Conclusions: The progression of UA to RA is apparently ameliorated in RF positive females who received conventional HRT and oral E3 treatment. Although the numbers were smaller, a significant protective effect was not observed in ACPA positive UA females, because they developed RA before menopause. Our observations suggest that HRT in peri- and post-menopausal and oestrogen (E3) in pre-menopausal females with RF and ACPA positive UA may be important in ameliorating the progression of UA to RA.

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THU0696 IS AUTOIMMUNITY RELATED TO NAILFOLD VIDEOCAPILLAROSCOPY PATTERNS PROGRESSION? DATA FROM A TERTIARY CENTRE

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Background: Nailfold videocapillaroscopy (NVC) is a non-invasive technique that allows to evaluate the structure and distribution of capillaries in the nail microcirculation.

Objectives: Our objective was to investigate the relation between the autoantibodies (Ab) detected in the patients who undergo follow-up NVCs and the progression from lower to higher severity of the NVCs patterns.

Methods: Longitudinal, observational and descriptive study that includes patients with at least two NVCs, between June 2012 and December 2016 in the Rheumatology service of a tertiary centre. We collected demographics data, number of NVCs performed, Ab positivity, as well as the NVCs patterns. The relationship between the basal autoimmunity and the progression of the NVCs patterns during the follow-up period, defining progression from non-specific patterns to patterns of scleroderma to late scleroderma.

Results: 473 patients were included, 115 had two or more NVCs performed, 104 women (90.51%). Of these, 40 (34.78%) had a third NVC, 9 (7.82%) a fourth and only two patients a fifth. Regarding the Ab registered in patients before the first NVC, 27 patients did not present positivity to any Ab (23.47%), 28 had isolated ANA + (24.34%), 33 Anticentromere+with or without ANA (28.69%), 7 patients Anti-scl70 +with or without ANA (6.08%), 10 patients Anti-Ro or Anti-La with or without ANA (8.69) and 10 patients presented other types of antibodies than those mentioned (11.3%). The most frequent pattern in the first NVC was non-specific mild alterations (49 cases) in 42.6%, followed by normal pattern²⁰ in 17.39%, early scleroderma¹⁹ in 16.52%, non-specific moderate lesions¹⁷ and pattern of late scleroderma¹⁰ There was a progression from lower to higher severity in 25 NVCs,

88 maintained a similar pattern and 2 NVCs presented significant regression (table 2).

Abstract THU0696 – Table 1. Baseline diagnosis before first NVC.

Baseline diagnosis	n: 115	%
Primary Raynaud Phenomenon	56	48.27
Systemic scleroderma	27	23.27
Systemic Lupus Erythematosus	8	6.89
Undifferentiated connective tissue	8	6.89
Mixed Connective Tissue Disease	4	4.31
Dermatomyositis	2	1.72
Others	10	8.62

Abstract THU0696 – Table 2. Patients whose NVC progresses, patterns and related autoantibodies.

n:25 (%)	Autoantibodies	Progression
2 (8%)	Ninguno	1/2: NMI to ES, 1/2: NMI to LS
4 (16%)	ANA+	2/4: NMI to AS, 1/4: NMI to AS, 1/4: NMI to ES
10 (40%)	ANA ± Anticentromero +	3/10: AS to LS, 3/10: ES to LS, 2/10: NMI to ES, 1/10: NMI to AS
3 (12%)	ANA±AntiScl70 +	1/3: NMI to AS, 1/3: AS to LS, 1/3: ES to AS
3 (12%)	ANA±Anti-Ro/ Anti-La+	2/3: NMI to ES, 1/3: ES to LS
3 (12%)	Otros	2/3: ES to LS, 1/3: NMI to LS

NVC patterns: Normal (N), non-specific mild alterations (NMI), non-specific moderate lesions (NML), Early scleroderma (ES), Active scleroderma (AS) y Late scleroderma (LS)

Conclusions: Autoimmunity does not seem to influence on the degree of progression of NVCs patterns. The association between positive ANA with anticentromere + or not, it is the most frequently combination related to the progression of such patterns.

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THU0697 RISK OF MAJOR CONGENITAL MALFORMATIONS ASSOCIATED WITH EXPOSURE TO CONVENTIONAL SYNTHETIC DISEASE MODIFYING ANTIRHEUMATIC DRUGS IN WOMEN WITH INFLAMMATORY ARTHRITIS: A POPULATION-BASED COHORT STUDY

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Background: Prior studies of perinatal exposure to conventional synthetic disease modifying antirheumatic drugs (csDMARDs) and risk of major congenital malformations (MCM) have often lacked comparator groups and specific timing of medication exposure.

Objectives: To evaluate the association between csDMARD use before and during pregnancy and risk of MCM.

