UDC 616-003.92: 618.36-084

DEPENDENCE OF THE FORMATION OF SCAR TISSUES OF MAXILLOFACIAL LOCALIZATION ON CIRCADIAN RHYTHMS

Toropov A. A., Avetikov D. S., Lokes E. P.

Poltava State Medical University, Department of Oral and Maxillofacial Surgery with Plastic and Reconstructive Surgery of the Head and Neck, Poltava, Ukraine

Introduction. The urgency of the work lies in the development of a new modern method of prevention of pathological scars. This choice is due to the fact that recently the frequency of scarring has increased. According to the analysis of foreign and domestic literature data, the biological rhythm effects not only the mental state, but also the state of the person as a whole.

Objects and methods. To improve the preventive measures aimed at preventing the formation of pathological scarring of the skin in patients after planned surgery, we examined 20 patients with congenital cysts of the neck and tumors of the scalp and neck.

Results. According to clinical data, patients with the morning type of chronotype, who underwent surgery in the morning and injected cryoextract placenta in the intraoperative period and who were prescribed electrophoresis with the above drug in the postoperative period, namely that 180 days of scar formation was better than patients with at lunchtime and patients who underwent surgery according to the classical method without the use of additional preventive measures.

Conclusion. Based on the results of the study, we can say that the use of cryoextract of the placenta not only improves reparative function, but also reduces the recurrence rate in the postoperative phase and reduces the length of stay in medical institutions.

Keywords: pathological scars; scar prevention; cryopreserved placenta.

ЗАВИСИМОСТЬ ФОРМИРОВАНИЯ РУБЦОВОИЗМЕННЫХ ТКАНЕЙ ЧЕЛЮСТНО-ЛИЦЕВОЙ ЛОКАЛИЗАЦИИ ОТ ЦИРКАДНЫХ РИТМОВ

Торопов А. А., Аветиков Д. С., Локес Е. Р.

Полтавский государственный медицинский университет, кафедра челюстно-лицевой хирургии с пластической и реконструктивной хирургией головы и шеи, г. Полтава, Украина

Введение. Актуальность работы заключается в разработке нового современного метода профилактики патологических рубцов. Данный выбор обусловлен тем, что последние время все больше увеличивается частота возникновение и образование рубцов.

Объекты и методы. Для усовершенствование профилактических мероприятий, направленных на предотвращение образования патологических рубцов кожи у пациентов после плановых оперативных вмешательств, нами было обследовано 20 пациентов с врожденными кистами шеи и опухолевидными образованиями кожи головы и шеи

Результаты. Согласно клиническим данным пациентам с утренним типом хронотипа, которым оперативные вмешательства проводились с утра и вводили криоэкстракт плаценты в интраоперационный период и которым назначали электрофорез указанным выше препаратом в постоперационный период, а именно что на 180 сутки формирования рубца происходило лучше, чем у пациентов с вечерним хронотипом, которых оперировали в обеденное время и пациентов, которым оперативные вмешательства проводили согласно классической методике без использования дополнительных профилактических мероприятий.

Заключение. Исходя из результатов исследования, можно утверждать, что использование криоэкстракта плаценты не только улучшает репаративные функции, но также уменьшает долю рецидивов на послеоперационном этапе и сокращает время пребывания в медицинских учреждениях.

Ключевые слова: патологические рубцы; профилактика рубцов; криоконсервированая плацента.

