COMORBID FORMS OF FACIAL NERVE DISEASE AND TREATMENT

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SUMMARY

Pathology of the facial nerve makes 30 cases per 100 000 of the population a year, regardless of gender and ethnicity. In 70% of cases, the course and prognosis of idiopathic neuropathy of the facial nerve (NFN) are favorable. However, in 30% of the patients, health recoveryis incomplete, with the formation of contracture of the facial muscles and development of pathological synkinesis. Many patients with NFN have chronic somatic pathology, with cardiovascular diseases being the most common. We evaluated the clinical and neurological criteria for the formation of facial nerve contractures at different stages of the disease in patients with comorbid conditions, for which there were surveyed50 (100 ± 0.0%) patients with NFN, 22 of them (44.0 ± 7.0%) patients with NFN without somatic pathology, 28 (56.0 ± 7.0%) patients are comorbid and have coronary artery disease, diabetes and obesity of 2nd – 3rd stage. The work studied the psycho-emotional background of patients, conducted questionnaire assessment of the quality of life. It has been proven that the clinical course of facial nerve neuropathy is exacerbated by the presence of comorbidities, as well as complications of NFN being a cause of defect in the face,can be the main cause of the development of psycho-emotional changes and decrease in the patient's quality of life.

Urgency. Face being visible part of the body, allows you to interact with the outside world, conveys feelings and emotions through expression, while their absence blocks the ability of this function, followed by disruption of functioning in society and defect in the activation of non-verbal signals. Main characteristic of facial expressions is its integrity and dynamism, which means coordination of all movements of the facial muscles of the face mainly through the facial nerve, and its pathology leads to decrease of function of innervated muscles of varying severity. Unfortunately, neuropathy of facial nerve occupies a leading place in the structure of all cranial mononeuropathies [4, 2]. Regardless of the reason of facial nervedefeat, debut of one-sided protopathis often occurs at working, socially active age, when personal and social rigor to appearance is most important. Asymmetry of face adversely affects both the physical and psycho-emotional condition of any person, often causing long-term disability due to

cosmetic defect in the face, and significantly reduces quality of life due to formation of depressive-emotional background of patients [6].

Basically, peak incidence is in the middle age [5]. In 70% of cases, course and prognosis of idiopathic NFN are favorable. Often there are mild cases with full recovery of facial movements of the face within 2–3 weeks, often there are cases of moderate severity with duration about two months. However, in 30% of the patients, recovery is incomplete, with the formation of contracture of the facial muscles and development of pathological synkinesis. Factors predisposing to development of complications at NFN include the recurrence of the facial nerve neuropathies, Diabetes Mellitus (DM) [1], Arterial Hypertension (AH) [7], age of patients is elder than 60 years old.

NFN in patients with comorbid condition is difficult task for practitioners, especially when treating them at the outpatient stage. Many patients have, as a rule, more than two nosological forms of chronic somatic pathology, with cardiovascular diseases being the most common. The high frequency and difficulty of timely diagnosis of etiological factors leading to the formation of these complications in case of neuropathy of the facial nerve, the complexity of their recovery in comorbid conditions served as the basis for finding new ways to evaluate the clinical and neurological criteria of this disease in somatically weakened individuals.

Based on the above, we set a goal to evaluate the clinical and neurological criteria for the formation of facial nerve contractures at different stages of the disease in patients with comorbid somatic pathologies.

RESEARCH MATERIAL AND METHODS

The study included 50 (100 ± 0.0%) patients with NFN, who were divided into two groups. The first group consisted of 22 (44.0 ± 7.0%) patients with NFN without somatic pathology, the second group included 28 (56.0 ± 7.0%) patients with NFN comorbid with CAD, diabetes and obesity of II-III degree. The group of patients was comparable in terms of sex, age, and clinical parameters, and the examined patients were observed for 3 years. A clinical and neurological assessment of changes in facial muscles of the face; The psycho-emotional background of patients with NFN was studied using functional hospital scales of anxiety and depression HADS I and HADS II and somatic screening. A survey was conducted to assess the quality of life according to the SF-36 scale (Health Status Survey), which is a questionnaire for assessing the quality of life. The questionnaire (a total of 36 items) grouped 8 sections, where the evaluation criteria were physical functioning, role-playing, pain syndrome, general health, vitality, social functioning, emotional state and mental health. The indicators for each scale ranged from 0 to 100 points, where 100 represents total health. All scales formed two indicators: mental and physical well-being.

