

## Hypotrophic pseudoarthrosis: methodological problems of the impact interpretation of compensatory effects

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**Input:** The humanitarian trauma use methods of mesenchymal stimulation (curettage, tunnelization) widely and bring positive results. On this basis, the aim of this study was: treatment technology of animal with hypotrophic pseudoarthrosis development. To achieve this aim we have identified the following tasks: study histological changes in the hypotrophic pseudoarthrosis area, develop the tunneling zone of pseudoarthrosis technology, evaluate the effectiveness of tunnelization under hypotrophic pseudoarthrosis on the basis of clinic-morphological and radiographic changes (patent RU 2117997, 2240602, 2240603, 22464304, 22464305, 2271139, 2271140, 2303436, 2323694, 2323695). **Objectives:** The objects of the study were dogs with emerging complications (hypotrophic pseudoarthrosis) after osteosynthesis of 57 goals. **Methods:** clinical, biochemical, hematological, radiographic, histological. **Results and discussion:** On the basis of histological changes (absence of the periosteum, the abundance of coarse fiber connective tissue, the presence of hondroida, isolated fragments of a full cartilage resorption of trabecular bone) indicates the presence of hypotrophic pseudoarthrosis. Using of the term "atrophic pseudoarthrosis" is not entirely competent, as nutrition of the periosteum was carried out, but not properly. Accordingly, the term "hypotrophic pseudoarthrosis" should be used when referring to this process. Treatment technology of patients with hypotrophic pseudoarthrosis proposes tunnelization of pseudoarthrosis zone that provokes vascularization of pseudoarthrosis area. Changes in hematological and main biochemical indicators of sick animals within the reference quantities shows, firstly, that the basis of hypotrophic pseudoarthrosis is trophicity breaking of the bone fragments, secondly, tunnelization method is invasive and less traumatic. That indicates by reduction of C-reactive protein from  $2,8 \pm 0,7$  before operation to  $1,9 \pm 0,3$  30 days later, and to  $0,4 \pm 0,05$  on 120 day. Radiologically, hypotrophic pseudoarthrosis characterized by thinning of cortical and erosion of cortical layers of proximal and distal bone fragments, optical density and diameter of the bone regenerate decrease, appearance in the zone of diastase radiographically weakly visible tissues (fibrous).

Keywords

Dog; hypotrophic pseudoarthrosis; compensatory effects.