Introduction. To determine the individual features of the organization of circadian rhythms, the term “chronotype” was proposed [2]. According to the analysis of foreign and domestic literature data, the biological rhythm affects not only the mental state [1], but also the state of the person as a whole. Biological rhythms provide a person’s ability to adapt to the environment. Swedish psychologist O. Okvist So in 1970 proposed a questionnaire to de-

termine the chronotype of patients. He singled out three types of chronotype in patients: morning ("larks"), intermediate (arrhythmic, asynchronous, "pigeons") and evening ("owls") [3, 4]. The morning chronotype is characterized by early awakening, good working capacity for lunch and early sleep. Asynchronous type wakes up 1–2 hours later than the morning type, active all day. People of the evening type, if conditions permit, wake up late, slowly get involved in work and are little able to work before dinner. In the evening, the activity of people with the evening chronotype increases, and they can work productively until midnight and later. The most adapted to modern social conditions of life is the asynchronous type. The most rigid biorhythms in the morning type, especially evening and night work, negatively affect their well-being. The evening type occupies an intermediate position in terms of the ability to adapt to a new time regime, but it turns out to be the best when working on a night shift [5].

The aim of our study was to establish how the biological rhythm can affect the reparative functions of the human body, namely wound healing and scar formation with a combination of injection of the placental cryoextract preparation at the intraoperative stage and electrophoresis at the postoperative stage.

Objects and methods. The research was conducted on the basis of the Department of Maxillofacial Surgery on the basis of KU "Poltava Regional Clinical Hospital. M.V. Sklifosovsky Poltava regional council ". A total of 20 patients took part in the study. To study the materials, we analyzed patients who were hospitalized for routine surgery for congenital neck cysts and scalp and neck tumors.

Patients were interviewed and interviewed during hospitalization to determine the chronotype [2, 4, 5].

Patients were divided as follows into 2 groups.

The first group of patients consisted of 10 people who at the time of surgery were injected with the drug cryoextract of the placenta in the intraoperative stage and electrophoresis of the above drug in the postoperative period and included two subgroups.

The first subgroup included 5 patients who underwent surgery in the morning. The second subgroup also consisted of 5 patients, but surgery in this group was performed after 15:00.

The second control group consisted of 10 people who were operated according to the classical method without additional preventive measures, which included 2 subgroups. Patients of the first subgroup underwent surgery in the morning, and patients of the second subgroup were operated after 15:00.

Thus, to observe, assess the dynamics, and obtain the results of the assessment of wound healing and the quality of postoperative scar formation, we used the following parameters for 3 months of clinical research [5]:

P-1 – Vascularization (from 0 to 2 points);

P-2 – Pigmentation (from 0 to 2 points);

P-3 – Height of a scar (from 0–2 points);

P-4 – Surface (from 0 to 2 points);

P-5 – Density of a scar (from 0–2 points);

P-6 – Subjective sensations of the patient (itching) (from 0 to 2 points);

P-7 – Subjective sensations of the patient (pain) (from 0 to 2 points).

Results. We obtained the following results in a routine examination of patients and study of clinical parameters in patients of the first group for 180 days in the postoperative period. The skin was close to intact in 80.0% (4 patients), and the formed moderate hyperemia of the scar was observed in 20.0% (1 patient), isopigmentation was present in 80.0% (4 people), hypopigmentation is observed in 20.0% (1 person), the height of the scar above the skin surface from 1–2 mm was observed in 80% (4 cases),> 2 mm – in 20.0% (1 patient). At the same time, a uniform increase in the scar above the level of intact skin was observed in 100% (5 people). In 40.0% (2 patients) there was a moderately compacted scar, with pronounced tissue induration 10.0% (1 person) and 20.0% (2 patients) had a soft-elastic, in terms of subjective sensations. the following data: in 40.0% (2 cases) there were no complaints of itching, and 40.0% (2 people) noted mild discomfort, 10.0% (1 patient) complained of severe discomfort. 20.0% (1 patient) and 80.0% (4 patients) did not report pain.

