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QUALITY OF LIFE OF PATIENTS WITH TRIGEMINAL NEURALGIA AFTER MICROVASCULAR DECOMPRESSION OF THE ROOT OF THE TRIGEMINAL NERVE BY MODIFIED ACCESS

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МОДИФИКАЦИЯЛИ ОЧИШ УСУЛИ ЁРДАМИДА ТРИГЕМИНАЛ НЕРВ ИЛДИЗИНИНГ МИКРОВАСКУЛЯР ДЕКОМПРЕССИЯСИДАН СЎНГ ТРИГЕМИНАЛ НЕВРАЛГИЯ БИЛАН ОҒРИГАН БЕМОРЛАРДА ҲАЁТ СИФАТИ

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КАЧЕСТВО ЖИЗНИ БОЛЬНЫХ НЕВРАЛГИЕЙ ТРОЙНИЧНОГО НЕРВА ПОСЛЕ МИКРОВАСКУЛЯРНОЙ ДЕКОМПРЕССИИ КОРЕШКА ТРОЙНИЧНОГО НЕРВА МОДИФИЦИРОВАННЫМ ДОСТУПОМ

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Резюме. Мақолада нерв илдизининг микрoваскуляp декомпрессиясини модификация очиш усули ёрдамида жарроҳлик даволашга мойил бўлган тригеминал невралгия билан оғриган 164 беморнинг ҳаёт сифатини ўрганиш усуллари келтирилган. Уйбу беморларнинг ҳаёт сифатини баҳолаш операциядан олдинги ва кейинги даврларда муаллифлар томонидан ишлаб чиқилган оғриқ ва ҳаёт сифатини баҳолаш суровномаларидан фойдаланган ҳолда амалга оширилди.

Калит сўзлар: невралгия, тригеминал нерв, микрoваскуляp декомпрессия, жарроҳлик даволаш, ҳаёт сифати.

Abstract. This article presents the methods of a research of the quality of life of 164 patients with trigeminal neuralgia, prone to surgical treatment of microvascular decompression of nerve root by modified access. Evaluation of the quality of life of these patients produced in pre-and postoperative periods using evaluation questionnaires developed by the authors of pain and quality of life.

Keywords: neuralgia, trigeminal nerve, microvascular decompression, surgical treatment, quality of life.

By definition of the International Association for the Study of Pain (IASP), neuralgia of the trigeminal nerve (NTN) is a syndrome characterized by sudden, short-term, intense, recurring pain in the innervation zone of one or more branches of the trigeminal nerve. The International Headache Society (IHS) divides NTN into classical and symptomatic [2, 7, 10, 11, 14, 15]. According to researchers, the etiological factor of NTN in 94% of cases is compression of the root of the trigeminal nerve with cerebellar arteries and other vessels in the posterior fossa [4].

The most modern method of surgical treatment of NTN is microvascular decompression (MVD) of the trigeminal nerve root with retrosigmoid access [1, 2, 3, 6, 9, 12, 13].

Currently, the quality of life (QOL) of the patient is important, and in some situations the main criterion for evaluating the effectiveness of treatment in clinical studies. Quality of life reflects the effect of the disease and treatment on the patient's well-being and characterizes his physical, emotional and social well-being, which changes under the influence of the disease or its treatment [5, 8, 10].

The goal is to improve the results of surgical treatment of patients with NTN using modified access microvascular decompression of the trigeminal nerve root and the study of the quality of life in the pre and postoperative periods.

Material and methods. We analyzed the results of observations of 164 patients with NTN before and after microvascular decompression of the root of the trigeminal nerve with modified access for the period of 2017-2018, who were treated at the Republican Scientific Center for Neurosurgery of Uzbekistan. All patients were examined according to the standard scheme, which included data from a clinical examination of specialists and X-rays. Magnetic resonance imaging (MRI) in the vascular mode with identification of the trunk and vessels, as well as a special technique of its holding in a three-dimensional image with contrasting, which helped to identify the blood vessel squeezing the nerve at the entrance to the trunk, was used to eliminate the neurovascular conflict.

