Treatment with Acetylsalicylic Acid Prevents Short-to-Mid Term Radiographic Progression of Non-Traumatic Osteonecrosis of the Femoral Head

McGill is looking for a partner for drug repurposing of acetylsalicylic acid (ASA) as a new indication in the non-traumatic osteonecrosis of the femoral head (ONFH). ONFH is a progressive disease of young adults producing significant morbidity and frequently resulting in total hip arthroplasty. Interest is emerging in developing medical therapies targeting early stages of disease in order to prevent progression. Multiple treatment regimens including bisphosphonates, statins, low molecular weight heparin (LMWH) and hyperbaric oxygen have been previously evaluated but have failed to show consistent results.

The researchers retrospectively reviewed a prospective cohort of patients with precollapse ONFH given acetylsalicylic acid for prevention of disease progression. Their outcomes were compared to a historic control group taken from the literature. Progression in those taking ASA compared favorably: 1/12 (8%) progression vs. 26/41 (63%) progression of historic controls (p = 0.002) at a mean follow-up of 3.7 years. ASA is a simple and effective treatment option for delaying disease progression in patients with ONFH and justifies its evaluation via a larger prospective study.

This use of Acetylsalicylic Acid to prevent progression of osteonecrosis has been protected in a US patent application.

Application

• A new use of acetylsalicylic acid to prevent progression of non-traumatic osteonecrosis of the femoral head.

Advantages

• It is critical to treat AVN as early as possible to prevent or delay progression of the disease and to develop better measures to preserve the joints.
• Acetylsalicylic acid well known
• There is presently no consistent results with the current medications.
Dr. Chantal Seguin, MD. is Assistant Professor in the Department of Haematology at the Faculty of Medicine. Her research focuses on the cellular basis of osteonecrosis in human tissue and she developed a genetic-based rat model to examine progression of the disease. Her objective is to identify causative genes, explore their function and provide patients and families with improved diagnostic tools and treatment management. Research on vascular endothelial approach to osteonecrosis, alpha-2-macroglobulin molecular pathway, genotype-phenotype correlations, hereditary osteonecrosis, glucocorticoid-induced osteonecrosis.