming from a wide range of common allergens encountered in daily life. Frequently implicated agents include metals such as nickel, cement, cosmetics, perfumes, hair dyes, pesticides, mosquito repellents, and pollen. These allergens can be found in jewelry, personal care products, topical medications, plants, household pharmaceuticals, and workplace chemicals. Meanwhile, irritant contact dermatitis is triggered by substances known to provoke skin reactions, including alkalis, acids, detergents, preservatives,

1. Thai Binh University of Medicine and Pharmacy
2. Thai Binh Dermatology Hospital (Facility 1)
*Corresponding author: My Thi Hai
Email: mythihai@gmail.com
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and various other chemicals [5]. As a result, contact dermatitis not only reduces work capacity but also has negative psychological, cosmetic, and quality-of-life impacts on affected individuals.

Understanding the clinical characteristics of contact dermatitis patients plays a crucial role in developing appropriate and effective treatment strategies to minimize recurrence. However, in Vietnam, research on contact dermatitis remains limited, highlighting the need for greater attention from the medical community to enhance awareness, improve diagnosis, and optimize patient management. Therefore, we conducted the study "Clinical characteristics of contact dermatitis patients examined and treated at Thai Binh Dermatology Hospital in 2021" with the objective of describing the clinical characteristics of contact dermatitis patients examined and treated at Thai Binh Dermatology Hospital, Facility 1, in 2021.

II. SUBJECTS AND METHODS

2.1. Subjects, study location, and study period

2.1.1. Study subjects

Inclusion criteria:

Patients who examined and were treated at the skin care department of Thai Binh Dermatology Hospital and were diagnosed with contact dermatitis from march 2021 to september 2021.

Patients or guardians (for patients under 18 years old) who agreed to participate in the study.

Exclusion criteria:

Patients with mental disorders.

Patients who were uncooperative or refused to participate in the study.

2.1.2. Study location

Thai binh dermatology hospital (facility 1).

2.1.3. Study period

From march 2021 to september 2021.

2.2. Methods

2.2.1. Study design

Cross-sectional descriptive study

2.2.2. Sample size and sampling method

Fifty-two patients examined and treated at the Aesthetic Dermatology Department of Thai Binh Dermatology Hospital, Facility 1, who were diagnosed with contact dermatitis from March 2021 to September 2021 and met the inclusion criteria, were included in the study.

2.2.3. Study variables

Age, gender, occupation, history of allergies.

Common allergens: heavy metals, preservatives, hair care products, cement, gases, cosmetics, medications (anesthetics, antibiotics, corticosteroids, etc.), rubber, dyes, and textile products.

Cosmetic products: skin-brightening and melasma treatment products, acne treatment products, hair care products, makeup, and other cosmetic items.

Affected areas: scalp, face, eyelids, lips, earlobes, neck, chest, hands, and feet.

Subjective symptoms: itching, pain, burning sensation, tingling, and dry skin.

Primary lesions: erythema, scaling, fissures, vesicles, edema, infiltration, crusting, and other skin changes.

Disease duration, disease stage, and the number of recurrences within one year.

2.2.4. Data collection methods

Patient interviews.

Clinical examination to differentiate between irritant contact dermatitis and allergic contact dermatitis.

Identification of related factors and clinical characteristics of contact dermatitis.

2.2.5. Data processing method

The results were analyzed using medical statistical methods with SPSS 20.0 software.

2.3. Research ethics

The study was approved by the management board of Thai Binh dermatology hospital (facility 1).

The study was reviewed and approved by the scientific council of Thai Binh dermatology hospital (facility 1).

Patient participation was entirely voluntary after receiving an explanation of the study's objectives and significance.

All participant information was kept confidential.

The collected data was objective and used solely for research purposes.

