Disclosure of Interests: Alesia Sadosky Shareholder of: Own stock in Pfizer Inc, Consultant of: I am an employee with the consulting firm Apperture Health, Employee of: I am retired from Pfizer Inc, Patricia Schepman Shareholder of: Owns shares in Pfizer Inc, Employee of: Employee of Pfizer Inc, Sheena Thakkar Shareholder of: Owns shares of Pfizer Inc, Employee of: Employee of Pfizer Inc, Rebecca Robinson Shareholder of: Owns shares of Eli Lilly and Company, Employee of: Employee of Eli Lilly and Company, Craig Beck Shareholder of: Owns shares of Pfizer Inc, Employee of: Employee of Pfizer Inc
DOI: 10.1136/annrheumdis-2021-eular.534

AB0036 APPA (APOCYNIN AND PAEONOL) REDUCES ROS PRODUCTION AND SENESCENCE IN HUMAN ARTICULAR CHONDROCYTES

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Background: Disease modification is not yet possible for osteoarthritis (OA). Mitochondrial ROS and pro-inflammatory cytokines are involved in the pathogenesis of OA and are potential therapeutic targets. APPA, a combination of apocynin (AP) and paeonol (PA), has the potential capacity to modulate synthesis of pro-inflammatory stimuli.
Objectives: To investigate the anti-inflammatory effect of APPA in human articular chondrocytes and cartilage.
Methods: Tissue and chondrocytes from human OA cartilage were isolated. The effect of APPA on chondrocyte viability was analyzed using MTT. IL-1β 10 ng/mL and LPS 10 ng/mL were used as pro-inflammatory stimuli. ROS production was evaluated by flow cytometry using DCFH-DA and MitoSoxRed. The percentage of senescent cells was evaluated through the quantification of Fluorescein di-β-D-galactopyranoside (FDG) by flow cytometry. The effect of APPA on gene expression of pro-inflammatory cytokines (IL-8 and TNF-α) and enzymes degrading cartilage (MMP-13 and MMP-3) were analyzed in chondrocyte and cartilage by RT-PCR. Quantification of Toluidine Blue (TB) staining in cartilage was performed to evaluate proteoglycans content using software ImageJ/Fiji. Release of Glycosaminoglycan (GAGs) into the supernatant was quantified using BlyscanTM Glycosaminoglycan assay. Statistical analyses were performed with GraphPad Prism v6.
Results: *Chondrocytes*, incubated in presence of APPA 10 µg/mL for 24 h had viability >85%, reduced cytoplasmic ROS (p=0.028) and mitochondrial anion superoxide production induced by LPS 10 ng/mL (p=0.057). Chondrocytes incubated in presence of APPA 10 µg/mL for 2 hours contained significantly fewer senescent cells (p=0.0079). APPA significantly reduced the gene expression induced by IL-1β 10 ng/mL in chondrocytes of *IL-8*, *TNF-α*, *MMP-13* and *MMP-3*. *Cartilage* incubated with APPA 60 and 100 µg/mL for 48 h showed decreased the *MMP-3* gene expression induced by IL-1β (p=0.021 and p<0.0001 respectively). Quantification of TB showed that APPA 60 and 100 µg/mL during 48h increased the proteoglycans in intermedial layer, which had been decreased through the incubation with IL-1β (p=0.0018 and p=0.018 respectively). Quantification of release GAGs into the supernatant decreased significantly when the cartilage explants were incubated for 48h in presence of APPA 100 µg/mL (p=0.028).
Conclusion: APPA has a clear anti-inflammatory effect on human articular chondrocytes, and could reduce extracellular matrix degradation of cartilage. This could be mediated by the capacity to modulate ROS production and reduce senescence.
Disclosure of Interests: Mercedes Fernandez-Moreno: None declared, Nicholas Larkins Shareholder of: I am a shareholder in AKL Research and Development Ltd, Alan Reynolds Shareholder of: I have share options in AKL Research and Development Ltd, Speakers bureau: I have not been a paid speaker for a pharma company - at least not since 2008 whichI think is outside the scope of this, Consultant of: The last time I was a paid consultant was in 2017 when I acted as a consultant for Avillion and Norgine, Employee of: I am also an employee of AKL Research and Development Ltd, Tamara Hermida Gómez: None declared, Francisco J. Blanco Speakers bureau: Lilly
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Galapagos, Grant/research support from: Lilly
MSD
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Servier
UCB
Abbvie
Amgen
Bioiberica
Bristol Mayer
Celgene
Celltrion
Cellerix
Grunenthal
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AKL Research and Development Ltd
DOI: 10.1136/annrheumdis-2021-eular.2027

