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ACUTE FRACTURES OF TUBULAR BONES, CLINICAL PICTURE, DIAGNOSIS AND TREATMENT

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Abstract: The article describes data on the use of physiotherapy in the treatment of long bone fractures. The author provides pathogenetically reasoned recommendations for the prescription of physical factors, as well as contraindications to their use. The choice of physical factor and method of physiotherapeutic treatment depends on the stage of reparative regeneration of bone tissue, the nature of the fracture, the method of fixation of fragments, the possibility or impossibility of the patient visiting the physiotherapy department, and its equipment.

Keywords: Reparative regeneration, fractures of tubular bones, physiotherapeutic methods of treatment, method.

INTRODUCTION

The use of physiotherapy for fractures is inextricably linked with the history of human development. It is natural to assume that primitive man received injuries. He sought healing from pain in the nature around him: water, bottom sediments of reservoirs, sunlight and warmth, herbs and animal tissues, heat from fire caused by fires as a result of lightning strikes, electrical discharges from sea fish. The positive effects of treatment, passed on from generation to generation, have survived to this day. Currently, they are called natural healing factors. With the discovery of fire, man began to use heat for healing. Healers used the heat of baths to relax muscles, eliminate dislocations and compare fragments of fractures. These were the first artificially created natural healing factors.

MATERIALS AND METHODS

As is known, postgraduate training of a physiotherapist is not provided for in internship. It is prepared through retraining of therapists, neurologists, pediatricians and doctors of other basic specialties. Practice has shown that a physiotherapist with basic training in neurology treats patients with diseases of the nervous system better, with an internship in therapy - with diseases of internal organs, and so on. The secret to the success of a psychotherapist is a better knowledge of the pathogenesis of pathological processes in the main specialty.

For bone fractures, physiotherapeutic methods provide a pronounced therapeutic effect only if their mechanism of action corresponds to the phase of reparative osteogenesis. Therefore, when prescribing physiotherapeutic treatment for victims with bone fractures, the physiotherapist must have a clear understanding of the pathogenesis of bone wound healing. He must at least to a certain extent assess the quality of the callus using radiographs.

RESULTS AND DISCUSSION

The essence of traumatological treatment for bone fractures is to compare bone fragments and hold them until bone union occurs. This is achieved by simultaneous reposition of bone fragments with the application of a plaster splint; skeletal traction followed by immobilization of

the limb with a circular plaster cast, or comparison of fragments during surgery and their fixation with immersion plates, rods, screws, or various external fixation devices.

It has been established that reparative regeneration of bone tissue occurs in several stages or phases transient to each other. The morphology of the phases in the forming callus has been well studied experimentally, but it is hidden from the clinician. The duration of the phases depends on the anatomical features of the bone. They are shorter for a metacarpal fracture than for a femoral fracture. Meanwhile, to select a physical factor and the method of its application, it is necessary to have an idea of the stage of regenerate formation in a fracture of a certain location in a certain period in a particular patient.

To some extent, we sought to make it easier for the physiotherapist to establish the phase of the reparative process in order to select the optimal factor and method of physiotherapy, linking it to the average time of fusion of bone fragments. The healing time of a fracture depends on the damaged bone, the location of the fracture on it, the severity of the injury, the method of treatment, a large number of local conditions and the general condition of the body.

The average time for fusion of fragments of the phalanges of the fingers, metacarpals and metatarsals is 30-35 days, one bone of the forearm - 40-55 days, the humerus and both bones of the forearm - 70-85 days, tibia bones - 140-150 days, femur - 160-180 days. The duration of fusion is reduced in young people and increased in old age. They last less with precise comparison of fragments and stable osteosynthesis than with displacement and immobilization with a plaster cast [4].

Physiotherapeutic treatment begins immediately after the provision of trauma care. The choice of physical factor and method of physiotherapeutic treatment depends on the nature of the fracture, the method of fixation of fragments, the possibility or impossibility of the patient visiting the physiotherapy department, its equipment and many other conditions. In this work, we do not see the need to list all the techniques used in the treatment of patients with bone fractures.

Knowing the pathogenesis of the pathological process, a thinking physiotherapist can and should optimize the conditions for the course of reparative regeneration even with limited equipment in the physiotherapy room.

CONCLUSION

Early use of physical therapy for adjacent joints before restoration of the anatomical integrity of the bone, even with stable fixation, leads to micromobility of bone fragments, rupture of small vessels, sometimes even to fracture of submersible metal fixators and tissue hypoxia in the area of injury. The reparative process returns to the phase of differentiation of cellular structures with the subsequent formation of cartilage cells between fragments, and this is the path to delayed consolidation, non-union of fractures and false joints.

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