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ТИББИЁТДА ЯНГИ КУН НОВЫЙ ДЕНЬ В МЕДИЦИНЕ NEW DAY IN MEDICINE

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IMPROVING THE RESULTS OF SURGICAL TREATMENT OF POST-BURN CONTRACTURES OF THE LIMB IN CHILDREN

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✓ Resume

Post-burn cicatricial extensor contractures of the toes as one of the types of severe consequences of burns remain a complex and urgent problem of combustio-logy, reconstructive-plastic surgery, traumatology and orthopedics. The frequency of post-burn contractures and deformities of the foot ranges from 3.5% to 5% among post-burn contractures of all localizations. The main pathogenetic mechanism of post-burn contractures development is considered to be replacement of tissues lost due to burns by scar and fibrous tissue, which leads to complete loss of their functionality and elasticity. Almost every second patient with burns of the distal segments of the extremities has a different degree of post-burn contracture of the hand or foot at discharge.

Keywords: post-burn contracture, surgical care, limb, childhood.

УЛУЧШЕНИЕ РЕЗУЛЬТАТОВ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ ПОСЛЕОЖГОВЫХ КОНТРАКТУР КОНЕЧНО У ДЕТЕЙ

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✓ Резюме

Послеожоговые рубцовые разгибательные контрактуры пальцев стопы, как один из видов тяжёлых последствий ожогов, остаются сложной и актуальной проблемой комбустиологии, реконструктивно-пластической хирургии, травматологии и ортопедии. Частота послеожоговых контрактур и деформаций стопы составляет от 3,5% до 5% среди послеожоговых контрактур всех локализаций. Основным патогенетическим механизмом развития послеожоговых контрактур считается замещение утраченных вследствие ожога тканей рубцовой и фиброзной тканью, что ведёт к полной потере их функциональности и эластичности. Почти у каждого второго больного с ожогами дистальных сегментов конечностей при выписке отмечается различной степени послеожоговая контрактура кисти или стопы

Ключевые слова: послеожоговая контрактура, хирургическая помощь, конечность, детский возраст.

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✓ **Rezyume**

Kuyishning og'ir oqibatlaridan biri sifatida oyoq barmoqlarining kuyishdan keyingi chandiqli fleksiyon kontrakturalari kombustio-logiya, rekonstruktiv-plastik jarrohlik, travmatologiya va ortopediyaning murakkab va dolzarb muammosi bo'lib qolmoqda. Kuyishdan keyingi kontrakturalar va oyoq deformatsiyalarining chastotasi barcha lokalizatsiyalardagi kuyishdan keyingi kontrakturalar orasida 3,5% dan 5% gacha. Kuyishdan keyingi kontrakturalarni rivojlantirishning asosiy patogenetik mexanizmi kuyish natijasida yo'qolgan to'qimalarni chandiq va tolali to'qima bilan almashtirish hisoblanadi, bu ularning funktsionalligi va elastikligini to'liq yo'qotishiga olib keladi. Distal oyoq-qo'l segmentlarining kuyishi bilan og'rigan deyarli har ikkinchi bemorda bo'shatish paytida qo'l yoki oyoqning kuyishdan keyingi kontrakturasi har xil darajada qayd etiladi.

Kalit so'zlar: kuyishdan keyingi kontraktura, jarrohlik yordami, oyoq-qo'l, bolalik.

