Objectives: The aim of this study was to estimate the prevalence of vitamin D deficiency in patients with rheumatoid arthritis as compared to healthy controls and to analyse the association between levels of vitamin D and CRP (C-reactive protein)/ACPA (anti citrullinated protein antibodies) positivity.

Methods: Serum 25(OH)D levels were measured in 115 RA patients and 104 age- and gender-matched healthy controls using the chemiluminescent immuno-assay method (CLIA).

CRP (mg/dl) was measured by the nephelometric method and ACPA antibodies were evaluated using enzymatic linked immuno-assay (ELISA).

Results: There was no statistically significant difference between levels of 25 (OH)D in RA (25.08±9.22 ng/ml) and healthy controls (15.62±5.34 ng/ml).

The vitamin D deficiency (<10 ng/ml) was found in 10% of RA patients, while 60% were insufficient (<20 ng/ml).

Low 25-OHD levels were negatively associated with CRP (23 ng/ml vs 29 ng/ml; $p=0.023$) and ACPA positivity (23 ng/ml vs 28 ng/ml; $p=0.03$).

Conclusions: The 25(OH)D levels are inversely related to CRP and ACPA values in Algerian RA patients.

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AB0118

ORAL CONTRACEPTIVES AND THE RISK OF DEVELOPING RHEUMATOID ARTHRITIS: RESULTS FROM THE MALAYSIAN EPIDEMIOLOGICAL INVESTIGATION OF RHEUMATOID ARTHRITIS CASE-CONTROL STUDY

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Background: Hormonal and reproductive factors are implicated in the etiology of rheumatoid arthritis (RA). The association between oral contraceptive (OC) use and the risk of RA has been reported, but the findings are inconsistent across different populations.

Objectives: We investigated the association between OC use and risk of RA stratified by anti-citrullinated peptide antibody (ACPA) status in the Malaysian female population.

Methods: Data from the Malaysian Epidemiological Investigation of rheumatoid Arthritis (MyEIRA) population-based case control study involving 902 female early RA and 906 age and residential area-matched female controls were analysed. OC use data was assessed through a questionnaire. Never users of OC were compared with ever users of OC to estimate the risk of developing ACPA-positive and ACPA negative RA. The odds ratio (OR) with 95% confidence interval (CI) was calculated.

Results: In this study, a total of 28.4% (n=254) RA cases and 34.2% (n=310) controls had reported as ever OC users. Compared with never users, ever OC users had a decreased risk of developing RA in the Malaysian population particularly in ACPA-negative RA (OR 0.68, 95% CI 0.51–0.90, $p<0.001$). No significant

association was observed between ever OC users and ACPA-positive RA (OR 0.80, 95% CI 0.64–1.01). Further stratification analysis by duration of OC use (less than or more than 7 years versus never OC use) demonstrated significant decreased risk of developing ACPA-positive RA (OR 0.66, 95% CI 0.51–0.86, $p<0.01$) and ACPA-negative RA (OR 0.57, 95% CI 0.41–0.80, $p<0.001$), respectively.

Conclusions: Oral contraceptives decreased the risk of RA, particularly ACPA-negative RA in the Malaysian population. A long duration of OC use was however decreased the risk in both ACPA-positive and ACPA-negative RA subsets.

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AB0119

RHEUMATOID ARTHRITIS (RA)-ASSOCIATED AUTOANTIBODIES ARE PRESENT IN THE PERIODONTAL EXUDATE OF PATIENTS WITH AND WITHOUT RA

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Background: Seropositivity for anti-citrullinated protein antibodies (ACPA) and rheumatoid factor (RF) is a hallmark of RA and can be present years before clinical disease onset. Environmental factors, including smoking and chronic inflamed mucosal tissues of the lungs, gastro-intestinal tract or oral cavity (i.e., the periodontium) are suggested to contribute to initiation of these autoantibodies. While it is known that the inflamed periodontium contains citrullinated proteins and peptides, only Harvey et al. (2013) showed that IgG ACPA is indeed present in periodontal exudate (n=9).

