

Clinical and anamnestic aspects of rosacea

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Rosacea is a common chronic inflammatory skin disease that involves mainly the midface. The etiology and pathogenesis of rosacea is not fully understood.

Objective. The study was aimed at evaluating the clinical course and anamnestic data of patients with rosacea.

Material and methods. We followed 78 patients with rosacea aged 22 to 74 years; most patients (30, 38.5%) were between 51 and 60 years old, the average age was 48 years. There were 16 males (20.5%) and 62 females (79.5%). Male-to-female ratio was 1:3.8. The erythematous-telangiectatic stage was diagnosed in 20 (25.7%) patients, papulopustular — 45 (57.7%), pustular-nodular — 10 (12.8%).

Results. Most patients were females (79.5%) with phototype III (60.3%) and family history of rosacea (37.2%). In the case of familiar form of the disease, patient's mother suffered from rosacea in 11 (14.1%) cases, father — 4 (5.1%), sister — 4 (5.1%), maternal aunt — 4 (5.1%), maternal grandmother — 2 (2.5%), paternal aunt — 3 (3.8%), and paternal grandmother — 1 (1.3%). The group of patients with erythematous-telangiectatic stage demonstrated much higher score on the Diagnostic Scale for Rosacea (DSR) during the papulopustular stage (11.1 ± 1.4 points).

Conclusion. Rosacea is more common in females; the presence of the disease in family members and close relatives is characteristic of rosacea. The papulopustular stage was often diagnosed (57.7%); the symptoms of ophthalmic rosacea were observed in 37.1% of patients, often in the pustular-nodular stage.

Keywords: rosacea, epidemiology, etiopathogenesis, clinical presentation, ophthalmic rosacea.

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Rosacea (synonyms: *acne erythematos*, *acne rosacea*) is a common chronic inflammatory face dermatose, affecting mainly the midface (cheeks, chin, nose, and central part of the forehead). The disease is polyetiologic and is characterized by a phasic course [1].

The disease accounts for up to 5% of all dermatoses. The highest (from 2.7 to 10%) incidence of rosacea is observed in the population of northern European countries [2]. Thus, rosacea was diagnosed in 2.2% of the population in Germany, 10% — in Sweden, 22% — in Estonia. Rosacea is more common in females than in males, but rhinophyma is common in males [3,4].

Despite numerous Russian and international studies, the etiology and pathogenesis of rosacea is not fully explored.

The scientific literature suggests that polymorphisms of the genes of proinflammatory cytokines (TNF- α , IL-1, IL-6, etc.), the family of vascular endothelial growth factor (VEGF), vitamin D receptor, antimicrobial peptides (AMP), matrix metalloproteinases, and fibroblast growth factor (FGF) play a primary role in the development of rosacea [5–9].

The development or exacerbation of rosacea can be triggered by emotional impact and stress, insolation, radiation, temperature fluctuations, the use of topical glucocorticosteroids, changes in the skin microflora (in par-

ticular, its colonization with *Demodex folliculorum*), immune, endocrine, and gastrointestinal diseases associated with *Helicobacter pylori* [6,10–13].

Treatment strategy largely depends on the diagnosed clinical form of rosacea. Several classifications are used in clinical practice [14, 15].

Currently, most dermatologists follow the classification developed by the National Rosacea Society Expert Committee (2002) and distinguish four subtypes and one variant of the disease [16]: I — erythematous telangiectatic, II — papulo-pustular, III — phymatous, IV — ophthalmic; as well as one variant — granulomatous.

It is believed that persistent erythema of the midface existing for at least 3 months without involvement of the periorcular areas is the only necessary diagnostic criterion for rosacea. Hot flashes, papules, pustules, and telangiectasias are additional symptoms that are not necessary for diagnosis [17].

Diagnostic Scale for Rosacea (DSR) was proposed to determine the severity of the disease, which is important for choosing the appropriate treatment and analyzing the clinical condition of patients after the treatment [18].

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Material and methods

Our study was aimed at assessing the clinical course and medical history of rosacea patients.

