EFFECTS OF INTRA-ARTICULAR HYALURONIC ACID ASSOCIATED TO CHITLAC (ARTY-DUO®) IN A RAT KNEE OSTEOARTHRITIS MODEL

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The aim of this study was to verify the improved efficacy of HA within the joint, using a lactose-modified chitosan (chitlac) as a potentially chondroprotective additive (ARTY-DUO®, Join-Therapeutics S.R.L., Como, Italy) on a OA animal model induced by destabilization of medial meniscus (DMM).

MATERIALS AND METHODS

EXPERIMENTAL DESIGN

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INTRODUCTION

OSTEOARTHRITIS

Osteoarthritis (OA) is the most frequent musculoskeletal disease that affects about 240 million people globally. Worldwide estimates are around 10% of men and 18.0% of women aged over 60 years. It is a multifactorial disease and this aspect is highlighted by the feature and symptoms present during this condition.

CURRENT PHARMACOLOGICAL TREATMENTS?

The restored of physiological joint microenvironment was tested by:

- µ-CT
- Histology (OARSI and Mankin scores);
- Immunohistochemistry (MMP-3, MMP-13, Collagen II, Galectin I, Galectin II).

RESULTS

TRABECULAR AND CORITICAL PARAMETERS MEASURED IN DISTAL FEMORAL AND PROXIMAL TIBIAL EPIPHYES OF TREATED KNEE JOINTS WITH ARTY-DUO®, HA, OR NaCl AT 4 AND 8 WEEKS AFTER DMM SURGERY

ARTY-DUO® enhanced articular cartilage structure and reduced catabolic enzymes, and therefore induced extracellular-matrix remodeling.

The reduction in MMPs was accompanied by the reduction in Galecins and by the increase of Collagen II which further underlines the synergistic actions of i.a. ARTY-DUO® injections in a rat knee OA model.

These preclinical data may contribute to improve the knowledge on the development of new disease modifying treatments.

COMPETING INTERESTS and ACKNOWLEDGEMENTS

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