With regard to the indicators of subgroup 2, the following data were observed on the 180th day after the inspection. 80.0% (4 people) had normal vascularization (close to intact skin) for 180 days and only 10.0% (1 patient) had moderate hyperemia. Skin pigmentation was within normal limits in 40% (2 cases), isopigmentation also in 40.0% (2 patients), and 20.0% (1 person) with hyperpigmentation. Height of the scar above the level of tissues in 60.0% (3 cases) from 1–2 mm and in 40.0% (2 people) more than 2 mm, the skin surface is evenly increased above the level of intact skin in 80.0% (4 people) and in 20.0% (1 case) unevenly elevated above the level. Moderately compacted scar was observed in 80.0% (4 patients), 20.0% (1 case) scar with severe tissue induration. Mild discomfort (minor itching) was observed in 60.0% (3 patients) and with complaints of severe itching in 40.0% (2 cases). At 180 days, complaints of pain were present in only 20.0% (1 person), the remaining 80.0% (4 people) had no complaints of pain.

The indicators of the control group 1 subgroup on the 180th day after examination were as follows: 40.0% (2 patients) had moderate hyperemia, and 60.0% (3 cases) normal vascularization (close to intact skin). Skin pigmentation within normal limits was 60.0% (3 cases), and hypopigmentation was observed in 40.0% (2 patients), scar height above tissue level in 90.0% (4 cases) from 1–2 mm and in 10.0% (1 person) more than 2 mm, the scar surface is evenly raised above the level of intact skin in 60% (3 people) and unevenly raised in 40.0% (2 cases).

Moderately compacted scar was observed in 40.0% (2 patients), 20.0% (1 case) soft-elastic scar and 40.0% (2 people) with pronounced soft tissue induration. Mild discomfort (minor itching) 100.0% (5 patients). At 180 days, only 40.0% (2 people) had complaints of pain, and the remaining 60.0% (3 patients) had no pain complaints.

Indicators of subgroup 2 differed slightly. Thus, in 80.0% (4 patients) there was moderate hyperemia, in 20.0% (1 case) the scar was with severe hyperemia, isopigmentation 20.0% (1 patient) and hyperpigmentation was observed in 80.0% (4 people). Height of the scar above the skin surface – 40.0% (2 patients) with 1–2 mm, the remaining 60.0% (3 people) more than 2 mm., A uniform increase in the scar was observed in 20.0% (1 case), and in 80.0% (4 patients) had an uneven increase, 40.0% (2 cases) had a moderately compacted scar, and 60.0% (3 patients) had severe soft tissue induration, and 20.0% (1 patient) had a marked increase. minor itching, and 80.0% (4 people) had complaints of severe discomfort (itching). 40.0% (2 people) complained of pain for 180 days, the remaining 60.0% (3 patients) did not experience any pain.

Conclusions. According to clinical data, patients with morning chronotype, who underwent surgery in the morning and received placental cryoextract in the intraoperative period and who underwent electrophoresis with the above drug in the postoperative period, may claim that 180 days of scarring occurred better in the evening than in patients who were operated on at lunchtime and patients who underwent surgery according to the classical method without the use of additional preventive measures.

References.

1. Belfry, K. D. Time of day matters : an exploratory assessment of chronotype in a forensic psychiatric hospital. front psychiatry / K. D. Belfry, S. H. Deibel, N. J. Kolla. – 2020. – Vol. 11. – 550597. doi:10.3389/fpsyt.2020.550597.

2. Chronotyp und depression bei jugendlichen – ein review / L. K. Keller [et al.] // Z. Kinder Jugendpsychiatr Psychother. – 2016. – Vol. 44, N 2. – P. 113–126. doi:10.1024/1422-4917/a000406

3. Circadian rhythms in adipose tissue physiology / J. T. Kiehn [et al.] // Compr Physiol. – 2017. – Vol. 7, N 2. – P. 383–427. doi:10.1002/cphy.c160017.

4. Fiziologicheskaja harakteristika lic s razlichnymi hronotipami / S. V. Glutkin [et al.] // Vestn.ik Smolenskoj. – 2017. – № 2. – P. 48–58.

5. The influence of different types of chronotype on scar formation during the use of placental cryoextract at the intraoperative stage / O. Toropov [et al.] // MEP. – 2021. – Vol. 25, N 1–2. – P. 22–25.