SAT0679 ARE ADULT TRAJECTORIES OF WEIGHT OVER A LIFETIME LINKED TO FOOT PROBLEMS YEARS LATER?

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Background: Obesity and foot problems are common in older adults and associated with many negative health outcomes. Better understanding of the consequences of patterns of weight change may lead to better prediction and dealing with foot pain and foot disorders.
Objectives: This study identified longitudinal trajectories of weight in a population-based study and examined the association of these groups with current foot problems.
Methods: We used 28 measures of weight over 57 years to identify trajectories of weight in 2445 members of the Framingham Foot Study using k-means longitudinal cluster analysis. Foot examinations (2002–2008) recorded presence of foot pain, hallux valgus, claw toes, hammer toes and overlapping toes on each foot. Associations between weight group membership and foot problems at time of foot exam, adjusted for age and sex, were examined using logistic regression with generalized estimating equation correction for two feet per subject. The reference group used for analysis was the group with the lowest weight trajectory ("E").
Results: We found 5 trajectories of weight, representing relatively constant patterns over time, with weight increasing from groups E to A. Those in group "E" were more likely to be older, while the youngest were in group "A" group. "E" had the lowest prevalence of foot pain (14%) while group "A" had the highest (22%). Similarly, group "A" had the lowest prevalence of hallux valgus, while group "E" had the highest (36%) (Table 1).
Compared to group "E", other groups were more likely to have foot pain (ORs 1.57–3.50, Table 2) and less likely to have hallux valgus (ORs 0.73–0.99). For claw toes, all but one group were more likely to have claw toes compared to group "E". Groups "A" and "D" were more likely to have hammer toes (ORs 2.40 and 1.35, respectively) compared to group "E". We found no associations between overlapping toes and group membership.

Table 1. Participant characteristics by weight trajectory group

	A N=201/ 402 feet	B N=644/ 1288 feet	C N=617/ 1233 feet	D N=506/ 1011 feet	E N=477/ 954 feet
Age (years)	63±9.0	69±11.2	68±10.5	66±9.7	71±11.9
Body mass index (kg/m^2)	37±6.3	27±3.3	29±4.0	31±4.3	23±2.9
Female	76 (19%)	1036 (80%)	478 (39%)	230 (23%)	918 (96%)
Foot pain	88 (22%)	240 (19%)	222 (18%)	186 (18%)	135 (14%)
Hallux Valgus	57 (14%)	408 (32%)	267 (22%)	169 (17%)	341 (36%)
Claw Toes	9 (2%)	29 (2%)	29 (2%)	24 (2%)	18 (2%)
Hammer toes	89 (22%)	246 (19%)	197 (16%)	165 (16%)	174 (18%)
Overlapping toes	14 (3%)	99 (8%)	73 (6%)	48 (5%)	90 (9%)

Table 2. Association between weight trajectory group membership and foot problems, adjusted for age and sex

	A vs. E	B vs. E	C vs. E	D vs. E
Foot pain	3.5 (2.49, 4.9)*	1.57 (1.25, 1.98)*	2.16 (1.68, 2.77)*	2.63 (2.00, 3.47)*
Hallux Valgus	0.72 (0.51, 1.02)	0.99 (0.82, 1.18)	0.86 (0.7, 1.06)	0.77 (0.61, 0.99)*
Claw toes	3.97 (1.57, 10)*	1.52 (0.83, 2.79)	2.24 (1.17, 4.29)*	3.1 (1.51, 6.38)*
Hammer toes	2.4 (1.71, 3.38)*	1.2 (0.96, 1.5)	1.12 (0.87, 1.45)	1.35 (1.02, 1.79)*
Overlapping toes	0.78 (0.41, 1.48)	0.93 (0.68, 1.27)	0.87 (0.6, 1.25)	0.85 (0.55, 1.32)

*$p<0.05$.

