in women -0.82% (95% CI 0.9992-0.9944) (p<0.001). The distribution by CCAA of the incidence and trend is represented in the following figure:

In the analysis of risk factors/markers that explain this distribution, we found significant correlations with genetic factors (H and J2 haplotypes), demographic (birth, fecundity, mean age and aging index), climatic factors (precipitation) and the time a region was on the Republican side. The linear regression model that includes the factors that show significant correlation justifies 96% of the variability observed.

**Conclusion:** In Spain, the rate adjusted for age of incidence of hip fracture is decreasing. There is a great variability in the incidence and tendency of hip fracture among the different CCAA. Genetic, demographic, climatological factors and due to the cohort effect of the civil war, explain 96% of this variability.

**Disclosure of Interests:** None declared

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**SAT0621** IMPACT OF HINDFOOT CORONAL/SAGITTAL ALIGNMENT ON METATARSUS PRIMUS ELEVATUS IN RHEUMATOID FOOT DEFORMITIES

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**Background:** Typical foot deformity patterns of patients with rheumatoid arthritis (RA) include hallux valgus, claw toes, splay foot, flat foot, and hindfoot valgus deformities. However, some patients show deformities different from a typical pattern, including metatarsus primus elevatus, described as dorsal elevation of the first metatarsal in relation to the lesser metatarsals, as we reported previously. In the report, we speculated that metatarsus primus elevatus might be associated with calcaneal inclination and hindfoot varus alignment. However, there are no studies on the association of hindfoot alignment with metatarsus primus elevatus in patients with RA.

**Objectives:** To elucidate the impact of hindfoot coronal/sagittal alignment on metatarsus primus elevatus in patients with RA

**Methods:** A retrospective study was performed of standing anteroposterior and lateral radiographs of 81 feet in 53 patients who underwent surgical treatment for metatarsalgia in our hospital. The distance between the dorsal cortical bones of the first and second metatarsals (MPE) was measured on the lateral radiograph for the degree of metatarsus primus elevatus. Using a two-dimensional coordinate system on the lateral radiographic image where lines along the calcaneus tuberosity were defined as X and Y axes, ten anatomic points of the foot were measured. Calcaneal pitch, talar declination angle, and naviculocuboid (N/C) overlap ratio were measured for assessment of hindfoot sagittal and coronal alignment, respectively. We assessed the hallux valgus angle (HVA), the inter metatarsal angle between first and 2nd metatarsals (M1M2A), and the intermetatarsal angle between first and 5th metatarsals (M1M5A) for axial foot alignment. The correlations of MPE with other radiographic angular and coordinate data were statistically assessed using Spearman rank correlation coefficient.

**Results:** Median MPE was 1.7 mm (interquartile range: 0–5.2 mm). The first metatarsal head, first metatarsal-cuneiform and posterior talocalcaneal joint were shifted dorsally (r=0.70, p<0.01; r=0.57, p<0.01; r=0.42, p<0.01, respectively). No correlation MPE with HVA and M1M5A were observed (r=0.26, p=0.05; r=0.25, p=0.07, respectively), however, M1M2A showed correlation with MPE (r=0.52, p<0.01). On the other hand, MPE showed a high degree of correlation with talar declination angle, calcaneal pitch, and N/C overlap ratio (r=0.45, p<0.01; r=0.35, p<0.01; r=0.45, p<0.01, respectively).

**Conclusion:** In patients with RA, the hindfoot joints shifted dorsally in metatarsus primus elevatus. Moreover, hindfoot varus alignment and high-arched foot affect metatarsus primus elevatus. The results of the present study suggest the importance of evaluating hindfoot alignment when determining surgical treatment procedures for rheumatoid foot deformities.

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**SAT0622** ROLE OF PREGNANCY IN FLARE AND PROGRESSION INTO DEFINED RHEUMATIC DISEASE IN WOMEN WITH UNDIFFERENTIATED CONNECTIVE TISSUE DISEASE: RESULTS FROM A MONOCENTRIC OBSERVATIONAL COHORT

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**Background:** Patients with Undifferentiated Connective Tissue Disease (UCTD) are at risk of disease worsening and progression into well-defined rheumatic disease over time. Only a few studies from small cohorts regarding the role of pregnancy in UCTD outcome are available, with no clear-cut factors associated with the evolution of the disease.

