

International Meeting on

VETERINARY AND ANIMAL SCIENCE

August 06 - 07, 2018 | Dubai, UAE

Synovial fluid as an alternative viscoelastic material

Basak Kurt

Kafkas University, Turkey

Viscoelastic materials are a wide group of composite which have rheological properties. These materials are used for two purposes: Viscosupplementation and viscosurgery. When the viscoelastics applied to provide lubricity facilitates mechanical movement or used as a matrix protector, they are referred as viscosupplements. When they applied to prevent adhesions postoperatively, they are referred as viscosurgicals. Hyaluronic acid, hydroxypropyl methylcellulose, chondroitin sulfate, polyacrylamide and collagen are known as viscoelastic materials. Hyaluronic acid occurs naturally in the extracellular matrix of many tissues in all species. It has no side effects. It has high molecular weight and shows viscoelastic and pseudoplastic behaviours. Because of these properties, hyaluronic acid is the most commonly used viscoelastic substance in

tendo, eye, ear and neurosurgery. Hyaluronic acid reduces friction between moving surfaces and prevents bacterial contamination by acting as a barrier. Therefore it helps to regain the normal function of the tissues or organs and prevents complications. Synovial fluid is a viscous material that is located in joint cavities. It protects the cartilage and soft tissues by means of its rich content of hyaluronic acid. The thixotropic effect of synovial fluid provides high resistance against to mechanical load. In the treatment of the joint diseases synovial fluid replacement is used for the purpose of viscosupplementation. There is limited research on the use of synovial fluid as a source of hyaluronic acid for viscosurgery. In this presentation, we will discuss whether synovial fluid can be an alternative to viscoelastic materials in veterinary surgery or not.

Biography

Basak Kurt has completed her PhD at the age of 29 years from Kafkas University and Postdoctoral Studies from Faculty of Veterinary Medicine, Kafkas University, Turkey. She has been serving as an Assistant Professor in the same university. She has published more than 15 papers in reputed journals and has been worked in many projects as manager and researcher.

basakyakin@hotmail.com

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