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CLINICAL CHARACTERISTICS OF PATIENTS WITH COMMON ACNE VULGARIS AT TUE TINH HOSPITAL

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ABSTRACT

Objective: To describe the clinical characteristics of patients with acne vulgaris treated at Tue Tinh Hospital.

Subjects and Methods: A descriptive cross-sectional study was conducted on 50 patients diagnosed with acne vulgaris at Tue Tinh Hospital from June 2022 to June 2023.

Results: The proportion of female patients (66%) was higher than male patients (34%). The predominant age group was 18–25 years, accounting for 86%. The duration of disease longer than 2 years was observed in 40% of patients. Moderate acne severity was the most common, reported in 68% of cases. The primary lesions were acne comedones and superficial inflammatory lesions, found in 100% of patients. Dietary factors were associated with disease exacerbation in all cases (100%).

Conclusion: Acne vulgaris primarily affects young individuals, with a higher prevalence in females compared to males. The disease is generally of mild to moderate severity. Contributing factors such as hormonal disorders, unhealthy dietary habits, and improper use of cosmetics were identified as significant aggravating factors.

Keywords: clinical characteristics, acne vulgaris, Tue Tinh Hospital.

1. INTRODUCTION

Acne is a disorder of the pilosebaceous unit, commonly occurring during puberty and potentially persisting chronically for several years. A survey in Germany revealed that 64% of acne patients were aged 20–29 years, while 43% were in the 30–39 age group [1]. In Vietnam, studies on acne have shown that the most affected age group is 15–24 years, accounting for approximately 70% of cases [2],[3]. According to 2013 statistics from the National Dermatology Hospital, patients seeking medical attention for acne accounted for 14.61% of cases, ranking second only to atopic dermatitis [2].

Clinically, acne presents in various forms, including acne vulgaris, nodulocystic acne, necrotic acne, and drug-induced acne, with acne vulgaris being the most common type [5]. Although acne is considered a common dermatological condition, it significantly impacts patients' quality of life and imposes a burden on society. In the United States, it is estimated that the annual cost of acne treatment and the associated productivity loss amounts to approximately $3 billion [1]. Moreover, the Global Burden of Disease Study in 2010 ranked acne among the top 10 most prevalent diseases worldwide [1].

Given its prevalence and impact, effective acne treatment remains a primary focus of dermatology. This study was therefore conducted to describe the clinical characteristics of patients with acne vulgaris treated at Tue Tinh Hospital..

2. SUBJECT AND METHOD

2.1. Study Subjects

Patients aged 18 years and above, regardless of gender or occupation, who sought consultation and treatment at the Dermatology Department of Tue Tinh Hospital from June 2022 to June 2023. Inclusion criteria:

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Patients aged 18 years and above, regardless of gender or occupation, who voluntarily agreed to participate and complied with the treatment protocol.

Diagnosed with acne vulgaris as defined by Braun et al.

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[3], presenting the following clinical features:

Lesions localized in seborrheic areas: face, back, chest.

Primary lesions include comedones, papules, pustules, nodules, or cystic acne.

- *Exclusion criteria:*

Open wounds on acne-affected areas.

Acute internal diseases or severe liver or kidney conditions.

Pregnant or breastfeeding women.

History of allergy to any component of the medications.

Mental health conditions.

Use of other acne treatments during the study period or discontinuation of treatment for more than three days.

Use of other dermatological treatments within four weeks prior to the study.

2.2. Research Methods

- Study Design: Open clinical intervention with pre- and post-treatment comparisons.

- Sampling Method: Convenient sampling, selecting all patients meeting the inclusion and exclusion criteria during the study period, with 50 patients included.

2.3. Research Variables

- Demographic characteristics: Age, gender, occupation.

- Family history.

- Disease duration.

- Severity classification:

+ Mild: Fewer than 100 comedones.

+ Moderate: 100–200 comedones and/or fewer than 5 pustules.

+ Severe: Over 200 comedones and/or 5 or more pustules.

- Types of lesions:

- Comedones.

- Superficial inflammatory lesions.

- Deep inflammatory lesions (cystic, nodular).

- Factors aggravating acne: Stress, lack of sleep, unhealthy diet, menstrual cycle correlation, cosmetic use.

- Traditional medicine classification: Lung channel wind-heat type, damp-heat stagnation type.

2.4. Data Processing

Collected data were cleaned and analyzed using biomedical statistical algorithms with IBM SPSS version 20.0 software.

2.5. Ethics Approval

The study was approved by the Scientific Council and Ethics Committee of the Vietnam Academy of Traditional Medicine before implementation. Permission was obtained from the hospital administration of Tue Tinh Hospital for conducting the study at the hospital.