Methods: We conducted a population-based, retrospective cohort study using British Columbia administrative data from 01/01/2002 and 12/31/2012 on all physician visits, hospital admissions, and dispensed medications, linked to a perinatal registry with valid information on date of conception. We created a pregnancy cohort of women with inflammatory arthritis (IA) using a case definition of 2 ICD9 codes ≥2 months and ≤2 years apart for rheumatoid arthritis, systemic autoimmune rheumatic diseases, ankylosing spondylitis, juvenile idiopathic arthritis, and psoriatic arthritis. We categorised csDMARDs according to accepted safety profiles: Group 1 - antimalarials, cyclosporine-A, gold, and sulfasalazine; and Group 2 - methotrexate, leflunomide, cyclophosphamide, azathioprine, chlorambucil, penicillamine, mycophenolate mofetil, and minocycline. We defined exposure over two periods: binary use (yes/no) during the 90 days preconception and first trimester of pregnancy. The outcome was occurrence of ≥1 MCM identified

at birth. We used logistic regression models fitted with generalised estimating equations.

Results: There were 598 pregnancies in 503 women (32±5 years), and 5651 pregnancies in 4086 women (31±5 years) in the csDMARDs exposed and unexposed groups, respectively. The adjusted odds ratio (OR) for exposure to csDMARDs preconception and during pregnancy and risk of MCM was 1.60 (95% CI, 1.19, 2.14) (table 1). In subgroup analyses, risk of MCM births was highest in those exposed to Group 2 csDMARDs during pregnancy (OR 3.63, 95% CI, 1.21, 10.92). For methotrexate specifically, we observed an OR of 1.62 (95% CI, 0.53, 4.91).

Abstract THU0697 – Table 1. Association of csDMARD exposure preconception and/or during pregnancy and risk of MCM

Models*	Exposure period	OR	95% Confidence Interval
Model 1	Preconception only vs. unexposed	1.37	0.84–2.24
All csDMARDs	During pregnancy only vs. unexposed	2.39	1.20–4.77
	Preconception AND during pregnancy vs. unexposed	1.60	1.19–2.14
Model 2	Preconception only vs. unexposed	1.04	0.55–1.99
Group 1 csDMARDs	During pregnancy only vs. unexposed	2.16	1.02–4.61
	Preconception AND during pregnancy vs. unexposed	1.49	1.09–2.05
Model 3	Preconception only vs. unexposed	1.43	0.73–2.77
Group 2 csDMARDs	During pregnancy only vs. unexposed	3.63	1.21–10.92
	Preconception AND during pregnancy vs. unexposed	1.71	1.06–2.76
Model 4	Preconception only vs. unexposed	1.19	0.49–2.87
Methotrexate only	During pregnancy only vs. unexposed	3.06	0.55–16.90
	Preconception AND during pregnancy vs. unexposed	1.62	0.53–4.91

*All models were adjusted for baseline covariates including maternal characteristics, obstetrical history, comorbidities, and medication use before/during pregnancy.

Conclusions: We found associations with exposure to csDMARDs before and during pregnancy, namely the first trimester, with MCMs. These have implications for informing women with IA who are pregnant or planning to become pregnant.

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THU0698 CLINICAL OUTCOME OF ULTRASONOGRAPHIC DETECTED UNDIFFERENTIATED SYNOVITIS IN PATIENTS WITH POLYARTHRALGIA

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Background: Ultrasonography (US) has better sensitivity than clinical evaluation for the detection of synovitis in early inflammatory arthritis. The clinical importance and fate of undifferentiated synovitis in patients with polyarthralgia are still unknown.¹

Objectives: To identify clinical outcome of undifferentiated synovitis detected by ultrasound in patients with polyarthralgia and to identify variables that can predict differentiation into specific type of arthritis.

Methods: New patients with polyarthralgia and undifferentiated synovitis were followed by clinical and ultrasound examination in the period between June 2015 to June 2017. Undifferentiated synovitis was defined as ultrasound detected synovial hypertrophy in cases in which no definitive diagnosis can be made.

Baseline assessments included: clinical examinations of complaining joints, laboratory investigations (CBC, ESR, CRP, RF, ACPA, ANA) and ultrasonographic evaluation of fifty joints (DIPs, PIPs, MCPs, wrists, elbows, shoulders, hips, knees, ankles and MTPs)

Follow ups were every 6–8 weeks until remission of synovitis or a definite clinical diagnosis was reached. Remission was defined as absence of a previously US detected synovitis in two consecutive follow-ups eight weeks apart.

Patients were received treatment according to the opinion of the treated rheumatologist who had a full data about clinical, laboratory and ultrasonographic data. Multivariate logistic regression analysis was used to identify predictors of remission, RA, PsA and continuation as undifferentiated synovitis.

