



Analysis of Treatment and Rehabilitation of Patients with Fractures of the Distal Epimetaphysis of the Tibia

Tilyakov Aziz Burievich

Postgraduate course in traumatology and orthopaedics
Samarkand State Medical University
Samarkand branch of Republican Specialized Scientific and Practical Medical Centre for Traumatology and Orthopaedics

Nazarov Sarboz Parda ugli

Postgraduate course in traumatology and orthopaedics
Samarkand State Medical University
Samarkand branch of Republican Specialized Scientific and Practical Medical Centre for Traumatology and Orthopaedics

ABSTRACT

In recent decades, traumatism has become one of the most pressing problems of modern medicine due to the ever-increasing number of injuries and the high mortality and disability of the injured. In recent years, traumatic deaths have been measured by the number of "non-lived years"; injury-related deaths exceed those caused by cardiovascular diseases, cancers and infectious diseases taken together. This is understandable as the vast majority of deaths from injuries are young people and children.

Keywords:

elbow joint, Ilizarov apparatus, contracture, ankylosis, Volkov-Oganesian apparatus.

Introduction. In the structure of disability, the consequences of trauma have for many years occupied one of the leading positions. Fractures of tibia bones have one of the leading positions in the number of complications, as well as in terms of disability in injuries. In this regard, the system of medical care for injuries, surgical technique of surgical interventions in the direction of reducing the traumatism, and new fixators for osteosynthesis of fractures, which allow effective treatment of the patient, are constantly being improved. Tibia fractures occur with a frequency of 20 to 37.3% in the fracture structure of all localizations and up to 60% of fractures of tubular bones, of which periarticular fractures make up more than 50%. The problem of treatment of diaphyseal fractures of long bones is solved using modern osteosynthesis methods, including locking bars, however treatment of metaphyseal fractures is

still a problem. The main difficulties in treating metaphyseal fractures of the long tubular bones are due to the presence of a short fracture with little compact bone tissue and the proximity of the joint, which implies high loads on the metal-bone joint on the short fracture during movement, leading to the development of osteosynthesis instability.

Intra-articular and anteroarticular fractures of the distal femur occur in 1% of all fractures, whereas in femur fractures 9% occur. Many more errors are made in the diagnosis and treatment of these fractures, leaving patients disabled for many years. The main reasons are inadequate treatment approaches.

Study objective: to improve the tactical characteristics of the treatment of pylon fractures and their sequel

Materials and Methods: The study was based on the results of 2 groups of patients who underwent closed surgery.

In Group 1, 11 patients aged 24 to 45 years (8 male and 3 female) were operated on in the acute period in all patients. According to the AO classification, type a - 5 patients, type V - 4 patients and type C - 2 patients.

Group 2 patients aged 28 to 60 years, up to 9 patients. (7-Male, 2-Female) were found to have a deformity, many encountered varus and antecurvatio deformities, because they used non-conservative lingual tactics and compromised repressive osteogenesis.

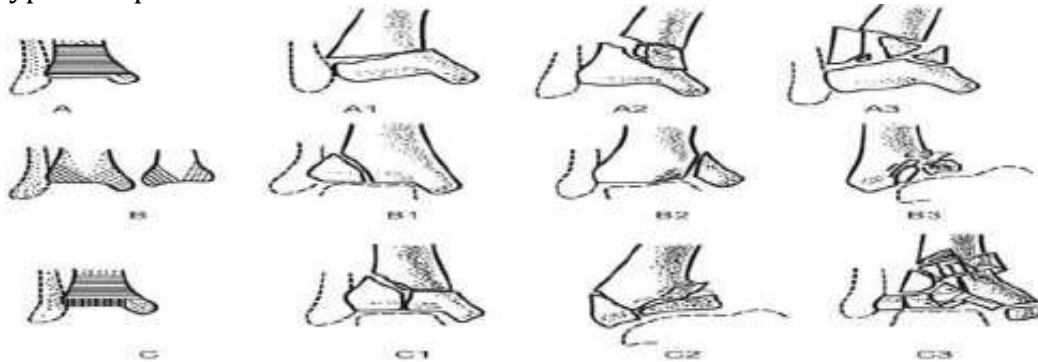


Image. 1 classification of pilonage fractures

First of all, diagnostic measures were performed: soft tissue assessment (swelling), X-ray imaging in two projections, when a CT scan was indicated (when assessing the extent of impact fracture, number of bone fragments and their siltation).

