SAT0449 SEX, METABOLIC CO-MORBIDITIES AND LINE OF THERAPY PREDICT TNF-INHIBITOR THERAPY PERSISTENCE IN PSORIATIC ARTHRITIS: A RETROSPECTIVE COHORT STUDY

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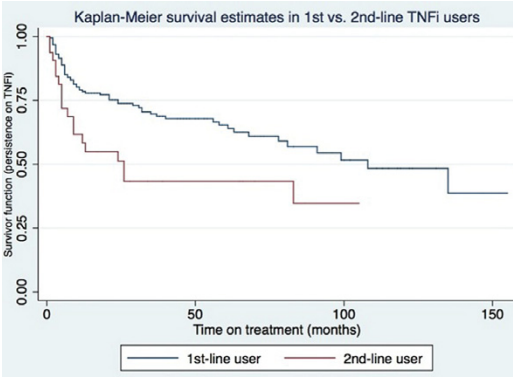
Background: Although tumour necrosis factor-alpha inhibitor (TNFi) therapy has proven efficacy in the management of psoriatic arthritis (PsA), relatively little is known about predictors of TNFi persistence. Such knowledge would assist the application of stratified medicine.
Objectives: To determine baseline clinical characteristics associated with TNFi persistence in patients receiving their first-line agent, and to compare TNFi persistence in first versus second-line users.
Methods: A retrospective cohort study was performed of all patients with PsA attending a single-centre between 2003–2016. Demographic, clinical and laboratory characteristics were compared with TNFi persistence, using Kaplan-Meier survival analysis and multivariable Cox proportional hazards models.
Results: A total of 188 PsA cases had used TNFi therapy as first-line over a period spanning 7,620 person months: 46% male; mean age at TNFi initiation 47.27 (SD 11.36) years; median disease duration at initiation 11 (IQR 7,16) years. Etanercept was used by 102 and adalimumab by 86. Concomitant DMARDs were used by 121/186 (65%) and 87/188 (46%) had metabolic co-morbidities (hypertension, dyslipidaemia, type-2 diabetes, obesity). TNFi therapy was terminated in 65/188 (35%) of cases (35% due to primary inefficacy, 22% secondary inefficacy, 43% adverse events), with a median duration of TNFi persistence of 26.5 (IQR 10.5, 62.0) months. Multivariable Cox proportional hazards modelling found the following parameters at TNFi initiation to be associated with shorter (poorer) TNFi persistence in first line users: female sex (hazard ratio, HR 2.57; 95% CI 1.26, 5.24; p=0.01); presence of metabolic co-morbidity (HR 2.65; 95% CI 1.24, 5.69; p=0.01); with a non-significant statistical trend towards younger age at TNFi initiation (HR 0.94; 95% CI 0.88, 1.00; p=0.06) and older age at PsA onset (HR 1.05; 95% CI 0.99, 1.12; p=0.08). Parameters not statistically associated with TNFi persistence included: choice of TNFi agent (adalimumab *vs.* etanercept), concomitant DMARD/methotrexate use, tender/swollen joint counts, patient global assessment (PGA) of disease activity, CRP, ESR and disease duration. Of 32 cases proceeding to a second TNFi (19 adalimumab, 13 etanercept), persistence was 14/32 (44%) over 954 person months. TNFi failure was two-fold more likely in second versus first-line users (HR 2.02; 95% CI 1.20, 3.42; p=0.009) [Figure 1], with no significant contribution from other co-variables.



Conclusions: Patients with PsA who are female and have metabolic co-morbidities appear to be more likely to fail first-line TNFi therapy. Contrary to observations in rheumatoid arthritis, and somewhat challenging the few studies in PsA, choice of TNFi agent (humanised monoclonal *vs.* chimeric), concomitant methotrexate use, acute-phase response and joint counts prior to TNFi initiation did not influence TNFi persistence. Although TNFi failure was more likely in second-line users, a significant proportion of PsA cases responded to second-line TNFi therapy, advocating this strategy in refractory cases.
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SAT0450 SILENT AXIAL DISEASE IN THE RUSSIAN COHORT OF EARLY PERIFERAL PSORIATIC ARTHRITIS PATIENTS

