Improvements In Surgical Treatmet For Diaphysealfractures Of The Lower Leg Bones.

Azamat U., Gafforov1 Asilova U., Saodat2,3

1Bukhara State Medical Institute named after Abu Ali Ibn Sino Republic of Uzbekistan
2Tashkent Medical Academy Republic of Uzbekistan
3Editor at the portal international scientific journals tadqiqt.uz Republic of Uzbekistan

Abstract: According to diverse authors, diaphyseal fractures of the decrease leg bones are pressing trouble in traumatology and orthopedics. Diaphyseal fractures of the decrease leg bones are found as much as 27% (in keeping with O. V. Krasavitsa) of all accidents to the bones of the skeleton. The authors describe that the drawback of bone osteosynthesis is a big range of headaches and notes the instability of the plate, in addition to aseptic necrosis with its next destruction, is as much as 35% of cases.

Keywords: breakage, diaphysis, Shin bones, surgical remedy.

1. INTRODUCTION:

Surgical remedy of diaphyseal fractures of the decrease leg is a pressing hassle in traumatology and orthopedics. According to O. V. Krasavica Diaphyseal fractures of the tibia are determined as much as 27% of all fractures of skeleta and most of the lengthy bone fractures 60% off[1,5] In the shape of fractures of the decrease leg bones, closed accidents account for 71.8 - 88.6%. Open fractures of the decrease leg bones account for 70% of all open fractures of tubular bones and 37% of all diaphyseal fractures of the decrease leg bones, even as approximately 1/2 of them are fractures with vast smooth tissue damage [2,6]. It is hard to obtain the right solid osteosynthesis in diaphyseal fractures of the decrease leg bones, which presents a correct contrast of bone fragments. With first-rate or even technically ready fixation with an implant, it isn't always usually feasible to keep away from the following migration of screws or fracture of the plate. According to Voloshin I. Yu., (2009).BoileanP.(2000) even though the right assessment of bone fragments does now no longer assure an excellent result, in also here can be violations of the feature of the knee joint. Significant problems that arise whilst selecting remedy techniques and next rehabilitation (or their inadequacy) result in the imp rovement of unsatisfactory consequences and headaches, the principle of that is uncrossed fractures of the decrease leg, the formation of a fake joint, suppuration of tender tissues and osteomyelitis[3,4,8]. With the cautious implementation of the approach of bone osteosynthesis the use of a plate and rational preference of an outside fixator, in addition to postoperative clinical remedy of concomitant pathology and good enough bodily therapy, it's miles viable to lessen the number of headaches and growth the effectiveness of remedy of sufferers with diaphysis and fractures of the decrease leg bones.

Materials and techniques of research: During the length from 2016 to 2020, we determined 30 suffererswithinside the RKB sanatorium No. 1 withinside the Department and the EMPRNIIB Bukhara branch. Of these, there have been eleven men (36.6%) and 19 women (61.4%) elderly 29 to sixty-nine years (common age (39.6 ± 9.9) years) who underwent open osteosynthesis with steel fixators for diaphyseal fractures of the decrease leg bones.
We divided all of the sufferers through age and gender.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>31-40</th>
<th>41-50</th>
<th>51-60</th>
<th>61 and older</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Women</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Subtotal</td>
<td>5</td>
<td>9</td>
<td>7</td>
<td>9</td>
<td>30</td>
</tr>
</tbody>
</table>

To discover the character and severity of the injury, in addition to setting up a correct analysis and pick remedy strategies for diaphyseal fractures of the decrease leg, we conducted: x-ray, densitometric, and MRI studies. and a subjective evaluation of the use of the LEFS method.

All -30 sufferers underwent open osteosynthesis of bone fragments the usage of an outside fixator evolved through us.

Indication for surgery: Indications for surgical remedy have been useless conservative remedy, incorrectly fused and fused fractures, and false joints. Contraindications have been osteoporosis and open diaphyseal fractures of the decrease leg bones.

The tool evolved through us is used within the remedy of fractures of lengthy tubular bones of the decrease leg.

A tool for the remedy of fractures of lengthy tubular bones containing plate with holes for the solving factors of the plate is made in the shape of a prolonged bone and is supplied with legs of various lengths with holes for the solving factors among the legs are pairs of enamel, every pair of tooth placed at a distance of one cm from ft and a 90° perspective to the floor of the plate, and ft - at an attitude of 120° to the longitudinal axis of the plate, the plate has an enlarged and rounded end (p. Roose FAP No. 00220, And sixty-one In 17/58, RA No. 5, 2005).

However, the tool is complicated and inconvenient to use, as it isn't always viable to gain compression of bone fragments.

The closest in technical essence is a tool for lengthy bone fractures containing plate with holes for solving factors made within the shape of a prolonged bone and rounded ends and furnished with legs of various lengths with holes for the solving factors among the legs are pairs of the tooth, in which the tool is supplied with also tooth established on the rims of the plate, the 2 center holes at the plate has oval shape (p. Roose FAP No. 00448, And sixty-one In 17/58, RA No. 2, 2009).

