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A MODERN APPROACH TO ELIMINATE POST-BURN CONTRACTURES OF THE SHOULDER AND ELBOW JOINTS IN CHILDREN

Ketmonov Alisher Ganijonovich[1*], Yulchiyev Karimjon Salimjonovich[2], Ajimamatov Xalilulla Tashtemirovich[3], Fayzixodjayev Olmosxon Saypiddinovich [4], Toshmatov Xasanboy Zuhriddinovich [5], Yusupov Nosirjon Shamshidinovich[6], Nasretdinov Zafarbek Tulqinovich[7].

[1,2,3,4,5,6,7] Teachers of Andijan State medical institute, Uzbekistan
Corresponding author e-mail : ketmonovalisher@gmail.com

Annotation. This article presents a comparison between modern and traditional methods of surgical treatment of post-burn cicatricial contractures in the area of the shoulder and elbow joint in children. Currently, the number of children suffering from burns is steadily increasing. Despite the fact that modern methods of treating burns have significantly reduced the number of deaths, they have not solved the problem with the increase in the number of disability after severe burns in children. In 20-22% of cases, complications of post-burn diseases are observed in children. In the form of trophic ulcers, cotractures of joints and tissue destruction. Therefore, the rehabilitation of such patients is of great social and economic importance.
Restoring the function of organs that have been lost as a result of complications after burns is the main task of reconstructive surgery. According to some authors, 40-75% of patients after severe burns need reconstructive surgery.

Key words: burn, cicatricial contractures, redress, joint.

Introduction. The study was conducted in the Andijan Regional Children's Multidisciplinary Medical Center in the Department of Plastic Surgery and Maxillofacial Surgery in 62 patients with post-burn cicatricial contractures of the shoulder and elbow joints. Of these, 42 patients were selected as the main group and 20 as the control group. The main group of patients underwent a modern surgical method of full-thickness skin grafting. The results showed that in the treatment of modern surgical methods in patients with post-burn cicatricial contractures in the area of the shoulder and elbow joints, 95,3% of good results were achieved.
Currently, the number of children suffering from burns is steadily increasing [2,3,5]. Despite the fact that modern methods of treating burns have significantly reduced the number of deaths, they have not solved the problem with the increase in the number of disability after severe burns in children. In 20-22% of cases, complications of post-burn diseases are observed in children [5,9,10,]. In the form of trophic ulcers, cotractures of joints and tissue destruction [1,4,6]. Therefore, the rehabilitation of such patients is of great social and economic importance.
Restoring the function of organs that have been lost as a result of complications after burns is the main task of reconstructive surgery [2,3]. According to some authors, 40-75% of patients after severe burns need reconstructive surgery [1,2,6].
The incidence of arthrogryposis disease in the joints in children with post-burn cicatricial deformities of the shoulder and elbow joints is in third place. Failure to eliminate cicatricial changes in the joints can lead to arthrohyposis of the joints in 95% of cases [2,4,6].

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Purpose of the study. To reveal the advantages of the modern method of eliminating cicatricial contractures of the shoulder and elbow joint by full-layer skin plasty.
Materials and research methods. The anamnesis of 62 patients with cicatricial contractures after burns of the shoulder and elbow joints, who were treated in the Department of Maxillofacial Surgery of the Andijan Regional Children's Multidisciplinary Medical Center in 2017-2021, was retrospectively studied. Of these, 20 (32%) patients were included in the control group and 42 (68%) patients in the main group. These were patients aged 2 to 16 years, among whom there were 18 (29%) girls and 44 (71%) boys. The distribution of patients by sex and age is presented below (Table 1).

Distribution of patients by sex and age.

Age	Boys (n=44)		Girls (n=18)		Total	
	Abs.	**%**	**Abs.**	**%**	**Abs.**	**%**
Under 3 years	4	9	2	11	**6**	**10**
3-7 years	17	39	4	22	**21**	**34**
7 - 11 years	14	32	7	39	**21**	**34**
12 - 16 years	9	20	5	28	**14**	**22**
Total	**44**	**71**	**18**	**29**	**62**	**100,0**

The complex of research methods included:
1. General clinical examinations.
2. Assessment of scars according to clinical signs:
a) color, width, thickness, mobility, bending ability;
b) location and distribution of scars;c) adhesion and stratification of tissues under the scars
3. Determination of the area of the shoulder and elbow joints not affected by burns, as well as the severity of cicatricial contractures.
The causes and severity of burns of the shoulder and elbow joints to a certain extent depend on the age and sex of children [2,3,6]. Most of the patients admitted to the study suffered burns from exposure to fire and hot liquids in the home (61 (98.3%)) (Table 2).
Table 2

Distribution of patients by sex and etiological factors.

etiological factors	Number of patients					
	Boys	**%**	**Girls**	**%**	**Abs.**	**%**
Flame burns	18	41	7	39	25	40
Burns from hot liquids	25	57	11	61	36	58
Other types of burns	1	2	-		1	2

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Total	44	71	18	29	62	100,0

Results and discussion. To eliminate shoulder and elbow contractures in children, the method of free autodermoplasty with the help of a traditional dermatome is widely used [1, 4, 5, 6]. In our hospital, 20 patients were operated on with this method.

The implementation of this method consists in the following: dissect total scars located in the fossa of the shoulder and elbow joints, make redresion of the joints and hemostasis. skin is applied to the resulting wound from the anterior surface of the thigh, which was taken using a dermatome (0.5 mm thick), the skin is sutured and atraumatic interrupted sutures are applied along the edges. To ensure drainage function and prevent the formation of hematomas in several places, combing is done with a scalpel and the entire part of the graft is pressed and tied with gauze swabs moistened with an antiseptic solution (furacillin solution 1:5000 or betadine). A bandage moistened with furacilin 1:5000 is applied to the donor wound.

The first dressing of the wound was carried out after 5-6 days. the pressure bandage was removed, and the graft was covered with gauze swabs moistened with an aseptic bandage (furacillin solution 1:5000 or betadine). All patients received antibiotic therapy for 5-6 days after surgery. In the postoperative period, physiotherapy and pain therapy were carried out.

The results were discussed over a period of 2 to 8 months. In 3 (15%) patients, the transplanted skin was wrinkled, the wound healed, and repeated contracture was observed.

Given that this method of surgery has a number of disadvantages (graft retraction and necrosis, hyperpigmentation), we use a new modern method for eliminating cicatricial contractures in children after burns of the shoulder and elbow joints using free skin grafting. This method examined 42 children with post-burn lesions, median and total cicatricial flexion contractures of the shoulder and elbow joints.

The technique of the operation is as follows: a dissection of the middle and total flexion scars in the shoulder and elbow joints was made. Hemostasis. A small reduction of the joint was made. On the resulting wound, a full-thickness free skin was applied with separated subcutaneous fatty tissue, which was taken from the groin area with a scalpel. The edges of the wound were sutured with atraumatic knots. An aseptic dressing with betadine was applied to the wound, covering the entire part of the transplanted graft. The donor wound was sutured using the "acute dermotension" method. The dressing was changed after 5-6 days. All patients received antibiotic therapy for 5-6 days after surgery. After complete healing of the wound, physiotherapy and pain therapy were performed.

The results were discussed for a period of 2 to 8 months. Using this method, when eliminating contractures of the shoulder and elbow joints in the postoperative period, complications were observed in 2 (4,8%) patients. Lysis and contracture were observed in 1 (2,4%) patient with a 2-4 cm transplanted graft. The next 1 (2.4%) patient had partial contracture and graft hyperpigmentation.

Results of treatment with full-thickness skin plasty in the elimination of post-burn contractures of the shoulder and elbow joints in children

	Total number of patient	**Good result**	
		Abs.	**%**
Functional and cosmetic result	42	40	95,3

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The table shows that good functional and cosmetic results were achieved in 40 (95.3%) patients.
Conclusion. Postoperative results in 20 (out of 62 patients) patients of the control group showed good functional and cosmetic results in 17 (85%) patients. Unsatisfactory results were obtained in 3 (15%) patients.
Results of the study In 42 (out of 62) patients of the main group. 40 (95,3%) patients had good functional and cosmetic results. 2 (4,8%) patients had unsatisfactory results.
The use of the modern method of full-thickness skin plasty in the elimination of post-burn contractures of the shoulder and elbow joints proved to be more effective than the traditional method. good results were achieved in 95,3% of patients.

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