**Objectives:** To evaluate the impact of pregnancy on progression from UCTD into a well-defined rheumatic disease. To analyze the role of UCTD flares during pregnancy, as well as clinical and laboratory features in the evolution of the disease; to compare UCTD evolution in patients with or without pregnancy; to compare UCTD evolution in patients with or without UCTD diagnosis before pregnancy.

**Methods:** We collected clinical data from a rheumatologic outpatient clinic regarding women (aged 18-45) with UCTD, from diagnosis to last follow-up. Pregnant women with a previously undiagnosed UCTD were included using a validated two-steps screening method performed at the 1st trimester during the gynecological ultrasound evaluation, as previously reported. We compared women with at least one pregnancy to non-pregnant women. Student’s t test was applied for unpaired, continuous variables, while chi-square to compare percentages. The rate of progression was compared with Kaplan–Meier estimator and Log-rank test. A Cox regression model was fit to assess the association of flare during pregnancy and of clinical and laboratory features with the evolution of the disease.

**Results:** We retrieved data regarding 152 pregnant and 108 non-pregnant patients, mean age of 32 (±6.71) years. We recorded 201 pregnancies. The progression into well-defined disease was observed in 31 (20.4%) pregnant patients and in 5 (4.6%) non-pregnant patients (p<0.001) (fig.1). The most frequent evolution was into SLE (52%) in pregnant UCTD and into SSc (40%) in non pregnant patients. We observed 32 flares during pregnancy, mostly with joint involvement (75% of the cases). Having at least one flare during pregnancy, a history of UCTD-related cytopenia and lower levels of C4 in the 6 months before conception were associated with disease evolution. No differences were found as for disease evolution in pregnant patients with or without a previous UCTD diagnosis.

**Conclusion:** The rate of progression from UCTD into a well-defined rheumatic disease is significantly higher in women who had a pregnancy. Having a history of UCTD-related cytopenia, or lower C4 levels before conception, or at least one flare of UCTD during pregnancy significantly increases the risk of progression. The timing of the diagnosis of UCTD, in respect with the pregnancy, does not change the risk of flare and progression.

**REFERENCES**


Serum uric acid levels were independently associated with aortic arch calcification in middle-aged and elderly Chinese population

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Background: Aortic calcification is considered markers of subclinical atherosclerotic disease that are independent predictors of subsequent cardiovascular events. A growing number of studies have shown that serum uric acid is associated with the development of cardiovascular diseases.

Objectives: The main purpose of this study was to investigate the prevalence of aortic calcification and to determine the relationship between the levels of serum uric acid and aortic calcification in the middle-aged and elderly population.

Methods: From Jan 2018 to Dec 2018, totally 6152 consecutive participants aged >50 years old underwent annual health survey were included in this study. Detailed physical examination was performed as well as a thorough review from structured questionnaires, which in baseline demographics and medical history including alcohol consumption, smoking and physical activity status, BMI, blood pressure, blood glucose and serum lipid were all collected and recorded. Aortic calcification was analyzed by chest X-ray. All data were analyzed retrospectively.

Results: The prevalence of aortic calcification was 13.9% in these 6152 participants with age >50 years and was equally common in men and women. Aortic arch calcification prevalence was significantly increased in populations with hyperuricemia (defined as serum uric acid ≥ 420 μmol/L), as compared with populations with normal serum uric acid levels (defined as serum uric acid ≤ 420 μmol/L) (83.39% vs. 16.61%, p < 0.001). Participants were divided into three groups according to their uric acid levels. A more prevalent aortic arch calcification was identified in high uric acid level group than those in middle or low uric acid level group (p < 0.05).

Conclusion: Serum uric acid levels were independently associated with aortic arch calcification in middle-aged and elderly Chinese population. These results may suggest the need for more aggressive actions for patients with high uric acid level than those in middle or low uric acid level.
effects of these metabolites. Diminished metabolic diversity may be a feature of active AAV and potential biomarker to predict disease activity in AAV.

