

Ratikorn Bootcha 2015: Effect of Puppy Deciduous Teeth Stem Cells in Dogs with Chronic Osteoarthritis. Master of Science (Veterinary Clinical Studies), Major Field: Veterinary Clinical Studies, Faculty of Veterinary Medicine. Thesis Advisor: Miss Soontaree Petchdee, Ph.D. 94 pages.

Stem cells therapies are rapidly gaining attention as a promising tool for tissue regeneration. A variety of stem cells types have been studied as the potential candidates to restore the structure and function of damaged organs or tissues. Recent studies have demonstrated the use of stem cells isolated from the dental pulp in dentistry and tissue engineering. Previous studies we have shown the applications of puppy deciduous teeth stem cells (pDSCs) to restore the infarcted myocardium and ulceration of the cornea. Our aim is to provide a novel therapeutic application of allogeneic pDSCs in dogs with chronic osteoarthritis of the coxofemoral joints. In this study, a method to isolate mesenchymal stem cells derived from dental pulp of the dogs and the use of allogeneic puppy deciduous teeth stem cells in osteoarthritis problems have been evaluated. Clinical effects of multiple intra-articular injections of pDSCs were investigated on 8 dogs with lameness associated with osteoarthritis (OA). Clinical assessments were collected in interviews and by questionnaire. Immediate improvements in clinical scoring in all dogs were seen in 14 days after pDSCs injection with no complications. The findings indicated that pDSCs treatment helped considerably reduce pain and lameness, improve the quality of life activities and prevent osteoarthritis progression. Multiple intra-articular injections of pDSCs might be a novel strategy for the treatment of OA in dogs.

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Thesis Advisor's signature