AB0037 UNDIFFERENTIATED ARTHRITIS

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Background: Early recognition and treatment of inflammatory arthritis is imperative for the further course of the disease.
Objectives: This study aims to determine the evolution of undifferentiated arthritis observed in rheumatology.
Methods: Retrospective descriptive study which collects patients files identified as undifferentiated Arthritis and followed in the Rheumatology Department at Fattouma Bourguiba Hospital Monastir TUNISIA over a period of 15 years (2005, 2019). Epidemiological, clinical, paraclinical, and evolutionary data were collected and analyzed.
Results: 99 files were analyzed. The average age was 42.06±15.56; they were 42 males and 57 females with an average body mass index of 27±6.1 Kg/m2. The reason leading to consultation was, polyarthritis (37), oligoarthritis (27), mono-arthritis (21), and polyarthralgia (15). The median time to visit was 60 days [15 days, 3 months]. The median number of painful joints and swollen joints was 4 [2, 8], and 2 [1, 4] respectively. The mean duration of morning derusting was 34.8 ±24.4 minutes. Extra-articular manifestations were: a dry syndrome (22), a rheumatoid nodule (2), and serosal damage (1). Anemia (52 patients), leukopenia (6 patients), and lymphopenia (13 patients) were found in the blood cell count with a biological inflammatory syndrome in most patients (72/99). The immunology results showed: positive anti-nuclear antibodies (15/99), positive Anti-Citrullinated Protein Antibodies (9/99) and positive rheumatoid factor (8/99). 31 patients had standard radiological signs represented mainly by joint pinching and erosions. A joint puncture was done in 36/99 revealing inflammatory fluid in most cases. After an average follow-up of 1047 days [365, 1460]. undifferentiated arthritis was classified as rheumatoid arthritis (RA) (23), spondyloarthritis (SpA) (10), connective tissue disease (11), Crystalline Arthritis (5), and paraneoplastic arthritis (2). One patient had self resolution of symptoms and 38 remain undifferentiated.we found that the more the patients were seropositive, the more likely to develop Rheumatoid Arthritis (p=0.001), the more there was disorder in the blood cell count, the more the evolution was towards connective tissue disease (0.01), The more male patients were, the more likely to develop SpA (p=0.04). The patients management was mainly based on: analgesics (94), systemic corticosteroids (57) with a mean dose of 10.89± 5.8 mg/day. The use of Methotrexate and antimalarial drugs was noted in 18 and 15 patients respectively.
Conclusion: Follow-up of patients with undifferentiated arthritis leads to a definite inflammatory rheumatism diagnosis in 61.6% of cases. Our data indicate that seropositive patients with chronic symptoms carry an increased risk of developing Rheumatoid Arthritis (P=0,001). Clinical, biological and genetic data can help the health care provider to predict future outcomes.
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[1] DOI: 10.1007/s00132-018-3539-2.
Disclosure of Interests: None declared
DOI: 10.1136/annrheumdis-2021-eular.2309

AB0038 CIRCULATING MICRORNAS IN HAND OSTEOARTHRITIS

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Background: microRNAs (miRNAs) are small non-coding RNAs that can ignite the degradation of mRNAs or inhibit the protein translation and are therefore essential for several physiological and pathological functions. miRNAs can regulate up to 60 % of human mRNA, including genes related to cartilage development, homeostasis, and OA pathology. For example, miR-9 inhibits matrix metalloproteinase 13