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Background: Axial involvement in early psoriatic arthritis (ePsA) patients (pts) is often asymptomatic, poorly diagnosed and has not been studied properly. Magnetic resonance imaging (MRI) of sacroiliac joints (SIJs) helps to better define spinal involvement in ePsA.
Objectives: to study the prevalence of axial involvement in peripheral ePsA pts.
Methods: 89 pts (M/F–42 /47) with peripheral ePsA according to CASPAR criteria were included; mean age 36.5±10.9 yrs, disease duration 12.1±10.1 mo., disease activity index (DAS) 5.2±2.8, C-RP 16.1 [6.6; 31.0] mg/l, ESR 22.5±19.2 mm/h. All patients were evaluated for the presence of inflammatory back pain (IBP) by ASAS criteria. In pts having IBP disease activity was also measured according to BASDAI. The examination included X-ray of sacroiliac joints (SIJs) (pelvic radiograph), HLA B27 antigen, MRI of SIJs was performed in 79 pts, both with and without IBP, on Signa Ovation 0,35T. Bone marrow edema on MRI (STIR), considered as active MRI sacroiliiitis (MRI-SI), was evaluated by an independent reader. Radiographic sacroiliitis (R-SI) was defined when 2 grade changes in at least one SIJ appear, and included definite radiographic SI (dR-SI) and "non-definite" radiographic SI (ndR-SI). dR-SI was determined according to New York criteria (unilateral grade≥3 or bilateral grade≥2). 2 grade changes in only one SIJ were qualified as ndR-SI.
Results: IBP was found in 58 out of 89 (65.1%) pts, 35 (60.3%) of them had short-term (episodic) IBP, and 23 (39.7%) pts had long-term IBP. MRI-SI was observed in 28 out of 79 (35.4%) pts. R-SI was determined in 42 out of 89 (47.2%) pts, while dR-SI was found in 27 out of 89 (30.3%) pts, the remaining 15 (16.9%) pts had ndR-SI. 34 (38. 2%) pts were HLA B27 positive. In pts having IBP disease activity according to BASDAI was 4.5±1.6. Correlation has been detected between MRI-SI and IBP: among the group of pts having MRI-SI IBP was observed in 92.9% cases while out of the group of patients without MRI-SI in 54.9% cases (p=0.0002). An association was found between MRI-SI and long-term IBP (p=0.003) as well as between MRI-SI and short-term IBP (p=0.006). Moderate correlation has been detected between the presence of dR-SI and IBP (p=0.038). It's worth noting that among the 26 pts having dR-SI, 5 (19.2%) pts never had IBP before. And among the 15 pts having ndR-SI, 6 (40.0%) pts never had IBP before. No association was found between the presence of MRI-SI/R-SI/dR-SI and HLA B27 status.
Conclusions: in the Russian cohort of early peripheral psoriatic arthritis pts, careful examination quite often revealed high prevalence of axial involvement: 65% of pts had IBP (moreover, more than half of them (60%) had short-term IBP), 35% of pts had MRI-SI, half of the pts had R-SI, one third of the pts had definite R-SI. A significant number of patients (40%) developed 2 grade changes in one SIJ without previous IBP. An association was found between IBP and SI revealed by any of the visualization methods used. No association has been detected between the presence of MRI-SI or R-SI and HLA B27 status. These data indicate that in peripheral ePsA pts axial involvement is often asymptomatic and is poorly diagnosed. Careful identification of IBP together with MRI of SIJs will help to better define spinal involvement.
Disclosure of Interest: None declared
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SAT0451 THE ONE-YEAR RADIOGRAPHIC PROGRESSION AND MINIMAL DISEASE ACTIVITY IN EARLY PSORIATIC ARTHRITIS PATIENTS TREATED ACCORDING TO TREAT-TO-TARGET STRATEGY (RESULTS OF AN ONGOING OPEN-LABEL REMARCA STUDY)

