

FLS from RA patients^{3,4}. However, it remains unclear whether the response to adiponectin in terms of cytokine production is different in immune blood cells from healthy donors compared to RA patients; moreover, it is not known if FLS from healthy subjects can also produce pro-inflammatory cytokines upon adiponectin stimulation.

Objectives: The study aims to analyse if adiponectin induces pro-inflammatory cytokine production by peripheral blood mononuclear cells (PBMCs) from both early RA patients and healthy controls. We also aim to study whether adiponectin induces pro-inflammatory cytokine production by FLS from healthy subjects.

Methods: PBMCs were isolated from whole blood obtained from 5 healthy donors and 3 early untreated newly diagnosed RA patients using Ficoll-Paque PLUS. FLS were isolated from synovial tissue obtained from 3 healthy donors after knee surgery due to injury. Healthy FLS were cultured in Dulbecco's Modified Eagle Medium (DMEM GlutaMAX) supplemented with 10% FBS, 1% Penicillin-streptomycin and 0.5% Gentamycin. Harvested PBMCs and FLS were resuspended in X-VIVO 15 serum-free hematopoietic cell medium and stimulated with different doses of human recombinant adiponectin (1, 5 and 10 µg/ml), and the culture media were collected at different time points. Concentrations of IL-6, IL-8 and TNF-α were measured with ELISA.

Results: Unstimulated PBMCs from early RA patients produced higher levels of IL-6 compared to healthy subjects ($P < 0.001$). In healthy controls, both the production of IL-6 and TNF-α was higher in PBMCs stimulated with adiponectin compared to unstimulated PBMCs ($n=5$, $P < 0.01$ for IL-6 and $P < 0.01$ for TNF-α). Likewise, the production of both IL-6 and TNF-α was higher in PBMCs from early-RA patients after stimulation with adiponectin compared with unstimulated PBMCs ($n=3$, $P < 0.01$ for IL-6 and $P = 0.03$ for TNF-α) in a dose- and time-dependent manner. After stimulation with adiponectin, levels of IL-6, but not TNF-α, were higher in PBMCs from subjects with early RA compared to healthy controls ($P < 0.01$). Adiponectin stimulation did not induce IL-8 production from PBMCs from either healthy donors or RA patients.

Adiponectin was able to induce the production of IL-6 and IL-8 by FLS isolated from healthy donors ($n=3$, $P = 0.03$ for IL-6 and $P = 0.02$ for IL-8), but not TNF-α.

Conclusion: Our results show that adiponectin induces the production of IL-6 and TNF-α from PBMCs from both healthy subjects and patients with RA and that adiponectin is able to stimulate the production of IL-6 and IL-8 by FLS isolated from healthy subjects. Those results suggest that adiponectin may play a role in the pathogenesis of RA.

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Cartilage, synovium and bone

AB0084

ASSOCIATION OF SYNOVITIS VERSUS CARTILAGE LOSS WITH PAIN SEVERITY AND FUNCTIONAL LIMITATION IN PRIMARY KNEE OSTEOARTHRITIS: CLINICAL, ULTRASONOGRAPHY AND MAGNETIC RESONANCE IMAGING

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Background: Osteoarthritis (OA) is a common and debilitating condition associated with pain and the loss of mobility that undermines quality-of-life. Magnetic resonance imaging (MRI) has become the most important modality for assessment of pathologic changes in knee cartilage, in both clinical and research environment, also Musculoskeletal Ultrasound (MSU) is a valuable tool for imaging musculoskeletal changes in osteoarthritis. It shows early and late changes.

Objectives: The aim of the study was to detect the association of MRI and musculoskeletal ultrasound detected synovitis versus cartilage defect with knee pain severity and functional limitation in patient with primary knee osteoarthritis

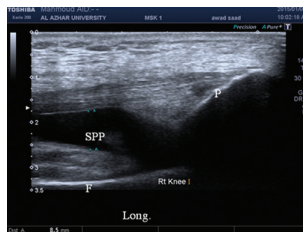
Methods: This study was carried out on fifty patients of primary osteoarthritis diagnosed as primary osteoarthritis of knee joints according to American College of Rheumatology Radiologic and Clinical Criteria for Knee osteoarthritis all patients were assessed clinically and knee examined for any swelling tenderness, warmth, limitation of range of motion. Pain severity and functional limitation assessed by Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) Musculoskeletal ultrasound and M.R.I of osteoarthritic knee joints were done.

Results: MSUS synovitis of examined joint was (0.93 ± 0.94) and cartilage thickness (3.95 ± 1.4). MRI synovitis of examined joint was (0.89 ± 0.93) and cartilage thickness (39.9 ± 13.26). There was Correlation between WOMAC pain score and MSU synovitis and cartilage thickness with Significant difference ($p < 0.01$), also there was Correlation between WOMAC pain score and MRI synovitis and cartilage thickness with Significant difference ($p < 0.01$). a positive Correlation between MSU Synovitis and MSU cartilage thickness was detected Significant difference ($p < 0.01$) $r(0.38)$. Also a Correlation between MRI Synovitis and MRI cartilage thickness show Significant difference ($p < 0.01$) $r(0.39)$.



Sagittal an proton density-weighted magnetic resonance imaging shows focal cartilage loss in the lateral tibiofemoral joint

Conclusion: The severity of cartilage loss and severity of the synovitis/effusion are the most significant determinants of pain and functional disability. Synovitis has role on increasing cartilage loss MRI and MSU are a non-invasive method which allows comprehensive assessment and detection of early structural changes in osteoarthritic joints



Longitudinal scan show first grade of synovitis of right knee

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AB0085

ULTRASONOGRAPHIC EVALUATION OF THE METACARPAL CARTILAGE THICKNESS IN WEIGHTLIFTERS AND VOLLEYBALL PLAYERS

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Background: Articular cartilage is inevitably exposed to impact and loading in different sports play. Despite the fact that it is quite prone to different forms of overloading, the metacarpal cartilage has not been looked into in the pertinent literature. Accordingly, in this comparative study, we have assessed the metacarpal cartilage in volleyball players and weightlifters whereby different forms of stress is naturally prevalent in the athletes' hands.