Viet Nam Congress of Orthopedics V

Annual scientific conference XX

Evaluating the result of combined treatment of fractured screws of the ankle joint two shin splints with minimally invasive surgery

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**Head of the topic:**

**RAISED THE ISSUE:**

The ankle joint two shin splints fracture is a type of fracture in the metaphysis, within the limit of 4-5 cm from the ankle joint.

Two shanks fracture accounted for 18% of all broken bone, in which the joint of shin splints fractures accounted for 7-10% of shin splints damage.

Treatment of ankle joint two shin splints fractures includes conservative theorapy and surgical theorapy.

- Locking plate with advantages which are suitable for head bone surgery, firmly fixed fractures has been applied in the broken bone theorapy recently.

Combining the method locking plate of ankle joint shin splints by a minimally invasive technique with the advantage:

- Firmly fixed

- Limit further damage for skin and subcutaneous tissue organization

- Limit bone and periosteal damage, hematoma around the fracture, and splints are kept almost intergrated.

- Help rapidly bone healing

- Reducing the need of bone grafting

- Limit the infection, edermatous, and nutritional disorders after surgery

- Reduce the risk of transfering the muscle to cover the bone.

1. Describing clinical features and X-ray images of broken the ankle joint two shin splints.

2. Evaluating the result of combined treatment of fractured screws of the ankle joint two shin splints with minimally invasive surgevy at Ha Dong General Hospital

**OVERVIEW:**

The ankle joint two shanks due to the muscles have turned into tendons so both the front and back of the surrounding protective subcutaneous tissue only consist of skin and tendons, so it is easy to break - open. Circulation in this area is also poor, so fractures here are easily infected the subcutaneous area and poor recovery.

**CATEGORIZE SHIN BONE FRACTURE ACCORDING TO A/O:**

Categorize based on the morphology of tibial shape fractures according to AO

Type A: External joint fracture

Type B: Partial joint fracture (fracture of ankles)

Type C: Completed joint fracture

**TREATMENTS**

1 - Conservative treatment: Casting

2 – External fixed frame

3. Intramedullary nailing

Consists of two methods:

Intramedullary nailing with opening fracture

Intramedullary nailing without opening fracture

3. Combination of screw splints with opening fracture

5. Combination of less invasive screw splints

4. Open fracture surgery

5. Injury - Skin and subcutaneous area

6. Periosteum

7. Blood vessels

8. Broken hematoma

9. Bleeding after surgery

10. Nutritional disorders after surgery

11. Infections

12. Poor bone recovery

13. Prosthetic joint

**MINIMALLY INVASIVE SURGERY**

Content: Minimally invasive surgery is a surgery in which the surgeon only makes minimal incisions to correct the fracture and thread the tool to combine bone - fix the broken bone.

**ADVANTAGE**

Limit further damage to skin and subcutaneous tissue as well as bone and periosteum

The hematoma around the fracture site and the bone fragments were kept almost intergrated

Helping to recover bones quickly, reducing the need for bone grafts.

Limit infection, swelling and nutritional disorders after surgery

Reduce the risk of transfering the muscle covering the bone

**DISADVANTAGE**

Can not apply to all cases of the part under the shank fractures

- Difficult technique, requires experienced PTV

- Must proceed under C-ARM

- High cost (lock plate, KHX below C-ARM)