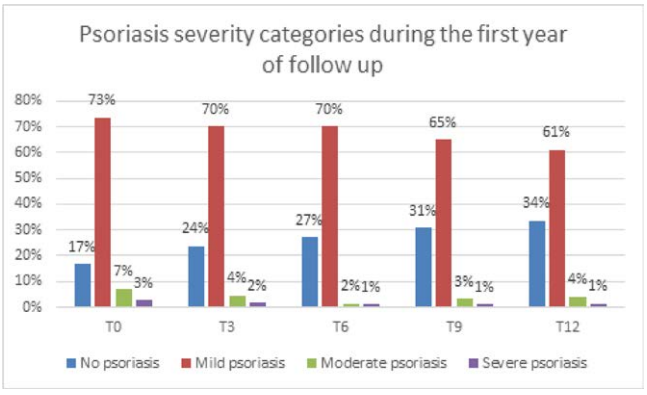

Figure 1. Psoriasis severity categories during the first year of follow up. No psoriasis (PASI 0), mild psoriasis (PASI<7), moderate psoriasis (PASI 7-12) and severe psoriasis (PASI>12).

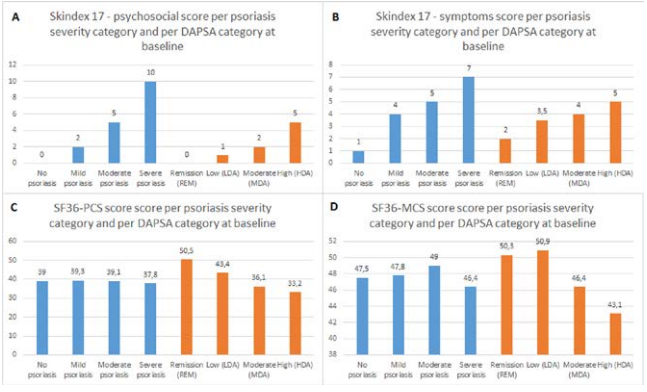

Figure 2. A, B: Median Skindex17 psychosocial score and symptoms score per psoriasis severity category and DAPSA category at baseline. C,D: Mean SF36 Physical component scale (PCS) score and Mental component scale (MCS) score per psoriasis severity category and DAPSA category at baseline. No psoriasis (PASI 0), mild psoriasis (PASI<7), moderate psoriasis (PASI 7-12) and severe psoriasis (PASI>12). REM (DAPSA<4), LDA (DAPSA<14), MDA (DAPSA<28) and HDA (DAPSA>28)

Conclusion: In early PsA patients, psoriasis severity is mostly mild, but considerably impacts HRQoL when measured using a skin specific questionnaire. For optimal management of PsA patients, we therefore recommend rheumatologists to additionally acquire information on the degree of psoriatic involvement. In our opinion, this information is valuable for the adequate assessment of HRQoL.

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AB0787 EFFECTIVENESS OF IL-17 INHIBITORS REVEALED BY MINIMAL DISEASE ACTIVITY (MDA) ACHIEVEMENT OF PSORIATIC ARTHRITIS PATIENTS

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Background: Recently, several type of biologics such as TNF inhibitors, IL-17 inhibitors, IL-12/23 (p40) inhibitors and IL-23 (p19) inhibitors are approved for PsA. Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA) 2015 Treatment Recommendation suggests the treat-to-target strategy for PsA[1)], however, this recommendation does not indicate how to determine which biologics to use. Recent reports revealed that IL-17 inhibitors were as effective as TNF inhibitors[2)]. On the other hand, based on the Tight Control of Psoriatic Arthritis (TICOPA) study, present treatment strategies for PsA aim to reach on minimal disease activity (MDA)[3)].

Objectives: We investigate the effectiveness of IL-17 inhibitors focusing on MDA achievement which were administered for the Psoriatic Arthritis (PsA) patients in our institution.

Methods: We examined 46 patients whom were diagnosed and treated in our institution. We analyzed DAS28-CRP as the evaluation of arthritis and Minimal Disease Activity (MDA) achievement as that of overall disease activity.