We followed 78 patients with rosacea aged 22 to 74 years, most patients were 51 to 60 years old (30 patients, 38.5%), the average age was 48 years. There were 16 males (20.5%) and 62 females (79.5%). Male-to-female ratio was 1:3.8. Age and sex distribution of patients with rosacea is shown in **Table 1**.

Fitzpatrick skin type II was diagnosed in 10 (12.8%) patients, type III — in 47 (60.3%) patients, type IV — in 21 (26.9%) patients.

Genetic predisposition to rosacea is of particular interest, since there is no consensus on this issue in the modern literature. Careful history taking and clinical examination showed the presence of the disease in the family members and close relatives of 29 (37.2%) patients, including patient's mother in 11 (14.1%) cases, father in 4 (5.1%) cases, sister in 4 (5.1%) cases, maternal aunt in 4 (5.1%) cases, maternal grandmother in 2 (2.5%) cases, paternal aunt in 3 (3.8%) cases, and paternal grandmother in 1 (1.3%) case.

Investigation of the causal factors contributing to the development of the disease is equally important. In this situation, 69 (88.5%) patients were able to specify the cause of the disease and 9 (11.5%) patients were not; 34

(43.6%) patients attributed onset or exacerbation of the disease to solar insolation, 15 (19.2%) — gastrointestinal diseases, 9 (11.5%) — nutritional factors, 7 (8.97%) — emotional and stressful situations, 4 (5.1%) — the use of cosmetics.

When analyzing the duration of the disease, it was found that 4 (5.1%) patients were sick for less than 1 year, 54 (69.3%) — from 1 to 5 years, 18 (23%) — from 5 to 10 years, and 2 (2.6%) patients — for more than 10 years. Distribution of patients by duration of the disease is shown in **Table 2**.

We studied the incidence of clinical forms of rosacea according to the classification of Plewig G., Jansen T., Kligman A. (2000). The first stage (erythematous-telangiectatic) was observed in 20 (25.7%) patients, second (papulopustular) — 45 (57.7%) patients, third (pustular-nodular) — 10 (12.8%) patients. Rhinophyma was diagnosed in 1 (1.3%) patient and steroid rosacea in 2 (2.5%) patients. Distribution of patients by clinical forms of rosacea is shown in **Table 3**.

As can be seen from **Table 3**, most patients suffered from the papulopustular rosacea (57.7%), this form was more common in females (47.4%).

We used the Diagnostic Scale for Rosacea (DSR) proposed by V.P. Adaskevich (2014) to study the severity of the disease. The scale includes assessment of the severity of clinical presentation based on the following symp-

Table 1. Age and sex distribution of patients with rosacea

Age	Females		Males		Total	
	abs.	%	abs.	%	abs.	%
20—30 years	3	3.9	2	2.5	5	6.4
31—40 years	7	8.9	2	2.5	9	11.5
41—50 years	18	23.1	2	2.5	20	25.6
51—60 years	25	32.1	5	6.5	30	38.5
61 years and older	9	11.5	5	6.5	14	18.0
Total	62	79.5	16	20.5	78	100

Table 2. Distribution of patients by duration of the disease

Duration	Females		Males		Total	
	abs.	%	abs.	%	abs.	%
Up to 1 year	3	3.8	1	1.3	4	5.1
1—5 years	44	56.5	10	12.8	54	69.3
6—10 years	14	17.9	4	5.1	18	23
Over 10 years	1	1.3	1	1.3	2	2.6
Total	62	79.5	16	20.5	78	100

Table 3. Distribution of patients by clinical forms of rosacea

Severity	Females		Males		Total	
	abs.	%	abs.	%	abs.	%
Erythematous-telangiectatic	16	20.6	4	5.1	20	25.7
Papulopustular	37	47.4	8	10.3	45	57.7
Pustular-nodular	7	9.0	3	3.8	10	12.8
Clinical variants of rosacea						
Rhinophyma	-	-	1	1.3	1	1.3
Steroid	2	2.5	-	-	2	2.5
Total	62	79.5	16	20.5	78	100



Fig. 1. Patient M., 45 years old. Erythematous-telangiectatic stage.



