

Compensatory component of PRP-technology and knee-joint osteoarthritis of dogs

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Input: Osteoarthritis belongs to heterogeneous group of diseases with similar morphological and clinical implications that leads to the cartilage and subchondral bone lesion, as well as lesion of other joint components (synovium, ligaments, capsule and periarticular muscles) (patent RU 2117997, 2240602, 2240603, 22464304, 22464305, 2271139, 2271140, 2303436, 2323694, 2323695). Aim of research – to develop treatment technology of animals with aseptic osteoarthritis by applying thrombocyte rich plasma.

Objectives: The objects of the study were dogs with knee-joint osteoarthritis of I-III level. Every animal was older than 6 years old, with a live weight ≥ 30 kg. Methods: clinical, X-ray research, endoscopy.

Results: A week later after the autoplasm re-introduction, positive dynamics in all the animals was observed. In particular, lameness decreased, volume of the affected limb muscles recovered a little. At the end of therapy lameness disappeared in all animals virtually, but in some animals it was appeared after loading. Regain mobility joint crepitus disappeared. Joint mobility was recovered, crepitation disappeared. At the end of the treatment, control radiography of affected limbs showed a positive dynamics, consist in unevenness reducing of the articular surface, size of osteophytes reducing, osteosclerosis percent reduction. In the time of re-arthroscopy at the end of treatment some positive dynamics had observed; chondromalacia of I stage was marked, edema and hyperemia of synovial villi reduction, no generalized synovitis, no pulping of partial anterior cruciate ligament in particular. Discussion: Lameness, joint rigidity reduction in all animals by the end of the treatment course proves the presence of anti-inflammatory, regenerative effect of thrombocyte-rich plasma. Chondroprotective effect of platelet-derived growth factor cause reduction of edema of the synovial membrane and cartilage chondromalacia reduction, and reduction in the size of the cartilage defects observed during arthroscopic visualization. Lack of side effects and complications indicate high availability and safety of the method, in comparison with the standard treatment methods of animal osteoarthritis.

Keywords

PRP-technology; dog; knee-joint osteoarthritis.