associated with mitotic nuclear division and defense response to other organism, whereas in profile 4 represented a stable-stable-increasing expression trend and significantly associated with positive regulation of cellular response to organic 9 compound (Fig.1). With the treatment of Etanercept, 22 TSGs had a stable-increasing-increasing expression tendency and closely associated with fatty acid metabolism and steroid metabolic process (Fig.2). After Guselkumab treatment, 13 TSGs also represented a stable-increasing-increasing expression tendency that mainly characterized by defense response to other organism and epidermis development (Fig.3). Interestingly, both Ustekinumab and Guselkumab treatment dramatically influenced defense response to other organism-related genes, while Etanercept mainly affected genes involved in fatty acid metabolism and steroid metabolic process.

Conclusion: Biologics effectively reconstituted the gene signatures of psoriasis in different aspects. TSG features could be one of indicator for precise intervention for psoriasis.

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POS0200

CLINICAL CHARACTERISTICS & OUTCOMES ASSOCIATE WITH WORK PRODUCTIVITY IN BIO-NAÏVE PATIENTS WITH ACTIVE PSORIATIC ARTHRITIS THROUGH WEEK 24 OF THE DISCOVER-2 STUDY

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Background: Psoriatic arthritis (PsA), a chronic inflammatory disease characterized by peripheral arthritis, axial inflammation, dactylitis, enthesitis & skin/nail psoriasis, causes impaired physical function, disability & loss of work productivity.

Objectives: Evaluate associations between PsA clinical characteristics & outcomes including fatigue & work productivity using Work Productivity & Activity Impairment Questionnaire: PsA (WPAI-PsA).

Methods: The Phase 3 DISCOVER-2 trial assessed guselkumab (GUS), an anti-IL-23p19 subunit monoclonal antibody, in bio-naïve adults with active PsA (swollen joint count [SJC] ≥ 5 & tender joint count [TJC] ≥ 5 , C-reactive protein [CRP] ≥ 0.6 mg/dL) despite standard therapies.¹ Patients (Pts) were randomized 1:1:1 to GUS 100 mg Q4W; GUS 100 mg at W0, W4, then Q8W; or placebo (PBO). WPAI-PsA assesses PsA-related work time missed (absenteeism), impairment while working (presenteeism), productivity loss (absenteeism+presenteeism), & daily activity during the previous week. Spearman correlation testing evaluated relationships between pt demographics & disease characteristics of PsA & WPAI domain scores based on observed values at baseline. Univariate linear regression assessed associations between WPAI & these variables based on observed data at W0 & at W24. Variables with $p < 0.10$ were included in a multivariate analysis employing a mixed-effects model for repeated measures, controlling for all other variables; resulting p -values < 0.05 were considered statistically significant.

Results: As reported elsewhere,² least-squares mean % changes from baseline at W24 were -3.8/-19.5/-20.0/-20.5 for GUS Q4W, -3.1/-19.4/-19.7/-21.5 for GUS Q8W, & -3.5/-10.2/-10.9/-10.3 for PBO for absenteeism, presenteeism, absenteeism+presenteeism, & daily activity impairment, respectively. Among 738 pts, WPAI domain scores were moderately to strongly correlated (ie, ≥ 0.4) with pt-reported pain (0-10 visual analog scale), physical function (Health Assessment Questionnaire Disability Index [HAQ-DI]), fatigue (Functional Assessment of Chronic Illness Therapy-Fatigue [FACIT-F] scale) & 36-Item Short Form Health Survey (SF-36) Physical Component Summary (PCS) score, but weakly correlated with other variables (Figure 1). Based on univariate analyses & evaluation of collinearity between variables, attributes included in multivariate models were age, body mass index (BMI), gender, CRP, FACIT-F, pain, Psoriasis Area Severity Index (PASI), TJC, SJC, enthesitis & dactylitis. In final model, CRP, FACIT-F, & pain were statistically significantly associated with all WPAI domains (Table 1). Presence of enthesitis & higher PASI score were significantly associated with higher loss of work productivity & activity outside work.