According to various authors, after the MVD of the root of the trigeminal nerve, postoperative complications are observed in 12-17% of cases in the form of liquorrhea, the formation of granulomas, etc. [7].

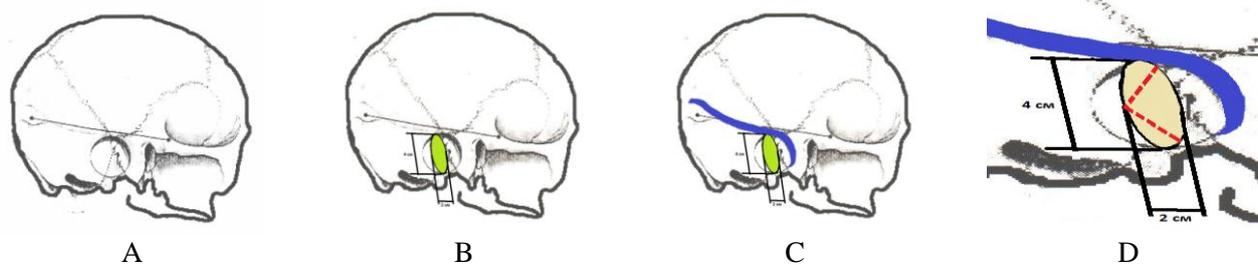


Fig. 1. Modified microvascular decompression access: a) existing access; b) our proposed modified access; c) anatomical landmarks of modified access; d) cut DM with modified access

In order to avoid postoperative complications, we proposed and tested a modification of the access of the Ministry of Internal Affairs. The technique of microvascular decompression of the trigeminal nerve root proposed by us is performed under intubation anesthesia. The patient is lying on a healthy side. The skin incision is carried out from 6 to 8 cm, in the asterium zone. On the asterium, a mill hole is superimposed, a sigmoid sinus is found, where the upper boundary of the bone defect being the sigmoid sinus, the right boundary is the cavernous part of the pyramid of the temporal bone. The bone defect is expanded down to 4 cm, and to the left up to 2 cm. Thus, the limits of the bone access we offer are: on the right is the cavernous part of the pyramid of the temporal bone, at the top is the sigmoid sinus, on the left is the scales of the occipital bone, below the mastoid process of the temporal bone. After exposure of the dura mater (DM), we made a pyramidal incision, starting from the upper to the lower boundaries of the bone defect, which is turned by the base to the scraper part of the pyramid of the temporal bone.

The advantage of the proposed access 4 cm long is a review of all cranial nerves simultaneously, and the small width of the bone defect of 2 cm prevents excessive cerebellar traction. The section of the DM in the form of a pyramid, facing the base to the cavernous part of the pyramid of the temporal bone, helps to prevent possible liquorrhea. At the same time, the stitches placed on the durable manth protect and seal the cerebellum from below. The proposed access allows to prevent excessive traction of the cerebellum, the occurrence of liquorrhea, and the use of pads in the form of a muscle fragment, adipose tissue and fascia prevents the development of granulomas and other complications (Fig. 1).

To complete the assessment of QOL in patients with NTN, it is advisable to use questionnaires that assess the general condition, the severity of the disease and determine the intensity of the pain syndrome. To assess the quality of life, we used questionnaires developed by us to assess pain syndrome and quality of life in trigeminal neuralgia.

The questionnaire "Evaluation of pain syndrome in the trigeminal neuralgia" includes 3 sections (personal data, history of the disease and clinical examination data). The special part contains four main parameters (descriptor) of pain: localization of pain, taking into account the involved branches of the trigeminal nerve (LP), severity and nature of the pain syndrome (SNPS), provoking factors of the syndrome (PFS), impaired sensitivity (IS). Each of the descriptors is evaluated depending on the severity in points from 1 to 5. In this case, 1 point means the least severity, and 5 - the greatest. The sum of the points of all parameters of the questionnaire (anamnesic and special parts) determines the severity of the pain syndrome: up to 10 points - mild, 11-21 points - medium degree, 22-32 points - severe degree.