Objectives: As the IgA isotype is specific for mucosal immunity, we assessed in patients with and without RA whether IgA RF and IgA ACPA are present gingivocrevicular fluid (GCF), i.e., the periodontal inflammatory exudate.

Methods: RA patients fulfilling the ACR/EULAR 2010 classification criteria were recruited at the Rheumatology department of the Dr. Sardjito General Hospital, Yogyakarta, Indonesia. Patients without RA (non-RA) were recruited from the Oral and Maxillofacial Surgery department of the same hospital. In both groups, patients with diabetes or cardiovascular disease were excluded. Periodontitis was defined as periodontal inflamed surface area (PISA) >130 mm² (Leira et al. 2017). RF and ACPA were determined by ELISA in serum (IgM RF, IgA RF, IgG ACPA, IgA ACPA) and GCF (IgA RF, IgA ACPA). Total IgG and IgA were determined in GCF. IgA ACPA seropositivity and IgA RF- and IgA ACPA positivity in GCF were defined as >mean +2 SD of healthy controls (non-RA patients, never smokers, no periodontitis, n=88).

Abstract AB0119 – Figure 1. Non-RA patients (n=151)

Results: In non-RA patients (n=151), PISA was correlated with total IgG and IgA in GCF ($p<0.0001$). IgA RF and IgA ACPA were present in GCF and correlated with total IgA in GCF ($p<0.05$ and $p<0.01$ respectively). In contrast to RA patients (n=72), IgA RF and IgA ACPA in GCF of non-RA patients did not correlate with IgA RF and IgA ACPA in serum. In non-RA patients, IgA ACPA positivity in GCF was more frequent in ever smokers (18%) than in never smokers (9.8%); the same held for presence or absence of periodontitis (18% and 9.3% IgA ACPA positivity, respectively). In non-RA patients PISA was correlated with IgA ACPA in serum ($p<0.01$) and GCF ($p=0.05$) (figure 1).

Conclusions: RA-associated autoantibodies are present in GCF of patients with and without RA. In contrast to RA patients, in whom this presence is probably due to leakage from serum, presence of RA-associated autoantibodies in GCF of patients without RA is presumably the result of local formation of these autoantibodies due to periodontitis.

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AB0120

ADIPONECTIN COULD BE A MEDIATOR OF THE PRESENCE OF P GINGIVALIS IN PATIENTS WITH EARLY RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a systemic chronic inflammatory disease characterised by joint destruction, deformity, lower functional status and decrease in life expectancy. The *Porphyromonas gingivalis* (*P. gingivalis*) has been reported to be significantly associated with RA. The adipokines are suggested to be a common link between periodontitis and RA.

Objectives: To determine the association between serum adipokines levels and presence of *P. gingivalis* in patients with early rheumatoid arthritis (eRA) compared to healthy individuals

Methods: A cross sectional study was conducted. Patients with the diagnosis of (eRA) according to the ACR/EULAR 2010 criteria were studied in Bogota-Colombia. A complete medical history related to RA was obtained. Adiponectin levels measured by Luminex technology (MILLIPLEXMAP), IL6 by chemiluminescence (Immulin 1000, Siemens) and leptin quantification by ELISA (Diasource,), high-sensitivity CRP (hs-CRP) (Immulin 1000, Siemens) and ESR (Test 1 THL Ali FAX), and the detection of periodontopathic bacteria was carried out by qPCR from subgingival plaque samples. Cancer, autoimmune disease, infection, antibiotic use, diabetes, orthodontics treatment were exclusion criteria. An association analysis was made to evaluate the relationship between adipokines levels and periodontal, rheumatologic conditions using X2 test, Mann Whitney test and logistic regression model was performed to confirm this associations. All the results were performed with a level of significance of 95%