Conclusion: In PsA pts, extra-articular symptoms, fatigue, pain & elevated CRP were significantly associated with WPAI-assessed work & activity impairment. Treating all major clinical manifestations of PsA is needed to help pts improve work & activity impairment. GUS effectively treats all major clinical manifestations¹ & improves work & activity impairment in PsA.²

Figure. Spearman correlations between pt/disease characteristics & WPAI domains at W0

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Table 1. Multivariate analysis of clinical characteristics/outcomes & WPAI domains at W0 & W24

Parameter	Absenteeism ^a		Presenteeism ^a		Productivity Loss ^a		Activity Impairment ^b	
	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value
Age	-0.05	0.42	-0.27	<0.001	-0.28	<0.001	-0.06	0.17
Female	0.91	0.46	-1.54	0.22	-1.74	0.20	2.38	0.02
CRP	0.73	0.04	0.97	0.01	1.01	0.01	0.89	<0.001
FACIT-F	-0.31	<0.001	-0.67	<0.001	-0.73	<0.001	-0.75	<0.001
Pain	1.03	<0.001	4.15	<0.001	4.25	<0.001	4.02	<0.001
PASI	0.06	0.36	0.16	0.02	0.14	0.05	0.15	0.003
SJC	0.08	0.48	-0.05	0.61	-0.05	0.66	0.03	0.75
TJC	-0.10	0.13	0.11	0.09	0.09	0.19	0.10	0.04
Dactylitis (Y/N)	-1.10	0.39	2.47	0.05	2.58	0.05	0.54	0.57
Enthesitis (Y/N)	1.52	0.20	2.38	0.04	2.99	0.01	2.40	0.01

^aPts working at baseline^bAll pts in study

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POS0201 RISK OF MAJOR ADVERSE CARDIOVASCULAR EVENTS IN PATIENTS INITIATING BIOLOGICS/APREMLIST FOR PSORIATIC ARTHRITIS: A NATIONWIDE POPULATION-BASED STUDY USING THE FRENCH HEALTH INSURANCE DATABASE

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Background: Psoriatic arthritis (PsA) is associated with other diseases of the spectrum of spondyloarthritis but also appears to be linked to an increased prevalence of numerous comorbidities and more specifically cardiovascular risk factors and events. Several biological disease-modifying anti-rheumatic drugs (bDMARDs) have demonstrated anti-inflammatory effects in PsA. However, their comparative cardiovascular safety profiles remain unknown.

Objectives: Our objective was to assess the relative comparative risk of major adverse cardiovascular events (MACEs) of different classes of bDMARDs or apremilast for PsA.

Methods: This nationwide cohort study involved the administrative healthcare database of the French health insurance scheme covering approximately 67 million individuals linked to the hospital discharge database. All adults with PsA who were new users of bDMARDs/apremilast (neither in the year before the index date) during 2015-2019 were included. Patients with previous cardiovascular diseases were excluded. End of follow-up was December 31, 2019. The primary end point was an occurrence of MACE (acute myocardial infarction and

ischaemic stroke) in a time-to-event analysis with propensity score-weighted Cox and Fine-Gray models (including age, sex, inflammatory diseases associated, cardiovascular risk biomarkers and other comorbidities). To assess the sensitivity of the estimated weighted hazard ratio (HRw) with respect to several possible models, we performed a per-protocol analysis, a conventional multivariate Cox model, an analysis using a larger definition of MACE, an analysis modifying the new-user definition (as those who had not filled a prescription for a bDMARDs or apremilast for 5 years before the index date) and an analysis modifying the treatment discontinuation definition.

Results: Between 2015 and 2019, we included 9,510 bDMARD new users (mean age 48.5±12.7 years; 42% men), including 7,289 starting a TNF inhibitor, 1,058 an IL12/23 inhibitor and 1,163 an IL17 inhibitor, with 1,885 apremilast new users (mean age 54.0±12.5 years; 44% men). MACEs occurred in 51 (0.4%) patients (Figure 1). After propensity score weighting, the risk of MACEs was significantly greater with IL12/23 (HRw 2.0, 95%CI 1.3-3.0) and IL17 (HRw 1.9, 95%CI 1.2-3.0) inhibitors than TNF inhibitors, with no significant increased risk with apremilast (HRw 1.3, 95%CI 0.8-2.2). Similar results were observed with the Fine-Gray competing-risks survival model. The sensitivity analyses results were consistent with those of the main analysis.

Conclusion: Analysis of a large national database revealed an overall small number of MACEs. Using robust methodology from the causal inference field, the risk of MACEs was greater for PsA new users of IL12/23 and IL17 versus TNF inhibitors. The risk of MACEs did not significantly differ between new users of apremilast and new users of TNF inhibitors.

Figure 1. Flowchart for analytic approach. Data are n. bDMARD: biological disease-modifying antirheumatic drugs; CVD: cardiovascular disease; TNF: tumor necrosis factor; IL: interleukin; MACE: major adverse cardiac events.

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Rheumatoid arthritis - biological DMARDs

POS0202 ANALYZING CORD BLOOD LEVELS OF TNF INHIBITORS TO VALIDATE THE EULAR POINTS-TO-CONSIDER FOR TNF INHIBITOR USE DURING PREGNANCY

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