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Background: Treat-to-target (T2T) strategy has benefit in early psoriatic arthritis (EPsA) treatment. Its influence on radiographic progression has limited data.
Objectives: to investigate radiographic outcomes and minimal disease activity (MDA) after 1-year of T2T strategy in patients with EPsA.
Methods: 40 (M-18/F-22) DMARD-naïve pts with active EPsA, according to the CASPAR criteria, mean age 38.4±11.1 yrs., PsA duration 11.9±10.6 months, psoriasis duration 73.8±84.6 months, median DAS 3.8 [3.2; 4.7] from the open-label REMARCA study were included. At baseline all pts were treated by Methotrexate (MTX) subcutaneous (s/c) 20–25 mg/week. Pts that still had medium or high activity after 3–6 months were treated by combination therapy MTX+ biologic therapy (BT) - anti-TNF or Ustekinumab (n=21). By the end of the study, 19 pts were treated by MTX-monotherapy. At baseline and after 1-yr. of treatment PsA activity index and digital radiographs of hands and feet were performed. All images were scored according to Sharp/van der Heijde (Sh.-v.d. H) method by a blinded musculoskeletal radiologist. Median total score (TS Sh.-v.d. H) = total erosion score (TES) + total narrowing score (TNS), the proportion of pts who reached MDA, M±SD, Me [Q75; Q50], W-test, U-test, (%) were calculated. All $p<0.05$ were considered to indicate statistical significance.
Results: At baseline, 23 out of 40 pts (57%) had erosion. By 1 yr., the number of pts with erosion increased up to 26 pts (65%). The median TS Sh.-v.d. H significantly increased from 91.5 [72–108.5] to 91.5 [73.5–111.5] (W-test, $p<0.01$), TES from 2 [0–4.5] to 2.5 [0–5] (W-test, $p<0.05$) and TNS from 85 [69–105] to 87 [71.5–107] (W-test, $p<0.01$). At 1 yr. of therapy there was no significant difference between the treatment groups in the value of TS Sh.-v.d. H (W-test $p>0.05$).
25 of pts (62.5%) had reached MDA by 1 yr. In pts who did not reach MDA (n=15) by 1 yr. TES was significantly higher at baseline compare to those who reached MDA: 3 [2–9] and 0 [0–3] accordingly (U-test, $p<0.05$). In the group of pts who did not reach MDA 1 yr. progression was significantly higher (table).
In 29 out of 40 pts (72.5%) there was no X-ray progression considering both erosion and joint space narrowing. 13 of them (45%) were treated by MTX and 16 pts (55%) by MTX+BT. Negative X-ray progression was found in 11 out of 40 pts (27.5%): 6 of them (54.5%) were treated by MTX and 5 pts (45.5%) by MTX+BT.

Table 1

Sh.-v. d.H score	MDA (n=25)		No MDA (n=15)	
	Baseline	After 1 yr.	Baseline	After 1 yr.
TES	0 [0–3]	1* [0–3]	3# [2–9]	5# [2–11]
TNS	88 [70–108]	88 [71–108]	84 [68–98]	84 [74–103]
TS Sh.-v.d. H.	89 [72–109]	89* [72–110]	93 [81–106]	93* [83–115]

#significant differences between groups (U-test, p<0.05). *- significant differences into group (W-test, p<0.05).

Conclusions: In the Russian cohort of active EPsA pts erosion was found in more than half of cases. Active EPsA pts treated according to T2T strategy during 1 year in 72.5% did not show any radiographic progression, only a quarter of pts (27.5%) had negative X-ray progression by the end of the study, regardless of the type of therapy. The pts who achieved MDA had less erosive progression.
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SAT0452 INFLUENCE OF ANTIRHEUMATIC THERAPY ADMINISTERED IN ACCORDANCE WITH "TREAT TO TARGET" PRINCIPLES ON HEART RATE VARIABILITY AND CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH ACTIVE EARLY PSORIATIC ARTHRITIS

