

ASSESSMENT OF TREATMENT EFFICACY FOR INJURIES SUSTAINED IN ROAD TRAFFIC ACCIDENTS BASED ON INJURY SEVERITY FACTORS

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Introduction

Road traffic accidents (RTAs) are one of the leading causes of injury and mortality. The effectiveness of treatment for road accident victims often depends on the mechanism of injury factors, such as the type of collision, the direction of impact, and the speed of the vehicle. Studying these factors helps optimize treatment protocols and improve patient outcomes.

Purpose of the study

The purpose of the study is to evaluate the effectiveness of treatment of injuries sustained as a result of road traffic accidents, depending on the damaging factors, with the aim of improving diagnosis, treatment strategies and rehabilitation.

Methods

The study included 150 patients (80 men and 70 women aged 18 to 65 years) admitted to the trauma department after an accident. Research methods included:

1. Clinical examination: Initial assessment of the patient's condition.
2. X-ray: Detection of bone damage.
3. Computed tomography (CT): Detailing complex fractures and internal injuries.
4. Magnetic resonance imaging (MRI): Assessment of the condition of soft tissues and internal organs.

Treatment was carried out in accordance with international standards and included surgical and conservative methods. The effectiveness of treatment was assessed using the following indicators:



- Time of hospitalization.
- Complication rate.
- Function recovery time.
- Pain level using visual analogue scale (VAS).

Results

Clinical manifestations and treatment depending on the damaging factors:

Head-on collision:

- Injuries: Traumatic brain injuries, chest injuries.
- Treatment: Neurosurgical intervention, stabilization of the chest.
- Results: Average hospitalization time – 14 days, complication rate – 25%, time to functional recovery – 3 months, VAS pain level – 6.

Side collision:

1. Injuries: Damage to internal organs, fractures of the pelvis and lower extremities.
2. Treatment: Surgical fixation of fractures, treatment of internal injuries.
3. Results: Average hospitalization time – 18 days, complication rate – 30%, time to functional recovery – 4 months, VAS pain level – 7.

Rear collision:

1. Injuries: Whiplash injuries to the cervical spine.
2. Treatment: Conservative treatment, physiotherapy.
3. Results: Average hospitalization time – 10 days, complication rate – 15%, time to functional recovery – 2 months, VAS pain level – 5.

Roll and flip:

1. Injuries: Multiple fractures, combined injuries.
2. Treatment: Complex surgical correction, intensive therapy.
3. Results: Average hospitalization time – 20 days, complication rate – 35%, time to functional recovery – 6 months, VAS pain level – 8.

Discussion

The results of the study show that the effectiveness of treatment of injuries in road accidents depends on the mechanism of the damaging factors. Frontal and side impacts cause the most severe injuries and require longer treatment and



rehabilitation. Rear-end whiplash injuries have a lower complication rate and faster recovery, but require careful diagnosis and long-term physical therapy.

The development of specialized treatment protocols that take into account the mechanism of damaging factors can significantly increase the effectiveness of medical care. The introduction of an integrated approach, including surgery, conservative treatment and rehabilitation, can improve patient outcomes and quality of life.

CONCLUSIONS

The effectiveness of treatment of injuries in road accidents significantly depends on the mechanism of the damaging factors. Frontal and side impacts require more intensive treatment and have a higher risk of complications. Whiplash injuries caused by rear-end collisions require a specialized approach to diagnosis and rehabilitation. The development and implementation of specialized treatment protocols that take into account the mechanism of damaging factors can improve the quality of medical care and improve treatment outcomes.

Practical recommendations. Introduction of biomechanical analysis of damaging factors into routine clinical practice. Development of educational programs for medical workers on the diagnosis and treatment of injuries in road accidents. Raising public awareness of the importance of road safety and the use of safety equipment such as seat belts and airbags.

Literature

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