The inclusion criteria for the NFN study were the age of patients from 30 to 55 years old, the exclusion criteria being less than 18 years old; pregnancy, decompensated stage of somatic pathology; mental illness impeding contact with patients;

THE RESULTS OF THE STUDY

Indicators of the tests for anxiety and depression according to the hospital HADS scale filled out by the patients of both groups were analysed, where the number of points on the HADS scale exceeding 7 indicated a subclinical level, and exceeding 14 about the clinical level of anxiety or depression. As can be seen from table1, the assessment of anxiety and depression scores on the HADS hospital scale showed in the first group of tested patients subclinical anxiety and the absence of reliably expressed symptoms of depression, in the second group of patients - subclinical anxiety and clinically marked depression were observed.

Table 1

Evaluation of anxiety and depression level according to the HADS hospital anxiety and depression scale in patients with NFN

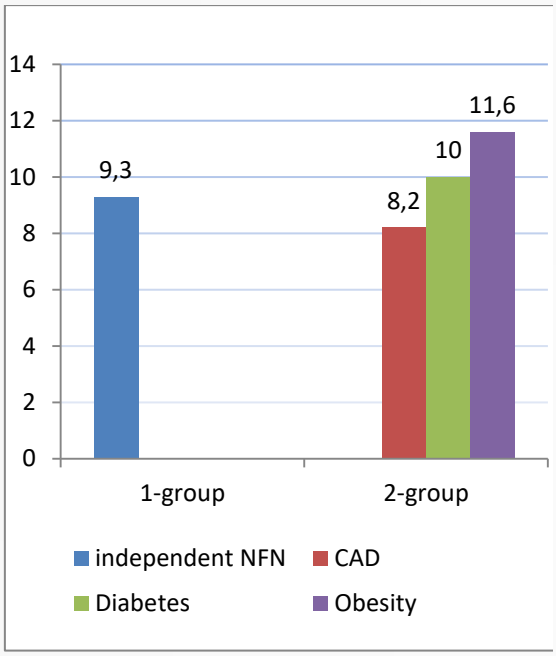
Hospital Scale HADS	1 – group	2 -group		
	NFN (n = 22)	NFN + comorbid pathology (n = 28)		
		CAD (n = 9)	Diabetes (n = 12)	Obesity of II-III degree (n = 7)
HADS - I (anxiety level)	9,3	8,2	10,0	11,6
HADS - II (anxiety level)	7,1	10,8	12,2	11,9

Note: Depression and anxiety levels are shown in points.

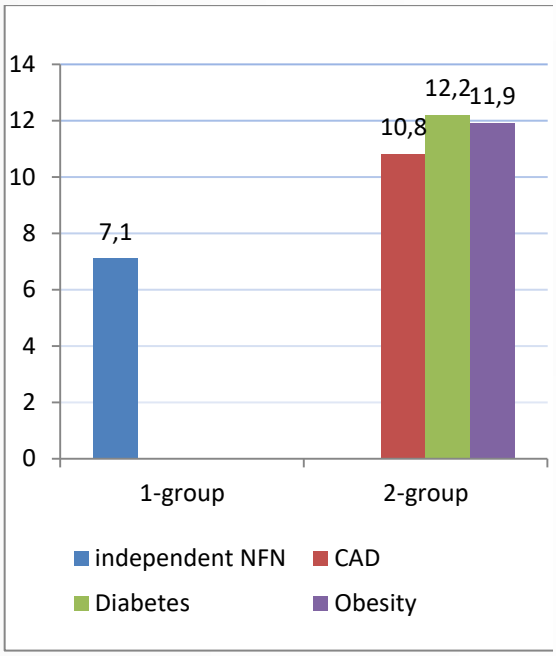
It should be noted that in patients with grade II-III obesity, the level of anxiety was relatively high (Figure 1) than with NFN as an independent nosological unit, and NFN combined with CAD and diabetes. In relation to the identified psycho-emotional pathology, in the form of depression in patients with diabetes mellitus, clinically severe depression was detected in contrast to other comorbid states with NFN, and in NFN as an independent nosological unit (group 1), no significant depression was observed in the examined patients (Figure 2).

