Davood Sharifi et al., J Vet Sci Technol 2019, Volume 10
DOI: 10.4172/2157-7579-C1-042

Clinical and histomorphological evaluation of the frozen allograft tendon impregnated with bone marrow mesenchymal cells & PRP in lamb

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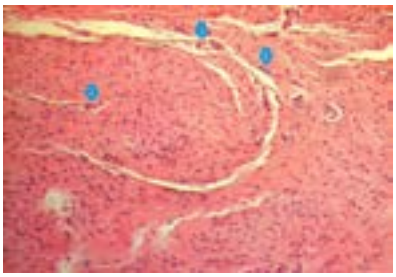
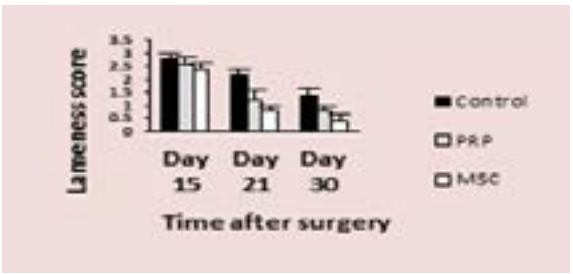
Statement of the problem: Tendon grafting is commonly required to repair an injury to flexor tendon and because of the importance of this tendon; it needs methods to speed up the re-vitality and strength of the tendon allograft. In addition, it needs new approaches to improve healing of tendon tissue and to develop new, biological therapies like using MSCs and PRP.

Methodology & Materials: The under strict aseptic condition mid portion of SDFT of both forelimbs were removed and was grafted with allografts harvested from slaughter house and frozen under -20C0 for 45 days in all the 15 lambs. Subsequently they were divided into 3 subgroups of 5 lambs each. The first group was act as control, the second group 1 ml PRP was injected at the site of anastomosis and in the third group 1 ml of mesenchymal cells (106) was used at the site of grafting. Mobility was observed. After 60 days, lambs were sacrificed and tendons were harvested for histopathological examination.

Findings: Lameness evaluation showed improvement in the treated groups while the histopathological result showed MSCs enhancement in cell proliferation and collagen organization etc, PRP group showed a structural effect in enhance healing but MSCs is superior.

Conclusion & Significance: Mesenchymal cells & PRP can besides enhancing the content of the healing tissue at the site of grafting, it also help for early condensation of fibrous tissue at the site of anastomosis.





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2. Angell J W, Cripps P J, Grove-White, D H and Duncan J S (2015) A practical tool for locomotion scoring in sheep: reliability when used by veterinary surgeons and sheep farmers. Vet Rec 176(20):521.
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Biography

Davood Sharifi has completed his Veterinary Graduation at PAU & HAU in year 1990, India. He joined as an assistant professor at the University of Tehran in year 1991 and was promoted to full Professor in year 2007. His master-plan was focused in orthopedic and spine surgery, lameness, physiotherapy and experimental surgery. He was selected as a distinguished and eminent researcher in year 2007 and 2009 at the University of Tehran. He has published three surgery books and having 119 publications. He participated in 62 national and international congresses with 109 research papers. He directly supervised 98 undergraduates and 30 post–graduate students. He has 41 applied research projects. He is an expert in PRT and PDC intervertebral disc treatment via CT Scan. Presently he is acting as Director of Research at the Faculty of Veterinary Medicine University of Tehran, Iran.

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