Fig. 2. Patient S., 62 years old. Papulopustular stage.

toms of rosacea: erythema, telangiectasia, the number of papules and pustules, xerosis and swelling of the face and ophthalmic rosacea.

Ophthalmic rosacea was diagnosed in 29 (37.1%) patients in the form of conjunctivitis, iridocyclitis, keratitis, etc. Skin lesions on the face and eyelids developed simultaneously in 14 (48.2%) patients, eyelid lesions preceded rosacea symptoms in 7 (24.2%) patients, ophthalmic symptoms appeared after skin lesions on the face in 8 (27.6%) patients.

Erythematous-telangiectatic stage (20 patients) manifested in the form of persistent erythema of varying color intensity from light pink to purple-bluish, depending on the duration of the disease. Lesions were localized on the midface in 11 (55%) patients out of 20, on the cheeks — in 6 (30%) patients, on the chin — in 3 (15%) patients. Skin lesions on the face were local in 8 (40%) patients and extensive in 12 (60%) patients. Erythema involved 100% of the face area in 7 (35%) of 20 patients, 60 to 70% — in 13 (65%) patients. Transient erythema was observed in 6 (30%) patients, persistent — in 14 (70%) patients (**Fig. 1**). Moderate skin sloughing, mainly on the cheeks, was observed in 6 patients. Symptoms of ophthalmic rosacea were observed in 3 (15%) of 20 patients with this stage of rosacea. Subjectively, 9 (45%) patients suffered from itching, 7 (35%) — intermittent hot flash, 4 (20%) — itching and hot flash. In the group of patients with the erythematous-telangiectatic stage, the DSR score was 5.1 ± 1.1 points.

The papulopustular stage of rosacea (45 patients) was characterized by persistent erythema, telangiectasias, xerosis, and swelling of the skin of varying intensity accompanied by papules and pustules. Papulopustular rash was



Fig. 3. Patient B., 63 years old. Pustular-nodular stage.

localized on the chin in 13 (28.9%) patients, on the cheeks in 11 (24.4%) patients, on the midface in 10 (22.2%) patients (**Fig. 2**). In the remaining 11 (24.4%) patients, the lesions were localized in all mentioned areas. Sloughing of the facial skin was moderate in 13 (28.8%) patients and severe in 2 (4.9%) patients; 17 (37.8%) out of 45 patients complained of itching and burning, 16 (35.5%) of itching, 8 (17.7%) of hot flashes and xerosis; 4 (8.8%) patients had no subjective sensations. Clinical signs of ophthalmic rosacea were observed in 18 (40%) of

45 patients with papulopustular rosacea. In this group of patients, DSR score was 11.1 ± 1.4 points.

The following clinical symptoms were observed in patients with pustular-nodular rosacea (10 patients): persistent intensive erythema with severe infiltration, multiple telangiectasias, papules, pustules, inflammatory nodes, persistent local edema, and facial xerosis of varying severity (Fig. 3). In most patients (8), these elements were simultaneously located on the chin, forehead, cheeks, and nasolabial folds. Clinical signs of ophthalmic rosacea were observed in 8 (80%) out of 10 patients. In the group of patients with pustular-nodular stage, the DSR score was 18.1 ± 1.9 points.

Phymatous rosacea was diagnosed in 1 patient, who demonstrated isolated papules, pustules, and infiltrative nodes accompanied by nose thickening.

In 2 females, steroid variant of rosacea was observed, which developed after prolonged topical application of fluorinated glucocorticosteroids for allergic dermatitis and facial itching. The disease presented with xerosis, atrophy, telangiectasia, and isolated papules and pustules.

Conclusion

Rosacea was more common in females (79.5%) aged 51–60 years (38.5%); it often developed as a result of solar insolation (in 34 patients or 43.6%) and in persons with phototype III (60.3%); rosacea in family members and close relatives was diagnosed in 37.2% of cases. Papulopustular stage was often diagnosed (57.7%), the symptoms of ophthalmic rosacea were observed in 37.1% of cases, often at the pustular-nodular stage.

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