3. RESULTS

3.1. General characteristics of research subjects

Table 1. General characteristics of research subjects

Characteristics	Numbers (n=50)	(%)	p value
Gender			
Female	33	66.0	< 0.05
Male	17	34.0	
Age			
18 - 25	43	86.0	< 0.05
> 25	7	14.0	
Mean ± SD	21.5 ± 3.5		
Occupation			
Student	36	72.0	>0.05
Officer	12	24.0	
Worker	2	4.0	
Housewife	0	0.0	
Farming	0	0.0	
Family history			
Yes	28	56.0	>0.05
No	22	44.0	
Total	50	100.0	

The study results indicated that the proportion of female patients (66%) was higher than that of male patients (34%), with a statistically significant difference ($p < 0.05$).

The average age of the patients was 21.5 ± 3.5 years, with the majority (86%) belonging to the 18–25 age group.

Regarding occupational characteristics, students accounted for the highest proportion of acne cases, making up 72% of the study population.

Additionally, 56% of patients reported a family history of acne, highlighting a high prevalence of genetic predisposition.

3.2. Duration of illness, severity of illness and extent of damage

Table 2. Distribution of patients according to the level of injury

Characteristics	Amount (n=50)	Ratio (%)
Time of illness (years)		
<1	14	28.0
1-2	16	32.0
>2	20	36.0
Disease severity		
Mild (less than 100 pimples)	9	18.0
Moderate (100-200 pimples)	34	68.0
Severe (over 200 pimples)	7	14.0
Total	50	100.0

The results of the duration of the disease showed that the proportion of patients with the duration of the disease in the group > 2 years accounted for the highest rate of 40%, the group < 1 year accounted for the lowest rate of 28%. The results of the level of damage showed that the patients with acne vulgaris in the study were mainly moderate at 68%, followed by mild at 18%, and the lowest was severe at 14%.

Table 3. Characteristics of patient injuries

Lesion Classification	Amount (n=50)	Ratio (%)
Nucleus of Acnes	50	100.0
Superficial Inflammatory Lesions	50	100.0
Deep Inflammatory Lesions (Cysts, Nodules)	7	14.0

Common lesions are nucleus of Acnes and superficial inflammatory lesions (100%). Rarely encountered lesions are deep inflammation (cysts, nodules) accounting for 14%.

3.3. Other factors

Table 4. Distribution of factors that initiate or aggravate the disease

Factors	Amount (n=50)	Ratio (%)
Stress	4	8.0
Staying up late	32	64.0
Irregular eating	50	100.0
Related to menstrual cycle	4	8.0
Using cosmetics	10	2.0

The results of Table 4 show that the factors that trigger or worsen the disease: 100% are related to diet, 32% are related to staying up late; a few are related to cosmetics, menstrual cycle and stress..

3.4. Disease types according to traditional medicine

Table 5. Classification of lesions according to the type of disease in Traditional Medicine

Lesion Classification	Wind-heat type (n=15)		Damp-Heat type (n=35)	
	Amount	Ratio (%)	Amount	Ratio (%)
Nucleus of Acnes	15	100.0	35	100.0
Superficial Inflammatory Lesions	15	100.0	35	100.0
Deep Inflammatory Lesions (Cysts, Nodules)	0	0.0	5	14.1
Total	15	30.0	35	70.0

The research results show that the damp-heat type (70%) accounts for a much higher proportion than the wind-heat type (30%). The results of Table 5 show that comedones and superficial inflammatory lesions account for 100%. The wind-heat type of lung disease does not have deep inflammatory lesions, while the damp-heat type has 5 (14.1%) deep inflammatory lesions.

4. DISCUSSION

The results presented in Table 1 indicate that common acne was more prevalent in females (66%) compared to males (34%), with a statistically significant difference ($p < 0.05$). Our findings align with those of other researchers: Dao Thi Minh Chau et al. (2011) reported that female patients accounted for 73.3%, nearly three times higher than male patients (26.7%), with $p < 0.01$ [3]. Similarly, Ta Thi Tra My et al. (2018) found that female patients represented 84%, while male patients accounted for only 16% [4]. Pham Thi Bich Na et al. (2022) observed a male-to-female ratio of 17.7% to 82.3% [5]. Le Thi Ngoc Duyen et al. (2023) reported 80.37% females compared to 19.63% males, with $p < 0.01$. Additionally, Pham Thi Bao Tram et al. (2023) showed a higher prevalence of females at 65.7% [6].

From Table 1, the prevalence of acne was significantly higher in the 18–25 age group compared to those aged over 25. This result is consistent with findings from other studies: Pham Thi Bich Na et al. (2022) reported a mean age of 27.3 ± 6.1 years [5], and Pham Thi Bao Tram et al. (2023) found that 69.9% of cases were in the 18–25 age group [6]. Nguyen Ngoc Oanh et al. (2023) studied 137 moderate and severe acne

patients treated as outpatients at Bach Mai Hospital and noted that 60.6% were aged 18–24 [7].