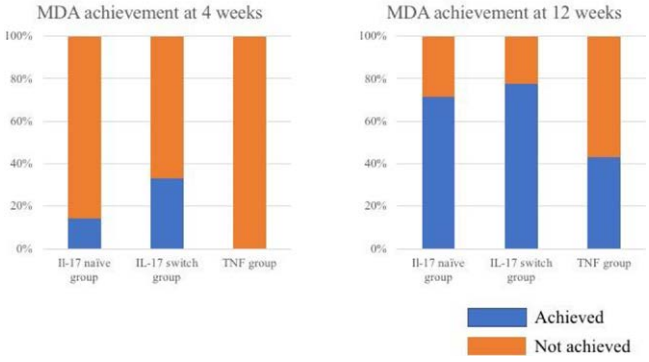
Results: Biologics were administered in 30 cases (65.2%) of all 46 cases. In 30 cases, 19 cases (63.3%) initiated TNF inhibitors (TNFi) and 7 cases (23.3%) were IL-17 inhibitors (naïve group). In 9 cases, TNFi were switched into Il-17 inhibitors (switch group), 7 cases continued TNFi (TNFi group). Patients characteristics in the cases which could collect the data were shown in Table 1. As for arthritis, DAS28-CRP has significantly improved at fourth weeks in naïve and TNFi group. In switch group, DAS28-CRP has not demonstrated significant improvement, however, IL-17 inhibitors were effective for the cases to which they were initiated for arthritis. As for MDA, 71% and 78% have also achieved MDA at twentieth weeks in both naïve and switch groups. In the TNFi group, 67% have not achieved MDA at twentieth weeks because of no improvement of rash (Figure 1). In switch group, all cases to which IL-17 inhibitors were initiated for either arthritis or rash have achieved MDA, however, 40% of cases which were introduced for both arthritis and rash have not achieved MDA.

Table 1. Comparison of clinical characteristics at baseline in 3 groups.

	Il-17 naïve group (n=7)	IL-17 switch group (n=9)	TNF group (n=7)	p value
Age, year	60.7 ± 18.9	53.8 ± 15.4	50.7 ± 13.6	N.S
Disease duration, year	20.3 ± 25.8	17.4 ± 9.5	9.9 ± 12.4	N.S
Male, n (%)	3 (43)	6 (67)	5 (71)	N.S
MTX, n (%)	2 (29)	4 (44)	5 (71)	N.S
CRP(mg/dl)	0.41 ± 0.50	1.87 ± 3.13	1.07 ± 1.77	N.S
Swollen joint count	6.7 ± 7.3	3.6 ± 4.2	6.2 ± 6.9	N.S
Tender joint count	6.6 ± 7.0	2.2 ± 2.6	6.9 ± 9.0	N.S
Patient pain VAS	55.7 ± 22.3	47.1 ± 34.9	35.4 ± 13.6	N.S
BSA (%)	12.5± 17.3	7.7 ± 14.8	7.4 ± 7.2	N.S
Biologics, n	Secukinumab: 2 Ixekizumab: 5	secukinumab: 3 Ixekizumab: 5 Brodalumab: 1	Infliximab: 3 Adalimumab:3 Etanercept:1	

TNF: Tumor Necrosis Factor, MTX: Methotrexate, VAS: visual analog scale, BSA: body surface area, N.S: not significant

Figure 1. MDA achievement in 3 groups



Conclusion: In our study, IL-17 inhibitors could bring high rate of MDA achievement for both naïve and switch from TNFi. We suggest that TNFi should be switched into IL-17 inhibitors rapidly in the case of ineffective for TNFi.

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AB0788 GENDER DIFFERENCES IN PSORIATIC ARTHRITIS DISEASE CHARACTERISTICS: EVIDENCE FOR WORSE DISEASE IN WOMEN.