The questionnaire "Assessment of the quality of life in patients with trigeminal neuralgia" includes 3 sections (personal data, history of the disease and clinical examination data). The special part contains seven basic parameters (descriptors) of the quality of life with an assessment of 1 to 3 points: present health status (PHS), health status before the disease (HSBD), the influence of external factors - weather and other factors on diseases (IEF), the disease interferes with work, including work outside the home or at home (DIW), the effect of the disease on mood (EDM), the impact of the emotional state on work or daily life (IESWL), the influence of the emotional state on social communication with family, friends, relatives, familiar (IESSC). Filling out the questionnaire is not difficult, it is simple and filled by the doctor when collecting history. Quality of life is calculated by the sum of points of two sections - anamnesic and special parts: up to 10 - a slight deterioration in the quality of life, 11-21 - a moderate deterioration in the quality of life, 22-33 - a significant deterioration in the quality of life.

The questionnaires developed by us can be used in different language and social cultures, as well as to study the quality of life not only in patients with trigeminal neuralgia, but also in other pathologies. Data collection for questionnaires is carried out in an extremely short time and does not cause difficulties in filling, is acceptable in medical institutions and departments of various levels from rural to hospital. Along with this, the questionnaire "Quality of life in the trigeminal neuralgia" combines the quality of life and the health profile, i.e. has descriptors that are responsible not only for the general status of the quality of life, but also for the patient's psychosomatic condition.

Results and discussion. A total of 164 patients with NTN were studied before and after the operation of microvascular decompression of the trigeminal nerve root with the modified access proposed by us, for the period 2017-2018 yy.

In terms of age, the patients were distributed according to the WHO classification, where it is planned to single out age groups: young age 14-19 years; younger average age of 20-44 years; senior middle age 45-59 years; old age 60-74 years; old age 75 years or more.

In our observations, the age of patients ranged from 20 to 99 years, with the advantage of patients (39.6%) from 45 to 59 years old, the female patients prevailed over male almost 2 times, which is consistent with the literature data. In 119 (72.6%) patients, NTN was observed on the right, in 44 (26.8%) patients - on the left and in 1 (0.6%) observations - on both sides.

Table 1. Indicators of the questionnaire for “Assessment of pain syndrome in trigeminal neuralgia” in the studied patients before and after surgery

| Groups | Patients, abs. | Options | | | | | | | | | |
|--------|----------------|----------------|-----|----|----|-------|---------------|-----|----|----|-------|
| | | Before surgery | | | | | After surgery | | | | |
| | | LP | SNP | PF | IS | Total | LP | SNP | PF | IS | total |
| 1 | 25 | 4 | 5 | 5 | 4 | 18 | 0 | 1 | 0 | 2 | 3 |
| 2 | 97 | 2 | 4 | 3 | 2 | 11 | 0 | 1 | 0 | 1 | 2 |
| 3 | 42 | 1 | 3 | 2 | 2 | 8 | 0 | 1 | 0 | 0 | 1 |

The indicators of the questionnaire for assessing the quality of life in trigeminal neuralgia proposed by us in the pre-and postoperative period were as follows (Table 2, 3):

Table 2. Indicators of the proposed questionnaire "Evaluation of the quality of life in trigeminal neuralgia" in the studied patients before surgery

| Groups | Patients, abs. | Options | | | | | | | total |
|--------|----------------|---------|------|-----|-----|-----|------|-------|-------|
| | | PHS | HSBD | IEF | DIW | EDM | IESW | IESSC | |
| 1 | 25 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 20 |
| 2 | 97 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 17 |
| 3 | 42 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 12 |

Table 3. Indicators of the proposed questionnaire "Evaluation of the quality of life in trigeminal neuralgia" in the studied patients after surgery

| Groups | Patients, abs. | Options | | | | | | | total |
|--------|----------------|---------|------|-----|-----|-----|------|-------|-------|
| | | PHS | HSBD | IEF | DIW | EDM | IESW | IESSC | |
| 1 | 25 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 12 |
| 2 | 97 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 9 |
| 3 | 42 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7 |

In the overwhelming majority of cases, 2 branches of the trigeminal nerve were affected - 133 (81.1%) patients, one branch - 17 cases (10.4%), and at least three affected branches were noted in 14 (8.5%) . As noted above, in most cases, right-sided neuralgia was noted, the indicators of which exceeded the number of left-sided neuralgia by more than 2 times.

