



Marija Mazor – PHD student (2012 – 2015)

Funding – Bourse MNRT

PHD Directors - Pr. Hechmi Toumi & Pr. Eric Lespessailles

Title of the project: Osteoarthritis (OA) breakthrough: The potential of the “chondrocyte-like” cells from osteoarthritic area

Subject - Articular cartilage damage and subsequent degeneration is a frequent occurrence in synovial joints. Consequently, mesenchymal stem cells (MSC) therapy has become the main focus of tissue engineering research to achieve functional replacement of articular cartilage. Recent studies have been shown presence of these cells in preserved parts of osteoarthritic cartilage. Our hypothesis is that eburnated OA cartilage area as well contains a sub-population of viable cells, which may have the potential to regenerate cartilage under permissive conditions. This may contribute to the cartilage regeneration from already wasted joint and avoid destruction of healthy parts. To determinate differences in cells phenotype and presence of MSC in each grade of degeneration, methods: Q-PCR, differentiation assay, histology and immunohistochemistry will be estimated. To itemize cells type mainly presented in each grade of degeneration we are measuring expression of chondrocytes, osteocytes and MSC specific markers by Q-PCR method. In parallel detection of MSC is processing by multilineage capacity of cells from each grade in forming of osteocytes, chondrocytes and adipocytes. To determined presence of MSC in eburnated area of OA cartilage CD 105, CD 106 and Notch-1 generally recognized like MSC markers, will be measured. Correlation of MSC presence and disease severity will be improved by Mankin's scoring of histological samples of each area of degeneration. In situ presence and changes of chondrocyte, osteocyte and MSC markers will be obtain by immunohistochemistry.

Publications

Article title: Association between individual quadriceps muscle volume/enthesis and patellofemoral joint osteoarthritis

Authors : Hechmi Toumi, Thomas M. Best, Marija Mazor, Raphael Coursier, Stephane Pallu, Antonio Pinti and Eric Lespessailles

Journal : Arthritis Research & Therapy

Article title: Changes in the size and prevalence of calcaneal spurs in men & women: random population from trauma clinic

Authors : Hechmi Toumi, Ryan Davies, Marija Mazor, Raphael Coursier and Eric Lespessailles

Journal : Arthritis Research & Therapy

Article title: Mesenchymal stem cells potential in cartilage repair: an update

Authors: Mazor M, Coursier R, Lespessailles E, Best TM, Pallu S., Toumi H

Journal: Arthritis Research & Therapy

Congress

Colloque « Biotechnocentre », France