However, the tool isn't always green sufficient and can't enhance the steadiness of the fixation. The reason for the proposed tool is to boom the performance and balance of fixation in fractures. To resolve those troubles we advise a tool for the remedy of lengthy bone fractures containing plate with holes for the solving factors of the plate are made in the shape of the bone and rounded ends and supplied with holes for the solving factors and the tooth, characterized in that the spike is made within the distal give up of the tool within the shape of a hook of 1 – formed attitude one hundred ten deg, made through prongs on facets and oval holes within the center and the top of the plate. Comparative evaluation with the prototype indicates that the claimed tool differs from the acknowledged one in that the tool is moreover made on the distal stop of the tool within the shape of an L – fashioned hook at a perspective of one hundred ten degrees. , also, there are teeth on each facet's holes within the center, and the give up of the plate. These unique capabilities permit us to finish that the technical answer is new.
Cause-and-impact relationship:
The tool moreover has a spike, pointed L-formed at a perspective of one hundred ten degrees, which makes it feasible to stably restore bone fragments. Performing prongs on each aspect reduces the rotational displacement of bone fragments.
Making oval holes lets you create compression of bone fragments.
Thus, the proposed tool has a novelty and may be carried out in realistic medicine.

Fig. 1 shows a device for treating fractures of long tubular bones, front view.
Device for treatment of fractures of long tubular bones containing пластину1 with holes 2 for fixing elements of the plate are made in form of dice, with rounded ends, provided with holes for fixing elements, and teeth 3,4, characterized in that the tongue 5 is made in the distal end is pointed, G–shape at an angle of 110 deg, in addition, two teeth on both sides and two oval holes in the middle and at the end of the plate 1.
The device is used as follows:
The patient is placed on the operating table and the operation is performed under internal bone anesthesia.
A patient with fractures of the lower leg is placed on a plate 1 with holes 2 for fixing elements on the damaged area of the bone. Prongs 3, 4, using a drill, drilling holes, set in the bone. Holes are drilled larger than the teeth, then a spike 5 is inserted, rectangular in shape and pointed, L-shaped at an angle of 110 degrees. Then a screw is inserted into two medium oval holes in the middle and at the end of the plate to create compression of bone fragments. The device is convenient and easy to use, allows you to treat patients with fractures of the long tubular bones of the lower leg, and is recommended for wide use in practical medicine.
We give examples of patients. B-Naya F. 45 years old with a diagnosis of Closed fracture of the middle part of the tibia with displacement of bone fragments.( figure 1).
2. RESULTS:

The final results of treatment were studied in all patients. Long-term results of treatment were studied in 25 (85%) patients. Treatment results were evaluated on the lower limb functional scale [LEFS], consisting of 20 questions with a maximum score of 80. Excellent result from 80 to 68 points. A good result from 67 to 55 points. Satisfactory from 54 to 42 points. Unsatisfactory from 42 and below points. Our patients had excellent results in 5 (25%), good results in 11 (41%), satisfactory results in 8 (32%), and unsatisfactory results in 1 (2%).

3. DISCUSSION:

According to data ((Farouko. et al., 1999; Dennis. G. et al., 2000) the authors of the improvement of surgical treatment for diaphyseal fractures of the lower leg bones note that the imposition of bone plates, which is the most promising direction for fixing bone
fragments. The fixators developed by the authors allow for the most versatile features, but the authors do not take into account the rotational displacement of bone fragments. Authors (Zorya V. P., Ulyanov A. V.-1996) describes that osteosynthesis is convenient with the imposition of bone fixators for diaphyseal fractures of the lower leg bones, which allows the reposition of various variants of displacement of fragments of the lower leg bones. The authors note that the plate allows you to detach fragments, compare them and compress them, and then creates conditions until the fracture is completely healed. However, the authors do not take into account the periosteal blood flow[4].

The authors (U. Quint and H. G. Wahl (1991) described that for multi-splintered, fractures in the lower and upper thirds of the tibia, the method's choice is external fixators, which give good results. However, the authors do not take into account the use of external fixators in multi-splintered diaphyseal fractures of the lower leg bones[7].

The authors (Mueller and Witzel 1984. Heitemeyer and Heirholzer-1985), created dynamic compression plates with limited contact (LC-DCP), which have a flat lower surface, firmly adhering to the bone and make it possible to maintain periosteal blood flow. The authors create conditions that cause cortical osteoporosis to a lesser extent and note that under the plate, the cortical layer of bone participates in the formation of callus. However, the authors do not take into account the application of external fixators in multi-comminuted fractures.

The second direction is the imposition of bridge-like plates created by the authors (Brunner and Weber-1981), who describe that in leaving the fracture zone intact by fixing the plate to the intact part of the bone distal and proximal to the fracture on 3-4 screws. However, as a result, the inner part of the plate, which is not fixed to the bone, covers a large area of the fracture, and does not cause a concentration of stresses that can cause fatigue damage, which provides better blood supply to the recovering tissue and receives additional mechanical advantages in the form of support from the newly formed tissue, as the lever principle.

4. CONCLUSION:

The implants used today do not meet all the necessary requirements of osteosynthesis. The best retainers are purchased abroad and large material resources are spent on this, which makes it necessary to develop our own retainers designs with optimal biomechanical properties for conducting thorough research and introducing them into mass production. The goal is to create plates for use in the clinic that provide stable osteosynthesis in fractures of long tubular bones, with optimal geometric dimensions and a minimum number of screws, allowing for early recovery treatment without additional external immobilization. Thus, in the case of diaphyseal fractures of the lower leg bones, surgical treatment of the use of an external fixator developed by us, which stably fixes bone fragments, the functions of the knee and ankle joint are not violated, working capacity is restored faster and disability is reduced. After applying the external retainer developed by us, you can get an excellent 25% and a good 41% result.

Conclusions:
1. For diaphyseal fractures of the lower leg bones, the use of an external fixator developed by us, which stably fixes bone fragments and reduces post-operative complications.
2. After applying the external fixator developed by us, patients received: excellent results - in 5( 25%) , good – in 11( 41%), satisfactory–in 8 ( 32%) and unsatisfactory – in 1(2%).
REFERENCES:


