



## Evaluation of the Synergistic Effects Of “Hyaluronic Acid And Dhea” Intra Articular Injection In Rabbit Models With Osteoarthritis

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### Abstract:

Osteoarthritis (OA) is one of the most common joint disease affecting the elderly population. It is characterized by progressive destruction of the articular cartilage and con-comitant changes in the subchondral bone. Current treatments for OA including steroids and NSAIDs, with little satisfaction. A relatively new treatment, Hyaluronic acid (HA) intra articular (IA) injection, is reported to improve joint lubrication and can alleviate pain. The major disadvantage of all current treatments is that they are limited to improve the symptoms but their intervention is not disease modifying. On the other hand, Dehydroepiandrosteron (DHEA) IA injection, has been reported to have protecting and regenerating effects on cartilage in new animal studies.

The aim of this study was to evaluate the probable synergistic effect of HA IA injections with DHEA in rabbit models with collagenase induced OA.

The study was performed on 10 mature, male, white New Zealand rabbits (24weeks, 2-2.5 kg). The animals were divided into two major groups; collagenase control group with 1 rabbit and treatment group with 9 rabbits. Collagenase type II (clostridium histolyticum) was intra-articularly injected into both right and left knee of the rabbits in the treatment group, and right knee of collagenase control group. The injections were given twice (on day 1 and 4) in concentration of 1mg as IA in to the joints. After Six weeks of last dose of collagenase injection, the cartilage samples of the rabbit in the control group were obtained for further evaluations. Once the diagnosis of OA was confirmed in the controlled rabbit, the drug injections in the treatment group was initiated. The animals in the treatment group were then randomly divided into 3 groups and received weekly IA injections with 0.3 ml DHEA (100µmole/L), HA (10mg/ml) and combination of DHEA and HA(0.15 ml of each) into their right knees respectively for the next 5 consecutive weeks. At the same time all rabbits were receiving 0.3ml of the normal saline into their left knees. All rabbits were euthanized one week after the last dose of injection and cartilage samples were obtained and evaluated by gross morphologic, histomorphometric and histologic methods.



### Biography:

Seyedeh Sareh Hosseini has completed her Pharm.D at the age of 27 years from Islamic Azad University of Pharmacy and is now she is a resident in clinical pharmacy program of Shahid Beheshti University of Medical Sciences.

### Recent Publications:

1. Sareh Hosseini; Global estimate of Neisseria meningitidis serogroups proportion in invasive meningococcal disease: A systematic review and meta-analysis,2019
2. Sareh Hosseini; Frequency of genes encoding erythromycin ribosomal methylases among Staphylococcus aureus clinical isolates with different D-phenotypes in Tehran, Iran;2016
3. Sareh Hosseini; Increased expression of caspase genes in colorectal cancer cell line by nisin,2020
4. Sareh Hosseini; Antimicrobial resistance and molecular typing of Pseudomonas aeruginosa and Acinetobacter baumannii isolated from a burn hospital in Tehran, Iran,2019
5. Sareh Hosseini; Antimicrobial Susceptibility Pattern of Enterococci Isolated From Patients in Tehran,2015
6. Farshad Hashemian,et al;

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