III. RESULTS

After collecting and analyzing the data, the study obtained the following results:

Table 1. Prevalence of allergic contact dermatitis and irritant contact dermatitis (n=52)

Classification	Number (n)	Percentage (%)
Allergic contact dermatitis	40	76.9
Irritant contact dermatitis	12	23.1

Among the patients examined, the proportion of allergic contact dermatitis was the highest, accounting for 76.9%.

***Table 2. Distribution of contact dermatitis by gender and age group* (n=52)**

Characteristics	Number (n)	Percentage (%)
Gender		
Male	12	23.1
Female	40	76.9
Age group		
1 - 14	3	5.9
15 - 29	14	26.9
30 – 39	13	25.0
40 – 49	11	21.1
50 - 59	9	17.3
> 60	2	3.8

The proportion of female patients visiting for consultation was higher than that of male patients. the proportion of females was 76.9%. more than three times that of males.

The most common age group for contact dermatitis was 15-29 years old (26.9%). followed by 30-39 years old (25.0%). the least common age group was over 60 years old (3.8%).

***Table 3. Distribution of allergic contact dermatitis by occupation* (n=52)**

Occupation	Number (n)	Percentage (%)
Student	9	17.3
Worker	12	23.1
Businessperson	5	9.6
Housewife	2	3.9
Farmer	2	3.9
Hairdresser/spa worker	1	1.9
Freelancer	14	26.9
Retiree	1	1.9
Teacher	3	5.75
Office worker	3	5.75

The most common occupation associated with contact dermatitis is freelancers. accounting for 26.9%. followed by workers at 23.1%. The least common group is retirees.

***Table 4. Distribution of allergens causing allergic contact dermatitis* (n=52)**

Allergen	Number (n)	Percentage (%)
Cement	4	7.7
Gas substances	2	3.8

Allergen	Number (n)	Percentage (%)
Cosmetics	26	50
Drugs (anesthetics. antibiotics. corticosteroids...)	4	7.7
Rubber	2	3.8
Soap. detergents	6	11.6
Rove beetle	3	5.8
Dyes and textile products	1	1.9
Unknown allergen	4	7.7

The most common cause of contact dermatitis in patients visiting the dermatology care department is cosmetics. accounting for 50%. while the least common is dyes and textile products. accounting for 1.9%.

Table 5. Distribution by affected location. disease duration. subjective symptoms. and primary lesions of allergic contact dermatitis **(n=52)**

Characteristics	Number (n)	Percentage (%)
Lesion Location		
Head	3	5.8
Face	34	65.4
Earlobes	1	1.9
Eyelids	2	3.8
Neck. chest	14	26.9
Hands	18	34.6
Feet	7	13.5
Time		
<15 days	23	44.2
15-30 days	7	13.5
1-3 months	7	13.5
3-6 months	3	5.8
6 months -1 year	3	5.8
> 1 year	9	17.2
Functional Symptoms		
Itching	45	86.5
Pain	1	1.9
Burning senstation	14	26.9
Tingling	3	5.8
Skin Lesions		
Redness	45	86.5
Scaling	24	46.2
Cracking	6	11.5
Vesicles	11	21.2
Edema	5	9.6
Infiltration	3	5.8
Crusts	4	7.7
Other changes	20	38.5

Among patients with contact dermatitis visiting the dermatology care department. the most commonly affected area was the face. accounting for 65.4%. followed by the hands at 34.6%. The least affected areas were the earlobes (1.9%). eyelids (3.8%). and scalp (5.8%).

The most common disease duration was less than 15 days making up 44.2%.

The most frequently reported subjective symptom was itching (86.5%). while pain was the least common symptom (1.9%).

The most common skin lesion was erythema (86.5%). Scaling was observed in 46.2% of cases. The least common lesion was infiltration (5.8%). Other changes included pustules. papules. and telangiectasia.