Conclusions: Trajectories with higher weight over a lifetime had increased odds of foot pain and claw toes, and decreased odds of hallux valgus later in life. These results provide evidence that having lower weight over one's lifetime can reduce the likelihood of foot problems later in life.
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SAT0680 THE IMPACT OF DISEASE ACTIVITY DURING PREGNANCY IN WOMEN WITH SLE ON THE BIRTH WEIGHT OF THE CHILD

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Background: Mean birthweight is lower in children of SLE-mothers than in references. Active disease in pregnancy is considered one of the risk factors.
Objectives: The aim of this study was to explore the association of disease activity in women with SLE in pregnancy and the birth weight of the child expressed as mean birth weight and mean z-score for birth weight.
Methods: We linked data from RevNatus with data from the Medical Birth Registry of Norway (MBRN). RevNatus is a Norwegian nationwide prospective observational register including women with an inflammatory rheumatic disease when planning pregnancy or after conception. The register is administered by the National advisory unit on pregnancy and rheumatic diseases. Women 18 years or older are recruited and followed-up in each trimester of pregnancy and at 6 weeks, 6 months and 12 months after birth. MBRN is a national birth registry. The population constituted all singleton live births recorded in MBRN in the period 2006 – 2014. The births in women diagnosed with SLE in MBRN and included in RevNatus formed the patient group (n=180). The references were all other births (n=498849). Mean birth weight in the patient group was compared to mean birth weight in the general obstetric population. We calculated z-score for birth weight adjusted for gestational age and sex. The target population was then split in two groups according to disease activity assessed in the 2nd trimester, and compared to references. One-way ANOVA was performed to compare SLE-women without active disease, SLE-women with active disease and references from the general obstetric population.
Results: The mean birth weight and mean z-score were both significantly lower in women with SLE compared to references.

Table 1. Mean birth weight and z-score in references and in women with SLE

Mean (SD)	References n=497959	SLE n=180	Mean difference (95% CI)	p
Birth weight g	3518 (588)	3091 (691)	426 (325, 528)	<0.001
Z-score	-0.11 (0.98)	-0.59 (0.87)	0.47 (0.33, 0.62)	<0.001

When comparing three groups, a significantly lower mean birth weight and mean z-score remained between women without active disease and references and women with active disease and references. There were no significant differences between the two disease groups.

Table 2. Mean birth weight and z-score in references and in women with SLE according to disease activity status

Mean (SD)	References n=497,959	No disease activity† n=85	Mean difference (95% CI)	p
Birth weight g	3518 (482)	3133 (587)	385 (260, 510)	<0.001
Z-score	-0.11 (0.98)	-0.64 (0.81)	0.53 (0.32, 0.74)	<0.001
Mean (SD)	References n=497,959	Disease activity‡ n=63	Mean difference (95% CI)	p
Birth weight g	3518 (588)	2991 (802)	526 (62- 354)	<0.001
Z-score	-0.11 (0.98)	-0.54 (0.90)	0.43 (0.18, 0.67)	0.001
Mean (SD)	No disease activity n=85	Disease activity n=63	Mean difference (95% CI)	p
Birth weight g	3133 (587)	2991 (802)	141 (-50, 333)	0.15
Z-score	-0.64 (0.81)	-0.54 (0.90)	-0.10 (-0.40, 0.22)	0.53

†LAI-P=0. ‡LAI-P>0.

Conclusions: Mean birth weight and Z-score was significantly lower in women with SLE compared to the general obstetric population. There were no significant differences in diseased women with active as opposed to quiescent disease.
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SAT0681 RISK OF ACTIVE TUBERCULOSIS IN PATIENTS WITH INFLAMMATORY ARTHRITIS RECEIVING TNF-INHIBITORS

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Background: Tuberculosis (TB) is a major concern in patients receiving TNF inhibitors (TNFi).
Objectives: To assess the incidence of active TB and the efficacy of TB prevention measures in a large, single-center cohort of patients with rheumatoid arthritis (RA), psoriatic arthritis (PsA) and ankylosing spondylitis (AS) receiving TNFi.
Methods: Data of all patients in whom treatment with TNFi was initiated in our rheumatology clinic from January 1st 2002 until December 31st 2015 have been retrospectively analysed. The cohort was divided into 2 groups per the mandatory latent TB infection (LTBI) screening method at baseline: tuberculin skin test (group TST), and QuantiFERON®-TB Gold test (group QFT). The incidence of active TB was analysed for each group and compared to TB incidence data in general population.
Results: 653 patients were included (344 RA, 52 PsA, 257 AS); 324 patients belonged to the TST and 329 to the QFT group. The number of active TB cases/ time of exposure to TNFi (person-years, PY) was 17/2002.6 and 7/1041.2 respectively, accounting for an incidence of 848.9 and 672.3 cases per 10^5 PY, about 8 times higher (8.3 and 8.8 for TST, respectively QFT group) than the average TB during the period of exposure to TNFi. LTBI reactivations per total TB cases were only 4/17 and 2/7, respectively, too few to identify statistically significant differences between the 2 LTBI screening protocols. Only 10 patients