Our study corroborates the findings of these authors, demonstrating that common acne is most prevalent in individuals under 25 years of age. This can be attributed to the heightened hormonal activity during this developmental stage, particularly the increase in androgens, which enlarge and stimulate sebaceous glands, leading to excessive sebum production and favorable conditions for acne lesions to form and progress. Additionally, sebaceous gland activity peaks during adolescence and young adulthood. Over time, epidermal cells adapt to testosterone through various pathways, and sebaceous gland activity gradually declines, contributing to the reduction of acne prevalence after the age of 25, corresponding to a phase of hormonal decline.

Table 1 also shows that students comprised the highest proportion of participants (72%), followed by office workers (12%). This finding is reasonable, as acne commonly occurs between the ages of 16–25, coinciding with the student phase. Another perspective is that our study was conducted in the Dermatology Department of Tue Tinh Hospital, which serves as the clinical training site for the Vietnam Academy of Traditional Medicine and Pharmacy. The large annual intake of students and trainees, combined with the presence of other universities in the vicinity, could explain why students made up a significant portion of our study population.

The results in Table 2 reveal that patients with a disease duration exceeding two years accounted for the highest proportion (40%). This aligns with the findings of Nguyen Thi Hien (2020), who studied 100 patients and reported that 68% had been suffering from acne for over two years [8]. This indicates that most patients visiting the hospital had long-standing conditions, underscoring two key points: first, acne can progress significantly if not treated appropriately, and second, it is a persistent and recurrent condition.

According to Table 2, among the 50 patients studied, moderate acne accounted for the majority (68%), followed by mild cases (18%), and severe cases (14%). This can be explained by the widespread availability of over-the-counter cosmetics and products marketed for acne treatment. Patients with mild symptoms may opt for self-treatment, only seeking hospital care when the condition worsens.

The results in Table 3 show that comedonal lesions and superficial inflammatory lesions were observed in all studied patients, while deep inflammatory lesions (nodules, cysts) were less common. Comparing these findings with other domestic studies: Trinh Tien Thanh et al. (2021) reported a prevalence of comedonal lesions at 96.3%, pustules at 89.6%, while nodules, telangiectasia, hypertrophic scars, and atrophic scars had lower prevalence rates [9]. In the study by Do Thi Ngoc Nhi et al. (2023), the most common lesions were comedones, papules, and atrophic scars at 100%, 45.7%, and 40%, respectively [10]. These findings align with the pathogenesis of acne, where the formation of comedones is initiated by follicular blockage. Subsequent accumulation of sebum and bacterial activity leads to inflammatory processes, forming papules and pustules, and in more severe cases, nodules and cysts. Recurrence over time often results in scars and hyperpigmentation.

In our study, 56% of patients reported a family history of acne, while 44% did not. This is consistent with the study by Skaroza et al. (2018), which found that among 1,167 patients, 70.9% had a family history of acne, while 29.1% did not. Similarly, Ta Thi Tra My et al. (2018) reported that 54% of 50 studied patients had a family history of acne, compared to 46% without [4]. This may be explained by constitutional factors, as inherited predispositions from parents increase the likelihood of acne. In Traditional Medicine, individuals with a damp-heat constitution are more prone to acne.

Table 4 indicates that, in our study, all patients experienced exacerbation or onset of acne due to irregular eating habits (100%), followed by late-night activities (64%), cosmetic use (20%), stress (8%), and premenstrual factors (8%). According to Traditional Medicine theory, the spleen governs transformation and transportation. Consuming excessive spicy, hot foods or irregular dietary habits can disrupt the spleen and stomach's functions, leading to damp-heat generation. Damp-heat in the spleen and stomach rises and stagnates in the lungs, impairing the lungs' dispersing and descending functions. Additionally, for effective descending lung qi, the stomach qi must descend. The stomach prefers dryness and dislikes dampness; excessive damp-heat affects its descending function. Prolonged dysfunction in the descending functions of the stomach and lungs leads to disease development.

5. CONCLUSION

The study described the clinical characteristics of patients with common acne at Tue Tinh Hospital. The results showed that acne is most prevalent among adolescents, with a higher incidence in females compared to males. The severity of the condition was predominantly classified as mild to moderate, while severe cases were less common but tended to be associated with genetic factors or improper skincare habits. Additionally, factors such as hormonal disorders, unhealthy dietary patterns (high-fat, sugary foods), and inappropriate cosmetic use were identified as contributors to the exacerbation of acne conditions.

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