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**CHARACTERISTIC OF DAMAGES IN FALLING FROM  
THE HEIGHT OF OWN GROWTH**

The solution to the question of the nature of the fall (with or without acceleration) is currently based on the analysis of the features of the traumatic brain injury that occurs in the victims. It is necessary to compare the nature of the damage to the bones of the skull, as well as to study the topographic features of the zone of primary trauma to the occipital region. Indicators for the differential diagnosis of the nature of the fall for other extracranial injuries of soft tissues, bones and internal organs have not been developed.

**Purpose of the study:** to establish the significance of all injuries, including extracranial ones, taking into account their regional affiliation, depending on the mechanism of injury.

**Materials and methods.** In this work, only cases of falling from a height of their own growth were taken into account without the presence of any protruding objects on the latter. Cases of casualties falling onto a plane with a previous additional acceleration are designated as option A1 (n = 39), falling without such - as A2 (n = 50).

The quantitative characteristics of soft tissue injuries (abrasions, bruises, wounds), bone fractures, as well as injuries of internal organs were studied. The analysis of these indicators was carried out taking into account their regional characteristics.

**Results.** in case of a fall with a previous acceleration, the first place belongs to the representatives of the group "over 60 years old" (38%), the second - "51-60" (26%), the third - "41-50" (15%). In the second observation group (falling without acceleration), the first place is taken by representatives of the age group "31-40" (32%), the second - "41-50" (28%), the third - "21-30" (18%).

Attention was drawn to the absence of abrasions with localization on the neck in both groups. In addition, in a number of regional gradations, abrasions were found only in one of the groups, while they were absent in the second. The absence of injuries in the compared groups was revealed in the A2 group, i.e. when the damage was during a fall with acceleration, in their absence without it. As for other parts of the body, where comparable indicators were available, abrasions on the head were found both in the A1 and A2 groups (3.63% and 12.2%, respectively), on the trunk - in 2 cases in each group.

When falling with preliminary acceleration, abrasions were noted on the limbs. Abrasions on the upper extremities were 64.7% (the same for the left and right arms), on the lower ones –28.8% (right leg) and 6.5% (left leg).

When analyzing bruises, taking into account their regional affiliation, the following was stated. Like abrasions, only neck bruises were not diagnosed in any of the two study groups. In all other areas of the body, bruising with different frequency of occurrence was noted in each of the two compared groups.

It should be noted that combined fractures on both limbs (right and left arm; right and left leg) were not identified. In the group of falls from the height of their own growth with an initially given acceleration, a fracture of the sternum ( $n = 1$ ), a fracture of the lumbar vertebra ( $n = 2$ ) and subluxation of the cervical vertebra ( $n = 1$ ) were also noted.

Traumatic brain injury was detected in 8 cases of falls with acceleration and in 28 cases without acceleration. In the first group, concussion and contusion, confirmed by clinical data, were noted in an equal number of cases (4 cases each; in the second - in 10 and 18 cases, respectively).



Traumatization of the abdomen and retroperitoneal space was revealed in 2 cases in each group. In group A1, 1 observation noted: a linear rupture of the right lobe of the liver along the anteroposterior surface, hemorrhage in the hepatoduodenal ligament, massive hematoma in the mesentery of the small and large intestine, retroperitoneal hematoma; in the other - hematoma of the omental bursa (500 ml). In group A2, the following cases of damage to the abdominal organs were identified: one - extraperitoneal rupture of the bladder, the second - rupture of the right kidney and retroperitoneal hematoma.

**Conclusion.** Trauma due to a person falling from his own height from a standing position on a flight of stairs from a low height is distinguished by the specificity of the biomechanics of the formation of specific damage complexes, which make it possible to diagnose the conditions and the sequence of their occurrence and thereby recreate the main events of the incident. The fact of a fall can be established on the basis of the peculiarities of a combination of external and internal injuries, of which the characteristic lesions of the skin in conjunction with hemorrhages in the muscles of the trunk, features of fractures of the bones of the skull and chest, as well as contact traces of a kind of contamination of clothing that arise due to impact and slipping.