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Background: Psoriatic arthritis (PsA) affects both sexes equally, however there seem to be significant differences in disease expression between the genders.
Objectives: To investigate gender differences in disease manifestations, patient-reported outcomes and comorbidities among patients with PsA.
Methods: This cross-sectional study of patients with PsA followed at an academic rheumatology outpatient clinic between 1/6/2017 and 1/12/2019. We compared clinical characteristics, patient-reported outcomes, disease activity and comorbidities in male and female patients with PsA. All patients were over 18 years of age and fulfilled the CASPAR criteria for PsA. Differences between gender in values of continuous variables were assessed by T-tests or Mann-Whitney tests. The association between categorical variables and gender was assessed by Pearson chi-square test or Fisher's exact test.
Results: 135 patients, 83 (62%) women and 52 (38%) men were included. Factors studied for gender differences are shown in Table 1. Women had significantly more tender (11 vs 3 p 0.001) and swollen (10 vs 3, p 0.013) joints, worse VAS (Visual Analogue Scale 0-10) pain (6 vs 5, p <0.001), higher ESR (20 vs 11, p 0.001) and worse DAPSA(Disease Activity in Psoriatic Arthritis) (33 vs 18 p 0.006) and presented with more enthesitis (32.5% vs 13.5%, p 0.013). In contrast, men achieved Minimal Disease Activity (MDA) more frequently (26.9% vs 3.6% p<0.001)and had significantly more comorbidities than women. Polyarthritic disease was more frequent in women (62% vs 31%), although at non-significant levels.
Conclusion: Male patients with PsA have more comorbidities, while female patients have greater disease activity, worse patient reported outcomes and achieve MDA less frequently.

Factor	Women (n=83)	Men (n=52)	P value
	Median (25th-75th percentile)		
Age	55.1 (46.8-63)	56.6 (50-65.7)	0.419*
BMI	27.9 (24.9-35)	30.1 (26.8-33.3)	0.181#
Pso duration/ PsA duration (years)	8.3 (3.9-24.5)/ 2.4 (0-5.7)	14.3 (4.7-22.7)/ 2.8 (0-6.4)	0.451#/0.605#
Smoking (Packyears)	15 (5-30)	27.5 (0-46)	**0.002#**
TJC/SJC	11 (4-16)/ 10 (5-17)	3 (0-13)/ 3 (0-14)	**0.001#/0.013#**
VASPain/ VASGA	6 (5-8)/ 5 (3-6)	5 (1-6)/ 4 (2-5)	**<0.001***/0.121*
CRP/ ESR	1.4 (0.4-3.2)/20(11-33)	1.1 (0.2-2.7)/ 11 (7-18)	0.398#/**0.001#**
BSA/PASI	0 (0-2)/0(0-2)	2 (0-6)/1(0-4.8)	0.139#/0.258#
DAPSA	33 (24.1-45)	18 (9.3-45)	**0.006#**
	n (%)		
Enthesitis/ Dactylitis	27 (32.5)/ 20 (24.1)	7 (13.5)/ 10 (19.2)	**0.013*******/ 0.508*****
Dyslipidemia	33 (40.2)	31 (59.6)	**0.029*****
Liver	3 (3.6)	7 (13.5)	**0.046****
Eyes	0 (0)	3 (5.8)	0.055**
Uricemia	3 (3.6)	8 (15.4)	**0.023****
Depression or anxiety	16 (19.3)	11 (21.1)	0.817***
CAD	2 (2.4)	12 (23.1)	**<0.001****
DM	14 (16.9)	12 (23.1)	0.392
MDA	3 (3.6)	14 (26.9)	**<0.001**

*: T-test with unequal variances; #: Mann-Whitney test; **: Fisher's exact test; ***: Pearson chi2 test;
Pso: Psoriasis; PsA: Psoriatic arthritis; BMI: Body mass index; TJC: Tender joint count; SJC: Swollen joint count; VASPain: Visual analogue scale 0-10 for pain; VASGA: Visual analogue scale 0-10 for general assessement; CRP: C-reactive protein; ESR: Erythrocyte sedimentation rate; BSA: Body surface area; PASI: Psoriasis area severity index; DAPSA: Disease activity in psoriatic arthritis; CAD: Coronary artery disease; DM: Diabetes mellitus; MDA: Minimal disease activity;