Table 1. LTBI screening results and TB occurrence in the 653 TNFi-treated patients (Pearson χ^2 test)

	TST (n=324)	QFT (n=329)	All (n=653)	p value
Positive immuno-diagnostic test at baseline	52 (16.0%)	63 (19.1%)	115 (17.6%)	<0.001*
Active TB	17 (5.2%)	7 (2.1%)	24 (3.7%)	0.185*
Reactivation TB	4 (1.2%)	2 (0.6%)	6 (0.9%)	**
New infection TB	13 (4.0%)	5 (1.5%)	18 (2.8%)	0.052*
Total TB incidence (per 10^5 PY)	848.9	672.3	788.5	–
Maximal period of TNFi exposure in group	2002–2016	2011–2016	2002–2016	–
Mean TB incidence in Romania in the respective time period (per 10^5 PY)	102.3	76.7	102.3	–
TB incidence patients/general population	8.3	8.8	7.7	0.88†

*Pearson χ^2 test comparing TST and QFT. **Reactivation TB cases were too few to perform statistical testing. †Pearson χ^2 test comparing total TB incidence in the TST and QFT groups to the average TB incidence in our region in the respective period of exposure.

had pulmonary TB, whereas the rest were disseminated TB (8 cases), TB pleurisy and/or pericarditis (4 cases), one mediastinal lymph node TB and one isolated hepatic TB. Using Pearson chi-square test, we found no significant differences between LTBI group and active TB (Table 1).

Conclusions: In our cohort, new infection TB exceeds reactivation TB, suggesting the necessity of periodical LTBI re-screening.

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SAT0682 PREVALENCE OF SARCOPENIA IN PATIENTS WITH CHRONIC INFLAMMATORY RHEUMATIC DISEASES

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Background: Evaluation of sarcopenia is of major relevance because of these clinical repercussions on morbidity and mortality. Although the definition should include both low muscle mass and function, a combination of the 2 criteria was not reported in inflammatory rheumatic diseases (IRDs).

Objectives: To determine in a cohort of IRDs the prevalence of sarcopenia using established combined criteria (EWGSOP) (1).

Methods: Sarcopenia defined as both low muscle mass (skeletal muscle index (SMI) <7.26 kg/m^2 for men; <5.45 kg/m^2 for women) and impaired muscular function (handgrip strength or gait speed) (1) was assessed in active rheumatoid arthritis (RA), spondyloarthritis (SpA) and psoriatic arthritis (PsoA) patients before initiating first biologic. Body composition (DXA) and related factors were compared using univariate, multivariate and correlation analysis.

Results: 148 patients were included (Table). Sarcopenia with decrease in muscle mass and function was observed in 5 RA (7.8%), one SpA (1.7%) and one PsoA (9.1%). Sarcopenia in terms of reduced SMI only (1) was not more frequent occuring in 5 RA (7.8%), 3 SpA (5.1%) and one PsoA (9.1%). Grip strength was decreased in RA as well as muscle mass compared to SpA and PsoA but the difference was no longer significant when adjusted on age, sex, disease duration (Table). Only fat distribution differed with a trunk/peripheral fat ratio higher in PsoA. In RA, lean mass was negatively correlated with disease duration and sedentary time. In SpA and PsoA, fat mass was correlated with age, disease activity, HAQ. HAQ and CRP level negatively correlated with lean mass. No association between treatments and body composition was observed.