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Background: Psoriatic arthritis (PsA) is an inflammatory arthropathy, which is associated with range of co-morbid diseases and risk factors, such as dyslipidemia, obesity, metabolic syndrome, cardiovascular disease (CVD). Lower heart rate variability (HRV) is a well-established risk factor for CVD and all-cause mortality in the general population.
Objectives: to study dynamic of traditional risk factors (TRF) of CVD and parameters of HRV during antirheumatic therapy, administered inaccordance with "Treat to target" principles in PsA pts.
Methods: 44 (F.-21) DMARD-naive PsA pts, according to the CASPAR criteria, age 36 [27; 46] years (yrs.), PsA duration – 6 [4; 8] yrs, DAS 4.06 [3.51; 4.74]. TRFs of CVD were assessed according to ESC (2016): arterial hypertension (AH) – 11 (22.9%) pts, obesity (body mass index >30kg/m^2) – 11 (22.9%), abdominal obesity – 14 (29.2%), dyslipidemia – 31 (64.5%), family history of early CVD – 6 (12.5%), menopausal status – 5 (10.4%), smoking - 16 (33.3%). All pts were assessed for ECG, 24-h ECG monitoring, carotid ultrasound imaging. Antihypertensive therapy received all pts with AH. Methotrexate (MT) therapy was started in all pts with an escalation of the dose up to 25 mg/week subcutaneously. In case of no remission 3 months later, MT was added with biologic therapy: Adalimumab, Certolizumabpegol, Ustekinumab. 23 subjects were assessed after 18 months of therapy.
Results: After 18 months of therapy DAS and CRP level decreased significantly, p=0.001. DAS remission was achieved in 82.6% of pts. The incidence rate of AH (39% vs 39%), obesity (30% vs 21%), smokers (39% vs 39%), menopausal status (17% vs 17%), atherosclerotic plaques (39% vs 39%), did not change significantly. High-density lipoproteins increased significantly from 1.2 [1.1; 1.6] to 1.5 [1.2; 2.1]mmol/l, p=0.03. We didn't find significant differences between baseline and after treatment levels of total cholesterol/low-density lipoproteins level: from 5.2 [4.6; 6.0] to 5.2 [4.5; 5.9] (p=0.47) mmol/l and from 3.4 [2.8; 3.8] to 3.3 [2.6; 3.6] (p=0.60) mmol/l. HRVs parameters didn't change significant (table 1).

Table 1. HRV parameters in PsA pts baseline and after treatment

Parameters	Baseline	18 months
MeanNN (ms)	783 [734; 883]	803 [773; 852]
SDNN (ms)	132 [124;159]	147 [129; 163]
SDNNi (ms)	59 [45; 69]	61 [42; 80]
SDANN (ms)	121 [101; 146]	127 [109; 160]
RMSSD (ms)	39 [20; 50]	33 [18; 53]
pNN50 (%)	13 [2.6; 21]	10.7 [1.9; 22.7]

Data are present in median values and interquartile range, *p<0,05 before and after 18 months treatment (nonparametric paired Wilcoxon test).

Conclusions: antirheumatic therapy of early PsA pts in accordance with "T2T" principles improves lipid profile but not HRVs parameters. Lower HRV is a risk factor for cardiovascular disease and mortality that demands the further studying its influence on the cardiovascular prognosis in PsA pts.
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SAT0453 EFFICACY OF USTEKINUMAB IN PSORIATIC ARTHRITIS PATIENTS BY PRIOR TREATMENT EXPOSURE AND DISEASE DURATION: DATA FROM PSUMMIT 1 AND PSUMMIT 2

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Background: PSUMMIT 1 and PSUMMIT 2 were Phase 3 trials of ustekinumab (UST) in adults with PsA.
Objectives: Evaluate the efficacy of UST by prior treatment exposure and disease duration in PsA patients (pts) in PSUMMIT 1 and 2.
Methods: Pts had active PsA (≥5 swollen, ≥5 tender joints, CRP ≥3.0mg/dL,) for ≥6 mos despite treatment with DMARDs and/or NSAIDs (PSUMMIT 1) or DMARDs, NSAIDs, and/or anti-tumor necrosis factor (TNF) agents (PSUMMIT 2). In both studies, pts were randomized to SC injections of placebo (PBO) or UST 45mg or 90mg at wks 0, 4 and every 12 wks. PBO pts crossed over to UST 45mg at wk 24. At wk 16, early escape (PBO –> UST45mg; UST45mg –> UST90mg; UST90mg –> UST90mg) was possible. Stable doses of MTX were allowed. Pooled data from both PSUMMIT 1 and 2 were analyzed. Efficacy assessments included ACR response, DAS28-CRP response, DAS28-CRP remission (score <2.6), changes in enthesitis (modified MASES index) and dactylitis scores, and total van der Heijde-Sharp (vdH-S) score for radiographic progression. Pts who were anti-TNF-naïve, MTX- and anti-TNF-naïve, all DMARD- and anti-TNF-naïve were evaluated. ACR response at wks 4 and 16 to assess for early efficacy was also evaluated for anti-TNF-naïve pts with PsA duration <1 year, ≥1 to <3 years, and ≥3 years.
Results: In the pooled data, 747 pts were anti-TNF-naïve (53.8% were male; mean age=47 years); 179 pts were MTX- and anti-TNF-naïve (63.7% were male; mean age =47 years); 146 pts were all DMARD- and anti-TNF-naïve (61.0% male; mean age=46 years). In all three prior treatment populations significantly greater proportions of pts in the combined UST group vs PBO achieved an ACR20, ACR50, or ACR70 at wk 24. (Table). Similarly, greater proportions of pts in the combined UST group had DAS28-CRP response or remission vs PBO across all three prior treatment populations. In anti-TNF-naïve pts, improvements in enthesitis and dactylitis were significantly greater in the combined UST group vs PBO, and mean change in total vdH-S score was significantly greater for pts in the PBO group than the combined UST group; comparable trends were observed for the MTX- and anti-TNF-naïve pts and all DMARD- and anti-TNF-naïve pts, but did not reach statistical significance due to the smaller sample sizes in both subgroups. Among anti-TNF-naïve pts treated with UST, ACR20/50/70 response rates were similar across different PsA disease duration groups at early time-points (either wk4 or wk16).

