Research article

I.G.Savka

Bukovinian State Medical University; Chernivtsi, Ukraine

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SUBSTANTIATION OF THE INFLUENCE OF STRUCTURAL-FUNCTIONAL PECULIARITIES OF CERATIN PORTIONS OF TUBULAR BONES OF THE LOWER EXTREMITY UPON THE FORMATION OF MORPHOLOGICAL SIGNS OF FRACTURES

The study was performed as a part of research work "Patterns of perinatal anatomy and embryotopography. Determination of sex and age peculiarities of structure and topographic anatomical interrelations of organs and structures in the human ontogeny" (state registration number 0110U003078).

ABSTRACT. Background. Forensic doctors and traumatologists deal with more and more cases of atypical fractures, minimal injuries of unknown etiology and mechanism. The relationship between external and internal factors in these cases still remains understudied. **Objective.** To study the influence of structural-functional peculiarities of certain portions of tubular bones of the lower extremities upon the formation of morphological signs of fractures which might ensure an objective retrospective detection of the mechanisms of their formation. **Methods.** The objects of our studies were expert observations of 128 cases with injuries of the femoral bone, tibia and fibula. The obtained results were statistically processed with the use of single-factor dispersion analysis, primary analysis with Kettel's test and multi-factor analysis. **Results.** Various portions of the long tubular bones of the lower extremity were found to have a number of structural-functional peculiarities. Detection of morphological signs of long tubular bones fractures enables to identify the character of the injury and find the mechanism of its occurrence. Depending on the bone portion the action of mechanical force of the same nature leads to fractures with different morphological characteristics.The value of emerging angle of wedge-shaped fissures is of a diagnostic importance among macro-architectural parameters. **Conclusion.** Perspective is further in-depth study of the relationships between the main structural components of bone formation and the patterns of morphological characteristics formation in fractures of various bones of the human skeleton.

Key words: structural and functional features, long bones, lower extremity fractures, morphological features.

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