Results: A total of 51 patients with eRA and 51 healthy individuals were matched by age and gender. The mean age in RA patients was 48.54±10.93 years, 80.39% were female, between RA patients, 17.64% were in high activity and 27.45% in remission by DAS 28-ESR. 45.1% had APCA>20 UE. 37.25% were overweight and 13.72% were obese. 82.35% of patients had treatment, of which 80.39% received treatment with conventional disease modifying therapy, being methotrexate the most frequent one in 86.8%. In turn, 64.7% and 51% had high leptin and adiponectin levels respectively. An association of high adiponectin levels was found with Body Mass Index-BMI <25 ($p=0.017$). The presence of *P. gingivalis* in RA patients was 78.4% and in healthy individuals was 45.09% $p=0.001$. The adiponectin levels>47755 pg/ml were found associated with the absence of *P. gingivalis* (OR=0.078 95% CI 0.01–0.62) adjusted an ever smoking history of cigarette smoking, Body Mass Index>30 and high level of leptin and IL6.

Conclusions: The adiponectin plays an anti-inflammatory role in the pathophysiology of several chronic inflammatory diseases and it has been reported to inhibit LPS-induced NFκB nuclear translocation and to affect other LPS-triggered pathways. To promote the weight control in eRA could be to prevent the oral infection

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AB0121

RESVERATROL-ENHANCED AUTOPHAGIC FLUX REDUCES SEVERITY OF EXPERIMENTAL RHEUMATOID ARTHRITIS

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Background: Previously, we have demonstrated that dietary supplementation with resveratrol (RSV) lowers synovial hyperplasia, chemokines and oxidative damage in an acute antigen-induced arthritis (AIA) model developed in rats, and that autophagic cell death and limiting angiogenic response were involved¹.

Objectives: Here, we investigated the autophagic flux induced by RSV and its relation with serum interleukin (IL)-1β levels, since autophagy could regulate IL-1β via inflammasome. Moreover, C-reactive protein (CRP) and prostaglandin E₂ (PGE₂), which are also closely linked to inflammation and correlated with disease activity, were also evaluated.

Methods: Animals were randomly divided into 3 groups: healthy, AIA, and RSV-treated AIA group. RSV (12.5 mg/kg/day) was given orally 8 weeks before AIA induction until sacrifice day (48 hour after intra-articular injection). Healthy and AIA animals were administered 100 μl of water. RSV effects on autophagy were evaluated by the expression of the autophagy proteins, microtubule-associated protein 1 light chain 3 (LC3), and Beclin1 (an autophagic-related protein which up-regulation is associated with increased autophagosome formation), and p62 (an autophagic adaptor protein whose accumulation is associated with autophagic degradation dysfunction), by confocal and immunohistochemistry, respectively. Specific enzyme-linked immunosorbent assay kits and cytokine magnetic milliplex were used to measure CRP and PGE₂ and IL-1β in serum samples, respectively.

Results: At the end of the study, RSV significantly reduced the serum levels of IL-1β, CRP and PGE₂ ($p<0.01$ for IL-1β and PCR, and $p<0.05$ for PGE₂). In relation to autophagy proteins, results showed that the expression of LC3 was greater in the AIA synovial membranes than in control synovial samples, in which the presence of vesicles was easily observed. Interestingly, the synovial tissues from the RSV group showed a significantly ($p<0.001$) higher signal for LC3, compared with the AIA samples. As compared with healthy controls, AIA synovial membranes showed increased p62 expression, which was markedly inhibited by RSV treatment ($p<0.01$). The protein level of Beclin 1 was higher in AIA synovial membranes than in healthy samples; however, RSV did not increase the signal of Beclin 1. Moreover, there was a significant correlation between p62 expression and serum IL-1β levels ($p<0.05$ and $r=0.617$), PGE₂ ($p<0.01$ and $r=0.604$), and PCR ($p<0.001$ and $r=0.692$).

Conclusions: These data suggest that resveratrol is capable of inducing the non-canonical (Beclin1 independent) autophagy pathway, and in consequence, modulates the cross-talk existence with inflammation in an acute AIA model, which could also ameliorate the severity of rheumatoid arthritis.

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