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SAT0624 VALIDATION PROCESS OF CASES OF RHEUMATOID ARTHRITIS IN A LARGE PROSPECTIVE COHORT OF FRENCH ADULT WOMEN: THE E3N COHORT
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Background: Rheumatoid arthritis (RA) is a complex multifactorial autoimmune disease in which genetic and environmental factors interact in the pathogenesis of the disease to trigger auto-immunity. Except for tobacco smoking, the role of environmental factors has been suggested yet poorly investigated, and results were rarely reproducible. More observational studies are requested to address the question. Cohort studies offer the advantage over case-control studies of having a prospective collection of environmental factors before disease onset, thus avoiding recall bias. However, collected information about disease phenotypes is usually limited, and a rigorous process of case validation is needed.

Objectives: To detect RA cases in a large prospective cohort of healthy French adult women and to assess the performance of the validation methods.

Methods: The French E3N cohort included 98 995 healthy women prospectively followed since 1990. Self-administered questionnaires were sent every 2–3 years to collect medical events, and general, lifestyle, and environmental characteristics. Potential cases of inflammatory rheumatic diseases (IRD), including RA cases, were identified through self-reports in three consecutive questionnaires. Self-reported RA cases were validated with two methods including sending of a specific validation questionnaire and the use of the reimbursement database. The sensitivities and specificities of each method were calculated using as a reference the analysis of available medical records reviewed by a panel of expert rheumatologists.

Results: Among the 3 192 identified potential IRD cases, 964 RA cases were validated, including 698 incident cases and 266 prevalent cases. Of them, 314 (32.6%) had unknown antibody status. Mean age at diagnosis was 57.4 ± 13.9 years (40.9 ± 10.4 years for prevalent cases, and 63.8 ± 9.0 for incident cases). Sensitivities and specificities of the validation methods were 92.2 and 83.7% for the specific validation questionnaire and 69.8 and 97.0% for the reimbursement database.

Conclusion: This study enabled us to detect a large number of RA cases in a large general population prospective cohort of women with acceptable sensitivity and specificity. This will allow investigating a large number of potential endogenous and exogenous risk factors of RA in women.

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SAT0625 TREATMENT RESPONSE AND DRUG RETENTION RATES IN 23,956 BIOLOGIC-NAÏVE PATIENTS WITH AXIAL SPONDYLOARTHRITIS INITIATING TNFI TREATMENT – ROUTINE CARE DATA FROM 12 REGISTRIES IN THE EUROSPA COLLABORATION

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Background: The efficacy of Tumour Necrosis Factor Inhibitor (TNFi) in patients with axial spondyloarthritis (axSpA) has been investigated in randomized controlled trials (RCTs) with strict inclusion and exclusion criteria. Patients treated in routine care are more heterogeneous and only disease activity in patients receiving TNFi in routine care would have been eligible to be enrolled in the RCTs 1. This emphasizes the need for real-world observational data as a valuable supplement to RCTs. Studying large patient groups from several European countries would increase the external validity of the results. Particularly, large data sets from patients with non-radiographic axSpA (nr-axSpA) are lacking.

Objectives: To investigate TNFi retention rates at 12 months (primary objective), 6 and 24 months, and response rates at the same time-points in biologic-naïve patients with axSpA from the EuroSpA Research Collaboration. Furthermore, to investigate if findings vary between patients with nr-axSpA and ankylosing spondylitis (AS).

Methods: Data from 12 European quality registries in rheumatology, prospectively collected in routine care, were anonymized and uploaded through the secure Virtual Private Network pipelines to the EuroSpA server. Baseline characteristics were investigated with non-parametric descriptive statistics. TNFi retention rates (Kaplan-Meier statistics), and Ankylosing Spondylitis Disease Activity Score (ASDAS) Inactive disease (<1.3) and Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) ≤4 were assessed, including LUNDEX adjustment 7. For patients initiating 1st TNFi after January 1st 2009, the following subcohorts were also

Figure: Kaplan-Meier curves (log-rank showing drug retention rates up to 24 months for pooled data and per region. The table (not shown) shows the number of patients who were still being treated at the corresponding time points.