Relevance

Currently, as in recent years, the number of people suffering from the effects of burns continues to steadily increase [6,9]. Although the use of modern methods of treatment of low lethality of children with deep burns, has not solved the problems with the growing number of disabled people, with developed post-burn indicators - in the form of contractures, tissue defects and trophic ulcers. In this regard, the rehabilitation of such patients is of great socio-economic importance and is an urgent problem of today. The most frequent consequences of sunburns are severe contractures and deformities of the limbs, which leads to impairment of their functions and sometimes to complete disability of the patient [2,10]. Restoration of the lost functions of the affected joints is one of the main directions of reconstructive surgery of burns. According to different authors, from 40 to 75% of patients with deep burns need reconstructive surgeries [8]. The problem of treatment of patients with the consequences of burns continues to be actual and one of the most difficult problems of reconstructive and plastic surgery [4]. According to statistics in the world among the disabled burned people make up to 22.8%. Of these, 82% are persons of the most able-bodied age: from 20 to 49 years old. In the general list of post-burn patients, scar deformity and contractures develop in 23% of the victims, and in the recovery of burns with lesions over 10% of the body surface - in 40-55% of patients [1]. Consequences are associated with contractures and deformities in the form of disorders of cosmetic functions of the limbs, as well as defects contribute to the violation of the psycho-emotional state, contribute to the feeling of insecurity, inferiority, futility, reduce the spiritual and labor capabilities of the individual, contributing to the development of diseases of psychosomatic origin - neuroses, angina pectoris, hypertension [7,12]. To optimize the methods of correction and modification of methods of surgical and conservative treatment of post-burn scar contractures of large joints, a number of scientific works, as well as studies by domestic and foreign scientists have been performed. There is a constant search for new possibilities to solve these problems. At present, as well as all recent years, surgeons leave no doubt in changing the already traditional methods of correction of post-burn scar deformities and try to develop more advanced methods of reconstructive operations [5]. Despite the development and search for new solutions to these problems, when studying the domestic and foreign literature, we did not find clear algorithms and techniques that determine the effective type of treatment depending on the localization and prevalence of scars, the state and resources of healthy tissues, based on large clinical studies. material; there is no sophisticated view of urgent surgical treatment of contractural joints depending on the time elapsed since the burn injury [3,13]. All of these are necessary for specialists to achieve optimal treatment outcomes for patients with burn injury sequelae.

Purpose of the study. To improve the results of surgical treatment of post-burn contractures of the limb in children.

Materials and methods

The material of the present study includes the analysis of the results of radiologic and surgical treatment of 98 children aged up to 15 years, operated in the Department of Surgery of the AOMPDB. Children under 5 years of age prevailed (49 %). Male patients accounted for 52%, female -46%. The youngest patient was 1 year 2 months old, the oldest was 15 years old. The patients were admitted from 6 months to 14 years after burn injury. The causes of burns were quite diverse: boiling water, electric stove, flame, hot food, hot stove, red-hot oil, and in one case - non-hot lime.

Result and discussions

The severity of post-burn scarring flexion contracture of the fingers of the hand Determined by the deficit of the covering tissues on the palmar surface of the fingers with contractures. The ratio of the distance between two points on the palmar surface of the same finger with a healthy brush to the modified distance between two points on the palmar surface of the affected finger clearly shows the degree of deficiency of the covering tissues. This index, which we call the contracture degree index (δ), allows us to determine the need for tissue lengthening for complete resolution of the contracture.

Two large groups of local-plastic methods of limiting scar flexion contracture of the fingers of the hand have been defined - simple (Z-plasty, multiple Z-plasty) and complex (modified Z-plasty methods - Limberg, Hirschowitz, Smith (butterfly), Mustade, Karasaoglan, etc.) methods.

Simple methods of Z-plasty are effective in eliminating a mild degree of flexion contracture of the finger, when the need for tissue lengthening does not add up to 124%. For elimination of scar flexion contracture of the finger of medium degree of complexity complex (modified) methods of Z-plasty allow to eliminate up to 200% of tissue loss along the length of the finger. In scar contractures, gravity requires 200% tissue elongation, so previously used local-plastic surgeries do not effectively resolve the contracture. The development of a new way of local-plastic surgery - the method of counter-translocated rectangular flaps, which allows to provide tissue extension along the palmar surface of the finger up to 10-30% and to avoid complex, multistage surgical interventions. This method is effective in moderate to severe flexion contracture scars. The results of surgical treatment of postburn scarring flexor contractures of the fingers of the hand depend on the degree of severity, duration of existence and the choice of surgical outlet to stop the contractures. A differentiated approach to the choice of local plastic surgeries depending on the severity of contractures in 86.2% allows to obtain good and excellent results. The functional results of counter-transposable rectangular flaps were good and alternative in 94.3% of cases.

Conclusion

The developed criteria make it possible to objectively assess the severity of the contracted limb and to establish the necessity of lengthening along the line of scar tightening.

The circumstances for performing different types of local plastic surgeries depending on the severity degree of contractures and the possibility to eliminate the tissue deficit have been determined. The development and realization of a new way of counter-translocated rectangular flaps in the inclusion of scar flexion contractures of the fingers of the hand allow to avoid complicated and multistage surgical interventions, which considerably reduce the time of treatment of patients and have a great social and economic importance.

The use of optical magnification and precision technique made it possible to identify the neurovascular bundles of the fingers in all cases and to activate the operation more safely. The development of an indicator of the degree of contracture restriction makes it possible to objectively assess the results of surgical treatment of scarring flexion contractures of the finger hand.

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