Figure 1 **Figure 2**

Anxiety level evaluation (HADS I)



Depression level evaluation (HADS II)



When using the SF36 scale of quality of life, in accordance with the methodology of this questionnaire, the questions were grouped into two indicators: the "physical component of health" (the first four scales 1 to 4) and the "psychological component of health" (4 to 8 scales). The results of the analysis of mental and physical well-being of patients in both groups are presented in Table 2.

Table 2.

The results of the analysis of mental and physical well-being in patients with NFN on the scale of SF-36

SF-36 scale	Group 1	Group 2		
	NFN (n = 22)	NFN + comorbid pathology (n = 28)		
		CAD (n = 9)	Diabetes (n = 12)	Obesity 2-3 level (n = 7)
Physical Component of Health	45,3	37,1	39,3	36,8
Psychological	52,4	39,2	41,4	40,2

component of health				

Note: the quality of life in terms of mental and physical well-being is shown in points

From the table above it can be seen that in patients with NFN and comorbid pathology, the indicators of the physical component of health and the psychological component of health are much lower than in patients who have suffered from NFN without concomitant pathology.

To identify factors affecting the results of the assessment of the physical and psychological component of health, data of physical well-being (on the scales of physical functioning, role-playing activities, pain syndrome, general health), and also mental well-being (on the scales of vitality, social functioning, emotional state and mental health). The results are presented in tables 3, 4.

Table 3

Assessment of physical well-being on the SF-36 scale in patients with NFN

SF-36 scale	1st group	2nd group		
	NFN (n = 22)	NFN + comorbid pathology (n = 28)		
		SAD (n = 9)	Diabetes (n = 12)	Obesity II-III degree (n = 7)
Physical activity	72,71	60,17	58,08	61,7
Role activity	59,14	42,26	48,15	52,36
Pain syndrome	63,08	69,34	66,24	68,22
General health	60,31	57,07	51,53	54,37

As follows from the results of table 3, in patients with comorbidities, the indicators of physical well-being are relatively lower than in NFN as an independent nosological unit, which can adversely affect patient recovery and the formation of complications, such as contractures and pathological synkinesis.

Table 4

Evaluation of mental well-being on the SF-36 scale in patients with NFN

	1st group	2nd group

SF-36 scale	NFN (n = 22)	NFN + comorbidpathology (n = 28)		
		SAD (n = 9)	Diabetes (n = 12)	Obesity II-III degree (n = 7)
Viability	64,28	58,44	56,78	61,67
Social functioning	70,04	67,16	68,25	62,36
Emotional condition	80,48	72,54	70,34	71,12
Mental health	74,29	69,37	65,13	70,27

Table 4 draws attention to the fact that patients' vitality parameters, including general vitality and ability to cope with everyday situations, were relatively low than other indicators of mental well-being. Indicators of emotional state are higher than other indicators of spiritual well-being. It should be noted that, in patients with NFN, combined with comorbid pathology, the indicators of mental well-being are relatively lower than with NFN without comorbidities, which can also affect the formation of complications of NFN.

DISCUSSION

Thus, complications of NFN in the form of contractures and synkinesis can become a serious problem in the development of a cosmetic defect in people of working age, followed by a psycho-emotional pathology in the form of clinically expressed anxiety and depression, especially in people with lesions of the facial nerve, comorbid with concomitant somatic pathology. At the same time, the existing psycho-emotional problems and a facial defect inevitably lead to a decrease in the quality of life of patients (physical and psychological), which can worsen the clinical course of the disease, lengthen the recovery period and be the main cause of the formation of NFN complications, causing a vicious circle. This study may be the reason for prescribing drugs that improve the psycho-emotional background of patients with NFN in the early recovery period of the disease, which could prevent and block a chain of interdependent factors.

Summarizing the study, we can draw the following conclusions:

1) The clinical course of neuropathy of the facial nerve is aggravated in the presence of comorbidities such as diabetes mellitus, coronary artery disease and grade II-III obesity, which seems to be associated not only with the pathology of the systemic blood flow, but also with the psycho-emotional defect of these patients;

2) Complications of NFN in the form of contracture and synkinesis of mimic muscles leading to a defect in the face can be the main cause of the development of psycho-emotional changes and a decrease in the patient's quality of life;

3) To reduce the complications of NFN in the early recovery stage, it is advisable to prescribe drugs that improve the psycho-emotional background in patients.

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