All 164 patients underwent surgery - microvascular decompression of the trigeminal nerve root with retro-sigmoid access with the establishment of buffer pads in the form of muscle and fascia.

All patients after the application of quality of life questionnaires based on the analysis were divided into groups depending on the data obtained. The first group consisted of 25 (15.2%) patients with a chronic protracted course of trigeminal neuralgia, with concomitant psychosomatic disorders in the form of a prolonged depressive state. The second group consisted of 97 (59.1%) patients with a long history of NTN with a short depressive state. The third group consisted of 42 (25.6%) patients with a relatively short-lived course of NTN with an episodic depressive state.

Based on the analysis of the data obtained, the following patterns were established. In patients of the 1st and 2nd groups, the intensity of pain remained slightly, and subsequently disappeared.

For some time, the patients of the first group continued to additionally take carbamazepine and psychotropic drugs, gradually reducing their dose, up to and including their withdrawal.

In the second group, patients took carbamazepine according to the scheme, gradually reducing the dose of the drug until canceled by the doctor.

In the third group, the pain in the postoperative period ceased, and the use of drugs was no longer required.

In the study of pain and quality of life, the anamnestic part of the two questionnaires in all three of the studied groups were identical: the first group had a score of 10 points, in the second group - 6 points, and the third - 4 points. The total sum of data points of the anamnesis and the special part was as follows: in the first group - up to 28 points, in the second - up to 17 points, in the third - up to 12 points.

The indicators of the questionnaire for the assessment of pain syndrome in the trigeminal neuralgia in the preoperative and postoperative periods were as follows (Table 1):

Based on the analysis of the data obtained, the following patterns were established. In patients of the 1st and 2nd groups, the intensity of the pain remained insignificant, and subsequently disappeared. For some time, the patients of the first group continued to additionally take carbamazepine and psychotropic drugs, gradually reducing their dose, up to and including their withdrawal. In the second group, patients took carbamazepine, according to the scheme, gradually reducing the dose of the drug until canceled by the doctor. In the third group, pain in the postoperative period ceased, and the use of drugs was no longer required.

Findings:

1. The questionnaire “Assessment of pain syndrome in trigeminal neuralgia” is one of the reliable tools for determining the intensity of pain syndrome and evaluating the effectiveness of treating patients with trigeminal neuralgia.

2. The questionnaire "Evaluation of the quality of life in trigeminal neuralgia" is one of the reliable tools for determining the dynamic of the quality of life and evaluating the effectiveness of treating patients with trigeminal neuralgia

3. The use of questionnaires for assessing pain syndrome and quality of life developed by us is an important tool for assessing the effectiveness of surgical treatment of patients with trigeminal neuralgia.

4. Microvascular decompression of the trigeminal nerve root with the modified access offered by us was an effective method of surgical treatment and prevention of the occurrence of liquorhea in patients with trigeminal neuralgia.

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КАЧЕСТВО ЖИЗНИ БОЛЬНЫХ НЕВРАЛГИЕЙ ТРОЙНИЧНОГО НЕРВА ПОСЛЕ МИКРОВАСКУЛЯРНОЙ ДЕКОМПРЕССИИ КОРЕШКА ТРОЙНИЧНОГО НЕРВА МОДИФИЦИРОВАННЫМ ДОСТУПОМ

Мирзаев А.У., Кариев Г.М., Ахмедиев М.М., Мирзаева А.А.

Резюме. В статье представлены методы исследования качества жизни 164 больных невралгией тройничного нерва, предрасположенных к хирургическому лечению микрососудистой декомпрессии корешка нерва модифицированным доступом. Оценку качества жизни этих больных производили в до- и послеоперационном периодах с помощью разработанных авторами оценочных опросников боли и качества жизни.

Ключевые слова: невралгия, тройничный нерв, микроваккулярная декомпрессия, оперативное лечение, качество жизни.