



Universität
Basel

Research Project

THE ROLE OF INFLAMMATION IN THE PATHOGENESIS OF OSTEOCHONDRAL LESIONS.

Third-party funded project

Project title THE ROLE OF INFLAMMATION IN THE PATHOGENESIS OF OSTEOCHONDRAL LESIONS.

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Organisation / Research unit

Bereich Operative Fächer (Klinik) / Orthopädie (Valderrabano)

Department

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Status Completed

Background: Osteoarthritis (OA) is the most common form of joint disease and the leading cause of disability among the elderly in the Western world. Similar to rheumatoid arthritis, inflammation of the synovial membrane and subchondral bone also play a significant role in the pathology of OA. The cross-talk between immune system and subchondral bone, is likely involved in the initiation and progression of OA. Methodology: Studies will be performed on freshly isolated tibial plateaus or upper ankle joints from OA patients undergoing whole joint replacement. Computed tomography osteo-absorptiometry will be applied to measure bone mineral density to identify regions with pathological bone remodeling (sclerosis). Immunohistochemical and morphological analyses will be performed on tissue sections of sclerotic and non-sclerotic bone lesions, to characterize the interaction of inflammatory cells (lymphocytes, macrophages) and mediators (cytokines, growth factors) with bone-resident cells (osteoblast/clast, endothelium). Significance: The proposed research is expected to 1) provide fundamental understanding of the cellular and molecular mechanisms of osteoimmunology in the pathogenesis of OA.

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