Functional methods of restorative treatment of patients with posttraumatic contractures of the elbow joint

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Abstract: *The results of treatment of 36 patients with posttraumatic contractures of the elbow joint are presented, among them, 17 patients had restrictions on both flexion and extensor movements, so is the pronacin-supination function of the forearm. After a complex of restorative measures in the elbow joint, good functional results were obtained in 29 (80.6%) patients, satisfactory in 2 (5.5%), unsatisfactory in 5 (13.9%) patients.*

Keywords: *elbow joint, contracture, physical therapy, physiotherapy, massage.*

Introduction

One of the most common complications in transcondylar and supracondylar fractures of the homers in children is post-traumatic deformity of the elbow joint.

This complication accounts for 47.5% to 80.0% of all fractures of the distal metaepiphyseal humerus (2,3,4).

In addition, children often seek specialized care late after an injury and range from 36% to 60% (4). Most authors consider these problems the most complex, giving a large number of complications, which are a real problem of transcondylar and supracondylar fractures of the humerus in children.

Formation of deformation lasts 3-6 months. after a fracture, and it becomes noticeable when movements in the elbow joint are restored.

There are several points of view regarding the mechanisms of occurrence of varus deformity, which include:

- damage to the distal growth zone after injury;

- not eliminated displacement of the distal fragment under the action of muscle traction upwards, which entails an angular adduction varus mixing; (1.4).

The main reason for unsatisfactory results of treatment is the lack of a reasonable treatment algorithm aimed at preventing complications such as improperly healed fractures with limb deformities and contractures of the elbow joint (2,3,5).

The purpose of this work is to study the results of restorative treatment for post-traumatic contractures of the elbow joint.

Material and methods:

The results of functional treatment of 36 patients aged from three to 17 years with posttraumatic contractures of the elbow joint were studied in the work, among them 12 patients had limitation of both flexion -extension movements and pronation-supinacin function of the forearm.

Upon admission to the clinic, in all patients, after obtaining anatomical data, the following studies were performed to clarify the diagnosis:

Radiography of healthy and affected elbow joints in 2 projections, laboratory tests, sonographic examination of both elbow joints and angle measurement of the elbow joints.

Conservative treatment for restoring the function of the elbow joint in children with the consequences of injuries is of great importance correctly selected treatment. Treatment was carried out in all patients to restore the function of the elbow joint.

The main goal of complex rehabilitation treatment was to increase the range of motion and improve the functional state of the neuromuscular apparatus of the elbow joint.

Functional treatment for post-traumatic contractures of the elbow joint in children has a number of features:

1. There is no great reaction when performing physiotherapy exercises.

2. Combination of movement restrictions in the joint with deformities of the distal humerus.

3. There are secondary changes in the articular ends of the elbow joint.

The complex of rehabilitation measures includes physiotherapy, massage and therapeutic exercises.

Of the physiotherapeutic procedures in the treatment of children, UHF therapy (8 procedures), paraffin applications on the elbow joint area at a temperature of 40-42º for up to 35-40 minutes, for a course of 12-15 procedures were used. Electrophoresis of 3% solution of sodium chloride (or potassium iodide), lidase 64 E D , aloe (1 ml) - 10 procedures each. To improve the function of the elbow joint, magnetic-pulse electrical stimulation of the muscles of the shoulder and forearm was performed (10 procedures each).

With conservative treatment from the first days, massage of the muscles of the shoulder and forearm was carried out.

Depending on the nature of the contracture, forearm massages are performed individually.

With extensor contractures, relaxing massage techniques were aimed at the triceps muscle of the shoulder, toning - the biceps muscle of the shoulder, brachial and brachioradialis muscles. With flexion contractures, a relaxing massage of the anterior group of shoulder muscles and a tonic massage of the triceps muscles of the shoulder are performed.

When limiting the supination of the forearm, tonic massage techniques were used for the suppinator muscles, relaxing the pronators. When pronation was limited, the pronators were strengthened and the supinators of the forearm were relaxed. Massage of the muscles of the upper limb was carried out daily, the course was 20-25 procedures.