Results: 174 patients (88.6% women, mean age 43.2±14.2 years (range 17–75)) were included.

Duration of follow up period ranged from 3 to 38 months (mean 11.4 months)

Final diagnoses were as follow; complete remission in 73 (41.7%) cases, rheumatoid arthritis (RA) in 20 cases (11.4%), psoriatic arthritis (PsA) in 10 cases (5.7%), spondyloarthropathy (SPA) in 11 cases (6.1%), sarcoidosis in 4 cases (2.3%), osteoarthritis (OA) in 10 cases (5.7%) and 46 cases (26.4%) continued as undifferentiated synovitis up to the end of the follow up period.

Remission of undifferentiated synovitis was associated with significantly older mean age, acute onset and absence of PD activity (OR 1.92, 1.95 and 1.86 respectively).

Development of RA was associated with chronic onset, positive rheumatoid factor, positive ACPA and US detected synovitis in more than three joints (OR 1.91, 1.75, 1.92 and 1.79 respectively). All patients with final diagnosis of RA had US detected synovitis in wrist joint with increased PD activity. PsA was associated with chronic onset, PD activity, bilateral knee synovitis, negative RF and ACPA (OR 1.84, 1.83, 1.94, 1.88 and 1.79 respectively). Cases with significantly younger mean age and shorter disease duration completed with undifferentiated synovitis (OR 1.92 and 1.87).

Conclusions: In our study, more than half of cases of ultrasound detected undifferentiated synovitis in patients with polyarthralgia differentiated into specific type of arthritis during the follow up period. older age and acute onset of symptoms are associated with remission while positive rheumatoid factor, positive ACPA, US detected synovitis in more than 3 joints including wrist joints are associated with development of RA. Bilateral knee synovitis are in favour of PsA and OA.

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THU0699 PREDICTORS OF FRACTURE AND LOW BONE MINERAL DENSITY IN PATIENTS WITH HISTORY OF PARENTAL FRACTURE

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Background: Predictors of fragility fracture (FF) risk and low bone mineral density (BMD) in the general population are well-documented. Previous studies have shown strong familial association between parental and offspring BMD and hip fracture, varying according to factors including body mass index and corticosteroids. Little data exists on predictors of FF and BMD in patients with a family history of fracture, despite this increasing fracture risk.

Objectives: We aimed to evaluate predictors of FF and low BMD in patients attending for dual energy X-ray absorptiometry scanning.

Methods: Patients referred for BMD estimation, between 2004 and 2016, with a history of parental fracture, were included. Parameters recorded: femoral and vertebral BMD, height, weight, fat mass, age, smoking, alcohol, corticosteroids, aromatase inhibitors, Depo-Provera, hormone replacement therapy (HRT), rheumatoid arthritis (RA), polymyalgia rheumatica (PMR), breast or prostate cancer, and coeliac disease.

Logistic regression was used to model fracture risk, and linear regression was used to model the impact of each factor on vertebral and femoral BMD.

Results: 6053 patients (5513 female) were included. 2094 patients (34.6%) had sustained at least one fracture. Smoking, alcoholism, corticosteroid, increased age, height, and fat mass significantly increased fracture risk. Coeliac disease, HRT, and aromatase inhibitors were protective. Cancer, aromatase inhibitor use, and female gender significantly decreased vertebral BMD. Corticosteroids, RA, and PMR significantly decreased L1–2 BMD. Increased age and height, and decreased weight, fat mass, and tissue thickness decreased vertebral and right femoral BMD; this significantly increased FF risk. Corticosteroids, RA, PMR, Depo-Provera, female gender, and aromatase inhibitors decreased BMD; in the left femur, alcohol, corticosteroid use, increased age, height, and decreased weight decreased BMD.

Conclusions: Similar to studies in the general population, smoking, alcohol, and corticosteroid therapy increase fracture risk, while HRT decreases it. Chronic aromatase inhibitor use increases fracture risk, suggesting a dose-dependent effect. Coeliac disease was found to be protective; previous studies have shown coeliac disease to decrease BMD, with a variable impact on fracture. Concurrent with previous studies, a differential effect of BMD in the dominant and non-dominant hip was found, with decreased right femoral BMD significant for fracture risk. Limitations of this study include lack of dose and duration of medications and lack of comparative data before and after fracture in a single patient.

Our study confirms the effect of the above factors on spinal BMD, but suggests a differential effect of smoking and alcohol on L1–2, with corticosteroids, RA and PMR affecting the lower lumbar spine. Our results also suggests a differential effect of the studied factors on the right femur compared to the left, suggesting the dominant femur is more susceptible to factors decreasing BMD. Limitations of this study include the large proportion of female subjects and lack of data on dose and duration of medications studied.

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