Table. Efficacy at week 24 in PSUMMIT 1 and PSUMMIT 2 combined.

	Anti-TNF-naive		MTX- and anti-TNF-naive		All DMARD- and anti-TNF-naive	
	Placebo	Combined UST (45mg/90mg)	Placebo	Combined UST (45mg/90mg)	Placebo	Combined UST (45mg/90mg)
Randomized pts, n	248	499	56	123	45	101
ACR20	59 (23.8%)	237 (47.5%) p<0.001	10 (17.9%)	66 (53.7%) p<0.001	9 (20.0%)	57 (56.4%) p<0.001
ACR50	21 (8.5%)	132 (26.5%) p<0.001	7 (12.5%)	43 (35.0%) p=0.002	7 (15.6%)	38 (37.6%) p=0.007
ACR70	7 (2.8%)	64 (12.8%) p<0.001	2 (3.6%)	24 (19.5%) p=0.006	2 (4.4%)	20 (19.8%) p=0.017
DAS28-CRP response	90 (36.3%)	327 (65.5%) p <0.001	17 (30.4%)	87 (70.7%) p<0.001	16 (35.6%)	71 (70.3%) p<0.001
DAS28-CRP remission	19 (7.7%)	99 (19.8%) p <0.001	6 (10.7%)	34 (27.6%) p=0.012	6 (13.3%)	29 (28.7%) p=0.043
Enthesitis (modified MASES index)						
Pts with enthesitis at baseline, n	176	351	39	89	29	75
Pts with enthesitis at week 24	133/166 (80.1%)	217/340 (63.8%) p<0.001	30/37 (81.1%)	58/83 (65.2%) p=0.077	22/28 (78.5%)	46/75 (61.3%) p=0.096
Percent change in score	-18.0 ± 80.0	-44.6 ± 57.2) p<0.001	-16.7± 62.7	-36.0 ± 74.6 p=0.046	-20.2 ± 65.2	-36.2 ± 79.9 p=0.129
Dactylitis (0-3)						
Pts with dactylitis at baseline, n	113	233	23	56	16	46
Pts with dactylitis at week 24	79/106 (74.5%)	129/226 (57.1%) p<0.001	17/22 (77.3%)	32/55 (57.1%) p=0.073	12/15 (80.0%)	24/46 (52.2%) p=0.118
Percent change in score	-25.2 ± 63.1	-44.8 ± 94.4 p <0.001	-23.3 ± 51.0	-44.5 ± 70.3 p=0.104	-20.0 ± 52.8	-43.4 ± 75.5 p=0.206
Change from baseline in tota vdH-S score	1.1 ± 4.2	0.3 ± 1.7 p<0.001	0.8 ± 2.6	0.2 ± 1.4 p=0.197	1.0 ± 2.8	0.2 ± 1.4 p=0.105

Data presented as n (%) or mean ± SD unless otherwise noted. MASES, Maastricht Ankylosing Spondylitis Enthesitis Score

Conclusions: UST-treated patients had greater improvements in signs and symptoms of PsA regardless of prior treatment exposure and disease duration.
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