Nowadays gunshot trauma is a problem not only for military medicine, but for civil Health Incidence system. The Incidence of extremities injuries comprises about 50-60% in the modern military conflicts. The relative problems are clue to the following factors: high cases of gunshot fractures of long bones extremities in the structure of impairments during the military conflicts; increasing of impairment severity of soft tissues and bones which are caused by improvement of suns; incidence of infective complications; high tale of slow consolidation, pseudoarthrosis and bone tissue defects.

The purpose of investigation is to generalize experience and improve effectiveness of the using surgical methods of gunshot wounds treatment of extremities.

Materials and methods

1809 patients with gunshot wounds were admitted to the emergency department of the Hospital named after Mechnikov in the period from 9.05.2014 till 9.01.2016 from ATO zone. The average age of patients was 33.8±0.3 years. The average time between getting injured and hospitalization was 1.6±0.5 days. 9.2% of wounded patients were admitted in poor and critical state. 40.2% of patients were in the state of moderate severity, and 50.6% of patients were with mild injuries. Among the total quantities 978 victims (54%) had gunshot wounds of extremities.

Results

As our research has shown that according to the character of damaging factors among gunshot traumas depending on mechanism of wounding there were wounds caused by explosions (67.6%), bullet wounds (32.4%). According to the character there were blunt wounds in 62.4% of cases, perforating wounds in 35.7% of cases and gutter wounds in 1.9% of cases.

In the structure of wounding multiple combined wounds (77%) and relatively isolated ones (23%) were predominated among hospitalized patients in the hospital. In the clinical and diagnostic process determining of severity, localization of trauma and type of damaged structures contributed to establish consistency in performing surgical manipulations especially in multiple and combined traumas. For this purpose we have developed and introduce into practice the algorithmic scheme of examination and providing medical care to victims with gunshot wounds.

Among total quantities of extremities damages gunshot fractures (31.5%) were noted in every third case. Bone fractures they of lower extremities predominated, they composed (62.2%), of them hip fractures – 33.3% low leg fractures – 50%, foot fractures – 50%, foot fractures – 14.9%, pelvis and spine fractures - 1.8%.
Upper extremities fractures occurred in 37.8% of cases of them scapula and clavicle fractures – 14.7%, shoulder bone fractures – 37.2%, forearm fractures – 14.7% and hand fractures – 32.4% of cases.

The surgical tactics of gunshot wounds treatments depend on severity of patients’ conditions. The stable patients with gunshot fractures (90.8%) surgical manipulation of fracture and osteosynthesis with external fixation apparatus were performed. The method «damage control» for non-stable and severe patients (9.2%) with bones damages was used. In severe patients with wounding’s and opened fractures surgical manipulations were not performed before with draw from traumatic shock. These wounds were rinsed antiseptic solutions visible foreign bodies were removed wounds were infected antibiotics and aseptic bandages were put. In the majority of cases stabilization of gunshot facture with rod apparatus was done finally at the stage of surgical manipulation of the wounds.

However in 10% of cases instability of fractures the methods used was changed for Ilizarov’s apparatus, and in 5% in cases of intraarticular fractures and instability of apparatus of external fixation after healing of wounds, change of fixation method for on – plate bone osteosynthesis for anatomical reposition of articular surface was used. Active surgical method making it possible destroy of external fixation apparatus after healing wounds and repeated osteosynthesis with usage of plates, performed by indications, provide shortage of treatment terms in the patients with gunshot fractures of long bones extremities as well as achievements of better functioning and anatomical results in case of intraarticular fractures as compared with method of trans ossteosynthesis.

Conclusions

1. Gunshot wounds of extremities as severe damages and basic principle of their treatment is consistent initial and repeated surgical manipulation of wounds together with complex antishocktheraphy which prevents developments of severe purulent complications, even with significant damages.

2. Surgical method in isolated gunshot fractures envisages saving primary surgical treatment of wounds, fasciotomy and extremity immobilization. As the next step it is advisable to overlay external fixation devices, bone performance of plastic surgery in defects of bones and soft tissues.