IV. DISCUSSION

This study examined 52 contact dermatitis patients who were diagnosed and treated at the Skin Care Department of Thai Binh Dermatology Hospital from March 2021 to September 2021. The results showed that the most common site of lesions was the face (65.4%). This area is exposed, frequently coming into contact with environmental allergens, particularly cosmetics and volatile substances, leading to a higher incidence. In comparison, a study by Sedó-Mejía, G. et al. (2020) [6] found that the most commonly affected site was the hands (37.1%), followed by the face (25.6%) and the arms (21.8%). This discrepancy may be attributed to geographical factors, occupational exposure among study participants, and differences in sample size between the two studies.

The majority of patients had a disease duration of less than 15 days (44.2%), reflecting the increasing public awareness of skin health and a proactive approach to seeking medical consultation early when symptoms appear. Itching was the most common subjective symptom (86.5%), and it was the primary reason patients sought medical care. Regarding skin lesions, erythema was the most common (86.5%), followed by scaling (46.2%). These findings are consistent with the clinical reality observed at the Skin Care Department of Thai Binh Dermatology Hospital. The results also contribute additional data on the clinical characteristics of contact dermatitis, supporting more effective diagnosis and treatment strategies.

The study revealed a significant difference in the incidence rates between irritant contact dermatitis and allergic contact dermatitis. Allergic contact dermatitis was the most prevalent, accounting for 76.9% of cases. This may be related to the ongoing pandemic, which likely resulted in a decrease in the number of patients seeking care, particularly for acute cases that may be tolerable, leading to a skewed distribution in the recorded rates.

Additionally, the incidence of contact dermatitis showed a significant gender disparity, with females being more affected (76.9%). This result is consistent with studies by Al-Sheikh, O. A. [7] and Sedó-Mejía, G. (2020) [6]. The higher incidence in females may be attributed to greater exposure to cosmetics and chemicals during personal care and beauty routines, especially among patients seeking treatment at the aesthetic dermatology department.

In terms of age, the disease was most common in the 15–29 and 30–39 age groups. These are working-age groups that have higher frequency of exposure to chemicals and cosmetics. In contrast, the least affected groups were children (1–14 years) and individuals over 60 years old. This may be because these groups are outside the working-age range and have less exposure to potential allergens. The study by Sedó-Mejía, G. et al. (2020) [6] also reported higher incidence rates in the 30–34 and 45–49 age groups. These findings suggest that contact dermatitis predominantly affects young working adults and women, highlighting the importance of preventive measures and skin protection, particularly in high-risk groups.

The study showed that contact dermatitis was most commonly found in the self-employed (26.9%) and industrial workers (23.1%). In the context of increasing industrialization and modernization, workers are exposed to more industrial chemicals. However, in some workplaces, the conditions are not optimal, and personal protective equipment is limited, increasing the risk of the disease, particularly among factory workers.

The group with the lowest incidence was retirees (1.9%). This may be because this group is beyond working age, has less exposure to industrial chemicals, and has less demand for cosmetic use, leading to lower use of cosmetics compared to other groups.

Regarding allergens, cosmetics were the most common trigger, accounting for 50% of patients visiting the Aesthetic Dermatology Department. Due to the growing demand for beauty products and limited knowledge about cosmetics, the incidence of contact dermatitis caused by cosmetics is increasing. The disease not only affects aesthetics but also has a negative impact on the psychological well-being of patients. Furthermore, due to the specialized nature of the dermatology department, the number of patients seeking treatment for cosmetic-related contact dermatitis is higher compared to other allergens. These results are consistent with the study by Park, M. E. et al. (2014) [8]. These findings underscore the importance of skin protection measures in the workplace, as well as raising awareness about safe cosmetics, to reduce the risk of contact dermatitis in the community.

V. CONCLUSION

The highest proportion of contact dermatitis patients seeking treatment at Thai Binh Dermatology Hospital were diagnosed with allergic contact dermatitis (76.9%). The clinical presentation was diverse and unevenly distributed across gender, age, occupation, and causative allergens. The results of this study provide a crucial foundation for developing appropriate treatment protocols and improving the quality of care while reducing the risk of recurrence for patients.

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