In addition to examinations of the infected to choose treatment tactics for the sequelae of Crohn's disease; doppler sonography, ENMG, densitometry (when indicated), soft tissue status (development of scar tissue spread) is assessed.

General treatment procedure: conservative treatment measure for Type A fractures for new injuries, external joint fractures use torque fixation and plaster fixation. This conservative treatment is used for Type A and Type B

fractures. Complex fragmented intra-articular fractures (type C) according to the Absolute Surgical Guidelines are unresectable fractures in the metaphysical part of the greater calf bone, in which the tendon is choked by 2 mm or more by bone fragments involved in the joint.

The timing of the operation is paramount, i.e. the condition of the skin matters, in most cases the procedure was performed on day 7-10-14.

As a clinical example, patient E.B. born 1979. As a result of a fall from a height the surgeon receives

The distal end of the right femur on the radiograph corresponds to type S3 according to the surgery classification of fractures fractured from the inside of the joint (Fig. 2).

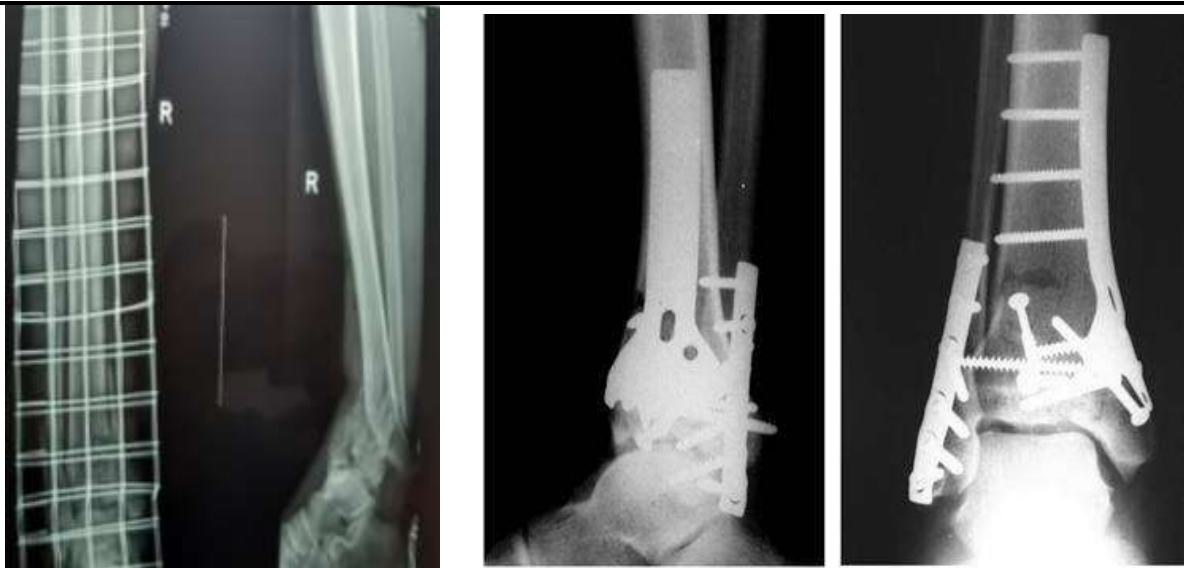


Figure 3: X-ray image of the right femur after surgery

The standard surgical treatment consists of an incision on 2 sides: the peroneal joint area and the greater ankle joint area. The surgery mainly includes segment length restoration, axis correction, reconstruction of the distal articular surfaces of the greater ankle joint and stable osteosynthesis. (Fig.3)