Table 1. Characteristics and body composition of patients with RA, SpA, PsoA [mean±SD; n (%)]

	RA (n=74)	SPA (n=63)	PsoA (n=11)	p/p*
Age, years	59.5±11.7	44.1±12.0	54.6±11.0	<0.0001
Women	54 (73)	27 (43)	6 (55)	0.001
Disease duration, years	9±15.9	6.4±9.4	5.5±6.8	0.4
Body Mass Index	25.8±6.3	26.6±5.8	28.7±5.1	0.3
DAS28	4.37±1.08	2.78±0.91	3.63±1.06	<0.0001
BASDAI		50.8±17.2	49.6±17.7	0.8
HAQ	0.9±0.6	0.7±0.5	1.0±0.7	0.09
CRP, mg/l	16.4±21.3	11.9±14.3	10.7±13.6	0.3
MTX	54 (73.0)	6 (9.5)	6 (54.6)	<0.0001
Steroids	41 (55.4)	1 (1.6)	1 (9.1)	<0.0001
NSAIDs	18 (24.3)	38 (60.3)	7 (63.6)	<0.0001
Total lean mass, kg	46.7±10.8	53.3±11.1	51.1±9.8	**0.004**/0.6
SMI, Kg/m^2	7.2±1.4	8.1±1.6	8.0±1.7	**0.009**/0.5
Total fat mass, kg	21.9±8.1	21.8±10.3	25.5±10.7	0.5/0.1
Fat mass index (FMI), kg/m^2	8.2±3.2	7.8±4.2	9.6±4.3	0.3/0.05
Overfat (Body fat percentage >27% for men and 38% for women)	18 (28)	18 (30.5)	4 (36)	0.8
Trunk/peripheral fat ratio	0.97±0.30	0.99±0.33	1.23±0.26	**0.04**/**0.02**

*Adjusted for age, sex, disease duration.

Conclusions: Sarcopenia with combined criteria (muscle mass and function) occurred in 7.8% of RA corresponding to the values of the general population aged over 70 years-old (2). Reduced muscle mass only was not highly prevalent and lower than that reported in elderly suggesting important cofactors such as functional limitations or muscle quality in sarcopenia associated with rheumatic diseases.

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SAT0683 PREVALENCE OF OSTEOPOROSIS IN ALBANIAN POSTMENOPAUSE WOMEN AND THE ROLE OF RISK FACTORS IN OSTEOPOROSIS

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Background: Menopause is the time in woman's life when production of sex hormones ceases. Sex hormones deficiency leads to increasing bone fragility and, thus, fracture risk. Bone turnover and bone mass could be affected by too many other risk factors. Osteoporosis threatens the health and quality of life of women with postmenopausal osteoporosis.

Objectives: The aims of this study were to assess the prevalence of osteoporosis in Albanian postmenopause women and the role of risk factors in osteoporosis.

Methods: A cross-sectional study was conducted in Tirana city in a period 2009–2013, including a population-based sample of 4,789 women. All subjects enrolled in the study were asked for risk factors for osteoporosis by completing a specific questionnaire. Low bone mineral density (osteopenia defined as a bone mineral density T-score less than -1 and osteoporosis for T-score less than -2.5) was assessed with a bone ultrasound device which is simple and easy to use for screening of bone mineral density in population-based studies. Binary logistic regression was used to determine the relationship of osteoporosis and independent factors in this study population.

Results: The prevalence of osteoporosis in this study population was 6.2% (N=286) and prevalence of osteopenia was 16.6%; 77.1% of osteoporosis women were in postmenopause. In logistic regression models was seen that menopausal women had 69% more chances than no menopausal women to have osteoporosis (OR=1.69, 95% CI=1.45–1.77, P<0.001). Osteoporosis was positively associated with multiparity (P<0.001) and long treatment with glucocorticoids (OR: 1.52; CI95% 1.46–1.94; p=0.02). In multivariable analysis osteoporosis was positively associated with rheumatoid arthritis (OR=1.62, 95% CI=1.47–1.81, P<0.001). In Kendal's correlation coeficient, osteoporosis was negatively associated with level of education (r=-0.101, p<0.001) and body mass index (r=-0.0033, p<0.009) and positively associated with white color of skin (r=0.003, p<0.027) and treatment with diuretics (r=0.007, p<0.001).

Conclusions: This study offers useful evidence about the osteoporosis and osteopenia prevalence among postmenopausal albanian women. Caucasian females with early menopause, multiparous, lower body-weight, suffering from rheumatoid arthritis, long treated with glucocorticoids and diuretics and lower education should be followed-up more carefully for development of osteoporosis.

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SAT0684 DETERMINANTS OF 12-MONTHS PERSISTENCE IN RHEUMATOID ARTHRITIS PATIENTS INITIATING SUBCUTANEOUS TNF-ALPHA INHIBITORS

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Background: Biotherapies such as subcutaneous tumor necrosis factor-alpha