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PECULIARITIES OF REHABILITATION OF PATIENTS WITH SEVERE ANKLE INJURY

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Annotation: The work is based on the analysis of various methods of treatment, clinical and radiological data and primary medical records of ankle fractures in 106 victims of both sexes aged 17 to 82 years. An algorithm has been developed for the rehabilitation of patients in the conditions of a trauma center, depending on the chosen method of treatment. A comparative analysis of the immediate results of various methods of treating a severe closed injury of the ankle joint showed the pronounced advantages of stable osteosynthesis that does not require plaster immobilization and allows early functional treatment to begin.

Key words: ankle fracture, ankle joint, trauma center, rehabilitation.

INTRODUCTION

Ankle joint injuries are a common type of injury, accounting for 10.2–26.1% of all fractures [1,4] and 40–60% of lower leg injuries [2, 5].

Irrational treatment tactics often lead to long-term disability, and often (up to 39% of cases) to disability (6).

MATERIALS AND METHODS

This work is based on the analysis of clinical and radiological data and primary medical documentation of 106 patients aged 17-82 years with ankle fractures, who were observed after inpatient treatment at the trauma center at the Andijan polyclinic. There were 63 (59.4%) women, 43 (40.6%) men. The majority of patients (73.5%) were of working age, which characterizes the great social significance of this problem.

RESULTS AND DISCUSSION

As follows from Table 1, the majority of patients in the 1st and 2nd groups had trans-syndesmotic fractures of type B - 75.6% and 64.3%, respectively.

Table 1. Distribution of patients by groups and types of fracture

Patient groups	Fracture type			Total patients
	A	B	C	
1st	6	59	13	78
2nd	1	18	9	28
Total:	7	77	22	106

In surgical treatment, great importance is attached to stable fixation of fragments. An analysis of osteosynthesis techniques for individual components of the ankle joint made it possible to establish the following:

1. For fixation of fibula fragments, 1/3 of the tubular plate was used in 18 patients, a reconstructive plate in 9 patients, a compression plate in 5 patients, Weber osteosynthesis (2 pins in combination with a compression wire) in 2 patients;

2. To fix the medial malleolus, 1 or 2 screws (cortical or malleolar) were used in 12 patients, a plate in 10 patients, wire and pins (according to Weber) in 3 patients.

3. To fix a fragment of the posterior (7 patients) or anterior (4 patients) edge of the tibia with displacement, occupying 1/3 or more of the articular surface, 1 or 2 cortical or malleolar screws were used;

4. fixation of the distal tibiofibular syndesmosis with a cortical, positional screw was performed in 20 patients, with a coupler bolt - in 2 victims;

5. special restoration of the deltoid ligament in case of its damage (10 patients) was not done in any case.

In 78 patients with plaster immobilization, clinical examination is difficult, and here the main attention was paid to the presence of complaints (pain syndrome) and possible trophic disorders (presence or absence of edema). In contrast, in 28 patients without plaster immobilization, a full assessment of the functional state of the operated ankle joint was carried out. At the same time, the main attention was paid to the local status (the state of postoperative scars, the presence or absence of soft tissue edema, the range of motion in the injured ankle joint), on the basis of which a full 3-point assessment of the results of inpatient surgical treatment was made (Table 2).

Table 2. Distribution of patients according to the immediate results of surgical treatment and fracture types

Result evaluation	**Fracture type**			**Total patients**
	A	**B**	**C**	
good	1	13	4	18
satisfactory	2	4	4	10
Total:	3	17	8	28

When analyzing poor outcomes of conservative treatment, the following reasons were established:

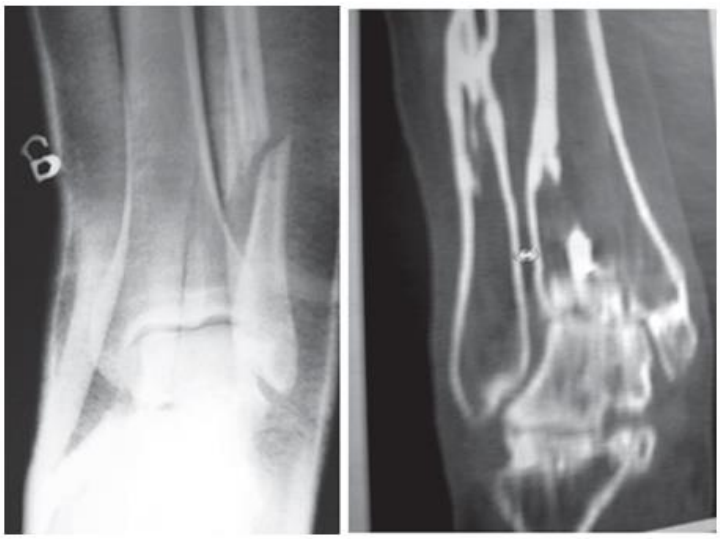
1. Recurrence of outward subluxation of the foot - 1 patient (fracture type "B-2");

2. remaining displacement of the inner malleolus - 2 patients (fracture type "B-2");

3. Divergence of the distal tibiofibular syndesmosis - 2 patients (fracture type "B-2");

4. the remaining displacement of the external malleolus - 1 patient (fracture type "B-2").

As an example, we give a brief history of the injury of patient M., 42 years old, who was admitted to the clinic with a diagnosis of a closed fracture of the outer, inner ankles of the right leg, rupture of the distal tibiofibular syndesmosis with subluxation of the foot outward. conservative treatment - one-stage manual reposition, plaster immobilization. She was discharged for outpatient treatment 2 weeks after the injury. When contacting the emergency room, he complained of pain, swelling of the distal foot. X-ray examination revealed no other pathology except moderate displacement of the fibula (Fig. 1-a). Spiral CT with multiplanar reconstruction reveals pathological diastasis between the tibia (Fig. 1-b).



a b

Fig. 1. Radiographs (a), spiral CT (b) of the ankle joint of patient M., 42 years old (explanations in the text)

Table 3 presents comparative data on the immediate results of treatment in patients of the 1st and 2nd groups. At the same time, a good immediate result of treatment of patients of group 1 was noted in 31 (44.4%) patients, satisfactory - in 35 (50%), unsatisfactory - in 4 (5.6%) patients.

Table 3. Comparative characteristics of the immediate result of treatment of patients in groups 1 and 2

result evaluation	groups of patients		Total patients
	1	2	
good	31	26	57
satisfactory	35	2	37
Unsatisfactory	4	–	4
Total:	70	28	98

The unsatisfactory result noted in the elderly, over 60 years old, patients of the 1st group with fractures of type B and C, is mainly associated with pain, swelling and limitation of movement in the affected ankle joint. A poor result was due to concomitant osteoarthritis in 3 patients and a dystrophic process with the development of osteoporosis in 1 patient. in the last victim after the removal of the plaster cast, despite the correct anatomical restoration of the bone and the absence of displacements in the ankle joint, there was a pronounced pain syndrome. During clinical and radiological examination, itch syndrome was diagnosed, for which additional treatment was prescribed (novocaine electrophoresis, paraffin applications, novocaine blockades, massage, vitamin therapy (B 6, b 12), calcium gluconate, etc.) positive effect.

CONCLUSION

Thus, the comparative analysis of the immediate results of various methods of treatment of severe closed ankle joint injury showed pronounced advantages of stable osteosynthesis that does not require plaster immobilization. in these patients, a good outcome was noted in 92.8% of cases. In contrast, with prolonged plaster immobilization, a good result was noted only in 44.3% of cases. This emphasizes the importance of early recovery of movements and dictates the need to expand the indications for surgical methods of treatment for ankle joint injuries.

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