Operative technological interventions are performed as follows

- 1) Reconstruction of the lesser tibia and its stable osteosynthesis.
- 2) Restoration of the articular surface of the tibia.
- 3) covering the bone defect with an autograft.
- 4) Fixation of large fragments of the ankle joint with bone plates

The peculiarity of the surgical intervention is due to several factors:

- The presence of a permanent deformity as a result of impaired reparative osteogenesis of the bones of both feet and stress on the uneven foot
- Presence of a metal structure that is deformed and does not fulfil its function
- Scarring of the skin, which is combined with the bone

- Presence of trophic skin abnormalities on the inner anterior aspect of the femoral rump
- Presence of neurodystrophic syndrome
- Presence of regional osteoporosis as a result of not leaning on this leg for a long time.

Stages of surgical treatment (using deformity and metal fixation in both legs as an example)

Removing the metal retainer;

- Corrective osteotomy of the small and large tibia bones;
- restoration and preventive fixation of the lower and upper tibia bones along the axis;
- stable fixation of both tibia bones, starting with the lower tibia;
- filling of the defects of the small and large tibia bones with autosomal and ceramic implants.

As a clinical example, patient Y. S. 48 years old. He was injured 5 months ago after a fall from a height.

Primary diagnosis: fracture of the left tibia with intra-articular distal epimetaphysis tear, fracture of the fibula with trigeminal nerve tear and dislocation of bone fragments



The image is an X-ray image from 4 to 5 months after surgery.

5.5 months after surgery, the reoperated plates were removed, the greater and smaller calf bones underwent corrective osteotomies from

above the deformed area, the leg axis was corrected and the two bones were fixed to the upper bone plates. Picture 5.



Post-operative care

The treatment regimen includes anti-inflammatory, anti-tumour, chondromodulatory and osteotropic therapy. Physiofunctional treatment is aimed at reparative osteogenesis.

After surgery, X-rays should of course be taken after 2, 6 and 12 weeks. It is advisable to rely on the fully operated leg after the bone has healed.

Results

Both groups were evaluated from 4 months to 2 years, all patients had complete bone loss, but the average bone loss was 4 months in group 1 and 6.5 months in group 2. The leg joint dysfunction was associated with the presence of osteoarthritis in group 2.

Conclusions: Thus, to date, the authors' views on the problem of fractures of the distal epimetaphysis of the tibia bones are quite contradictory; there is no consensus on the

need for immobilization and its duration, the beginning of movements and expediency of loading after surgical interventions. All this testifies to the undoubted relevance of the chosen topic of the present study and its scientific and practical significance, which served as a basis for planning the dissertation study.

Literature:

1. Abramov I.V. Maloinvasive combined osteosynthesis in the treatment of complex fractures of the distal tibia bones: PhD thesis / Moscow, State Institute for Advanced Medical Education of the Ministry of Defense of Russia, Department of Military and Field (Military and Naval) Surgery. - 2008.- 93c.
2. Ankin L.N., Ankin N.L. Traumatology. European standards. - Moscow, 2005. - C. 432-438.
3. Babovnikov A.V.: Candidate of medical sciences. operative treatment of fractures of distal metaepiphysis of the tibia. / A.V. Babovnikov. - M., 2003. - 110.
4. Dryagin V.G. Clinical lectures on traumatology (fractures of pylon and ankle) / V.G. Dryagin, A.F. Lazarev. - Chelyabinsk: Publishing house of REKPOL, 2007.
5. Zdorovenko A.P. Pylon fractures - choice of implants / A.P. Zdorovenko, G.N. Starostin, D.V. Sedunov. - 2009.
6. Ivashkin A.N., Maksimenko V.N. Ilizarov's method in the system of treatment of the injured with distal tibia fractures / A.N. Ivashkin, V.N. Maksimenko // Treatment of combined injuries and diseases of the extremities. - M., 2003. - C.140-142.
7. Kaplun V.A. Peculiarities of osteosynthesis in patients with distal tibial metaepiphysis fractures / V.A. Kaplun, V.A. Kopysova, A.N. Brizhko, U.N. Kovin // Russian Traumatology and Orthopedics. - 2009. - T. 54, № 4. - C. 100-104.
8. Assal M. The extensile approach for the operative treatment of highenergy pilon fractures: surgical technique and soft-tissue healing / M.Assal, A.Ray, R.Stern // J. Orthop Trauma. - 2007. - Vol. 21, N 3. - P. 198-206.
9. Ruedi T.P., Buckley R.E., Christopher G. Moran. AO Principles of fracture management. — Stuttgart; New York: Thieme-Verlag, 2007. — 948 p.
10. Chapman M.W. Chapman's Orthopaedic Surgery. — 3rd ed. — Lippincott Williams & Wilkins, 2001. — 4194 p.
11. Akhme Dov Alisher Astanovich, Rizayev Jasur Alimdjaniyevich, Sadikov Abdushukur Abdujamilevich, Turayev Alimjan Bakhridnovich. (2021). The State of Periodontal Tissues in Athletes Engaged in Cyclic Sports. Annals of the Romanian Society for Cell Biology, 235–241. Retrieved from <https://www.annalsofrscb.ro/index.php/journal/article/view/102>
12. Tukhtarov B.E., Comparative assessment of the biological value of average daily diets in professional athletes of Uzbekistan. Gig. Sanit., 2010, 2, 65–67.
13. Djuraev, A. M., & Khalimov, R. J. (2020). New methods for surgical treatment of perthes disease in children. International Journal of Psychosocial Rehabilitation, 24(2), 301-307.
14. Dzhuraev, A., Usmanov, Sh., Rakhmatullaev, H., & Khalimov, R. (2021). Our experience with surgical treatment of congenital elevation of the scapula in young children. Medicine and Innovations, 1(4), 37-44.
15. Khodjjeva D.T., Pulatov S.S., Khaidarova D.K. All about hemorrhagic stroke in elderly and senile persons (own observations) // Science of Young People (Eruditio Juvenium). 2015. №3. C. 87-96.
16. Ismoilov, O. I., Murodkosimov, S. M., Kamalova, M. I., Turaev, A. Y., & Mahmudova, S. K. (2021). The Spread Of SARS-Cov-2 Coronavirus In Uzbekistan And Current Response Measures. The

- American Journal of Medical Sciences and Pharmaceutical Research, 3(03), 45-50.
17. Khamdamov B.Z. Indicators of immunocytocine status in purulent-necrotic lesions of the lower extremities in patients with diabetes mellitus. // American Journal of Medicine and Medical Sciences, 2020 10(7) 473-478 DOI: 10.5923/j.ajmm.2020-1007.08
 18. M. I. Kamalova, N.K.Khaidarov, Sh.E.Islamov, Pathomorphological Features of hemorrhagic brain strokes, Journal of Biomedicine and Practice 2020, Special issue, pp. 101-105
 19. Khodjueva D. T., Khaydarova D. K., Khaydarov N. K. Complex evaluation of clinical and instrumental data for justification of optimal treatment activities in patients with resistant forms of epilepsy. American Journal of Research. USA. № 11-12, 2018. C.186-193.
 20. Khodjueva D. T., Khaydarova D. K. Clinical and neurophysiological characteristics of post-insular cognitive disorders and issues of therapy optimization. Central Asian Journal of Pediatrics. Dec.2019. P 82-86
 21. Sadridin Sayfullaevich Pulatov. (2022). Efficacy of ipidacrine in the recovery period of ischaemic stroke. World Bulletin of Public Health, 7, 28-32.