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AB0789 PERSISTENCE IN USE OF BIOLOGIC DISEASE MODIFYING ANTIRHEUMATIC DRUGS TREATMENT IN PATIENTS WITH PSORIATIC ARTHRITIS

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Background: Treatment for patients with moderate to severe psoriatic arthritis (PsA) relied on TNF inhibitors (TNFi) for many years. Recent approvals of newer biologics include interleukin (IL) -12 inhibitor ustekinumab and IL-17A inhibitors ixekizumab and secukinumab. Limited up-to-date evidence exists for the comparison of utilization patterns between TNFi and IL inhibitors.
Objectives: To compare the persistence on treatment with biologic disease-modifying anti-rheumatic diseases (DMARDs) in PsA patients who initiated TNFi versus IL inhibitors.
Methods: We conducted a cohort study using a US commercial insurance database (IBM MarketScan: 2014-2017). We identified patients with PsA by using a validated claims-based algorithm (positive predictive value of 82.4%) which required two PsA diagnosis codes and a prescription dispensing for TNFi (etanercept, infliximab, adalimumab, certolizumab, golimumab) or IL inhibitor (secukinumab, ustekinumab, or ixekizumab). The index date was the 1st drug dispensing date after the 2nd PsA diagnosis. We excluded patients with biologic DMARD use at any time prior to the index date. Patients were ≥18 years old on the index date and continuously enrolled in the plan for ≥365 days prior and after the index date. Our study outcome was the change in the initial biologic regimen during the year after the index date. Patients were considered as 'persistent users' if they were still on the index regimen, or 'switchers' if they were on a different biologic at the 365th date of follow-up. We applied 30 days of gap between dispensing after accounting for the days of supply of each dispensing. For sensitivity analysis, we allowed any gap and determined persistent use at 365th date less strictly.
Results: We identified a total of 3,180 TNFi initiators and 214 IL inhibitor initiators (Table). Mean age was 52.9 (±11.6) years for TNFi initiators and 50.4 (±11.7) years for IL inhibitor initiators. Using the 30-day gap, there were 37.1% persistent TNFi users and 24.8% persistent IL inhibitor users after 1 year form the index date. 11.1% of TNFi initiators switched to a different TNFi while 4.7% switched to an IL inhibitor. Among IL inhibitor initiators, 6.1% switched to a TNFi and 5.6% to another IL inhibitors. However, in the sensitivity analysis where we allowed a longer interval between the fills/ injections, there were 53.0% persistent TNFi users and 53.7% persistent IL inhibitor users. In other words, IL inhibitor patients had a longer interval between the doses than the recommended treatment intervals on the label.
Conclusion: In PsA patients, TNFi initiators were more adherent to the initial regimen than IL inhibitor initiators during 1-year follow-up period. However, the sensitivity analysis indicates that some patients may resume their initial treatment beyond the indicated refill intervals. Further investigations are needed to clarify whether this is due to a better treatment effectiveness or adverse effects associated with IL inhibitors.

Table. Selected baseline characteristics of initiators TNFi versus IL inhibitors in PsA patients

	TNFi	IL inhibitor
N	3,180	214
Age (years), mean (SD)	52.9 (11.6)	50.4 (11.7)
Female, %	57.0	55.6
Combined comorbidity score, mean (SD)	0.9 (1.8)	0.3 (1.2)
Hypertension, %	41.0	48.1
Diabetes, %	16.4	24.8
Psoriasis, %	63.2	72.9
Non-biologic DMARDs, %	66.5	60.8
Oral steroids, %	49.4	41.1
NSAID, %	55.4	43.0
Emergency room visit, %	21.2	20.6
Hospitalization	8.2	11.2
No. of visits to dermatologist, mean (SD)	2.6 (8.2)	1.3 (4.7)

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