In order to stimulate the body from general tonic agents, vitamin therapy (group B) and biostimulants (aloe, irmizol) were used. With concomitant ischemic and trophic disorders, agents that improve local beds (Trental) were

used, as well as drugs that improve innervation (Prozerin 0.05% solution, 1 ml subcutaneously once a day for 20-30 days).

Treatment results :

The results of treatment were assessed by the function of the joint, its deformity, radiographic data.

1. Function of the elbow joint:

a. range of motion within 145-120°-4 points.

b. range of motion within 120-60°-3 points.

in. range of motion within 40°-2 points.

2. Assessment of elbow joint deformity:

a. no deformation - 4 points.

b. varus or valgus deformity not more than

10°-3 points. in. varus or valgus deformity more than

10°-2 points.

The anatomical and functional outcome of the treatment was assessed as good, satisfactory and unsatisfactory.

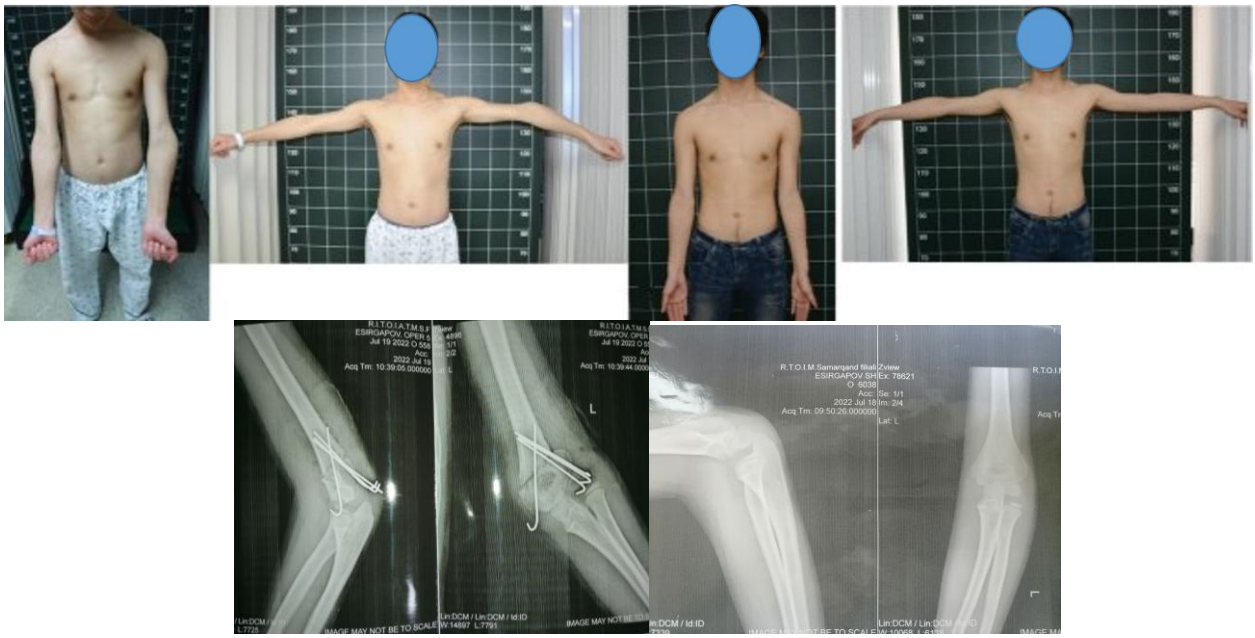
A long-term good functional result was obtained in 29 (80.65%) patients, a satisfactory functional result in 2 (5.5%) patients, an unsatisfactory functional result in 5 (13.9%) patients.

A long-term good anatomical result was obtained in 19 (52.7%) patients, a satisfactory anatomical result in 12 (33.4%), unsatisfactory in 5 (13.9%) patients.

Conclusions:

As a result of studying the function of the elbow joint in children with contractures of the elbow joint, it was found that with satisfactory anatomical results in the elbow joint area, it is necessary to carry out complex treatment, including the use of surgical techniques and restorative treatment.

Only complex treatment has a beneficial effect on the restoration of the function and shape of the damaged upper limb by eliminating anatomical changes and provides a significant improvement in the range of motion in the elbow joint.



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