FRI0378

DOES DRUG EFFECTIVENESS OF 2ND AND 3RD TNF INHIBITORS IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS DEPEND ON THE REASON FROM WITHDRAWAL FROM THE PREVIOUS TREATMENT? – RESULTS FROM THE EUROSPA RESEARCH COLLABORATION

Lykke Ørnbjerg, Cecilie Heegaard Brahe, Anne Gitte Loft, Johan Askling, Adrian Ciurea, Heřman Mann, Servet Akar, Eirik Kristianslund, Dan Nordström, Maria Jose Santos, Catalin Codreanu, Manuel Pombo-Suarez, Ziga Rotar, Björn Gudbjörnsson, Daniela Di Giuseppe, Michael Nissen, Karel Pavelka, Soner Senel, Joe Sexton, Kari Eklund, Anabela Barcelos, Ruxandra Ionescu, Carlos Sánchez-Piedra, Matija Tomsic, Arni Jon Geirsson, Irene van der Horst-Bruinsma, Gary Macfarlane, Florenzo Iannone, Brigitte Michelsen, Lise Hyldstrup, Niels Steen Krogh, Merete L. Hetland, Mikkel Østergaard. *EuroSpA Research Collaboration, On behalf of the DANBIO (Denmark), ARTIS (Sweden), SCQM (Switzerland), NOR-DMARD (Norway), ATTRA (Czech Republic), Reuma.pt (Portugal), BIOBADASER (Spain), ROB-FIN (Finland), biorx.si (Slovenia), ICEBIO (Iceland), TURKBIO (Turkey), RRB (Romania), ARC (Netherlands), BSRBR-AS (UK), GISEA (Italy), Denmark*

Background: Tumour necrosis factor inhibitors (TNFi) are efficacious in patients with axial spondyloarthritis (axSpA), but some patients switch to a different TNFi because of adverse effects (AE) or lack of effect (LOE). The EuroSpA Collaboration has previously demonstrated a 1-year retention rate of 79% and 6 months LUNDEX adjusted BASDAI<4 of 59%¹ in patients initiating the first TNFi treatment. Little is known about the effectiveness of switching to a second and third TNFi in patients with axSpA. **Objectives:** Firstly, to investigate retention and response rates at 6, 12 and 24 months in patients with axSpA initiating the 2nd and 3rd TNFi in clinical practice across Europe. Secondly, to investigate whether the outcomes were associated with the reason for withdrawal (AE or LOE) from the previous treatment. **Methods:** Prospectively collected data on axSpA patients in routine care from 12 European registries were pooled. Kaplan-Meier estimation was used to investigate TNFi retention rates. LUNDEX adjusted² response rates were calculated for BASDAI<4 and ASDAS inactive disease (ASDAS<1.3). Group comparisons were performed by Chi-square test. **Results:** A total of 7953 patients initiating their 2nd TNFi and 2782 patients initiating 3rd TNFi were included. Baseline characteristics are shown in the Table. The overall retention rates for both 2nd and 3rd TNFi at 12 months were 72% (Figure). Corresponding retention rates for the individual registries ranged from 52-90% and 54-89%, respectively. In both patients who stopped 1st TNFi due to AE or LOE, 12-month retention rate for the 2nd TNFi treatment was 68%. In patients who stopped the 2nd TNFi due to AE or LOE, 12-month retention rates for the 3rd TNFi treatment were 68% and 69%, respectively. For the 2nd and 3rd TNFi, 6 months LUNDEX adjusted BASDAI<4 were 44% and 37% (p<0.001), respectively, and for ASDAS inactive disease 18% and 13% (p=0.003) (Table).

Table: Baseline characteristics, retention and remission rates of axSpA patients initiating 2 nd and 3 rd TNFi overall and stratified by reason of withdrawal from the previous TNFi (AE or LOE)				
	2 nd TNFi (n=7953)*	3 rd TNFi (n=2782)**		
Baseline characteristics				
Age, years	43(35-52)	44(36-53)		
Male	55%	52%		
HLA-B27	66%	66%		
Concomitant csDMARD/prior csDMARD	28% / 68%	30% / 74%		
Disease duration, years	5(2-11)	6(3-12)		
First TNFi drug				
Infliximab/ Etanercept / Adalimumab / Certolizumab / Golimumab	14% / 34% / 32% / 5% / 16%	19% / 24% / 28% / 7% / 21%		
BASDAI	56(37-71)	59(40-74)		
BASFI	44(23-65)	43(27-70)		
BASMI	20(10-40)	30(10-50)		
Retention rates				
6 / 12 / 24 months (95% CI)	81% (80-82%) / 72% (71-73%) / 64% (62-65%)	81% (80-83%) / 72% (70-73%) / 62% (60-64%)		
	Initiating 2 nd TNFi because of AE on 1 st TNFi	Initiating 3 rd TNFi because of LOE on 1 st TNFi	Initiating 3 rd TNFi because of AE on 1 st TNFi	Initiating 3 rd TNFi because of LOE on 1 st TNFi
6 months (95% CI)	77% (75-79%)	78% (77-80%)	77% (75-80%)	80% (78-82%)
12 months (95% CI)	68% (66-70%)	68% (66-69%)	68% (66-72%)	69% (67-72%)
24 months (95% CI)	61% (58-63%)	58% (56-60%)	61% (56-65%)	58% (56-61%)
Response rates				
	LUNDEX adjusted ***		LUNDEX adjusted ***	
BASDAI<4 at 6 / 12 / 24 months	44% / 36% / 27%		37% / 30% / 21%	
ASDAS inactive disease at 6 / 12 / 24 months	18% / 15% / 11%		13% / 10% / 7%	
	Initiating 2 nd TNFi because of AE on 1 st TNFi	Initiating 3 rd TNFi because of LOE on 1 st TNFi	Initiating 3 rd TNFi because of AE on 1 st TNFi	Initiating 3 rd TNFi because of LOE on 1 st TNFi
	LUNDEX adjusted ***			
BASDAI<4 at 6 / 12 / 24 months	40% / 37% / 29%			
ASDAS inactive disease at 6 / 12 / 24 months	21% / 16% / 14%			
	39% / 32% / 23%		39% / 28% / 19%	
	13% / 11% / 8%		15% / 13% / 9%	
			11% / 8% / 6%	

*Data are in absolute values (95% CI) or percentage (95% CI) unless otherwise specified. Data: Baseline Data; Disease Duration: Data: Disease Duration; Disease Activity: Data: Disease Activity

Figure: Kaplan-Meier curves (top) showing drug retention rates up to 24 months for 2nd TNFi, for 2nd TNFi (AE on 1st TNFi) and 3rd TNFi (AE or LOE on 2nd TNFi). The table (bottom) shows the number of patients who were still living at the corresponding time-point previously reported.

Conclusion: Data from 12 European countries demonstrated decreasing response rates with increasing number of previous TNFi, although with only minor difference between 2nd and 3rd. Patients who had withdrawn from the previous TNFi due to LOE had retention rates and remission rates similar to those who had withdrawn due to AE.

REFERENCES:

- [1] Brahe, et al. ACR 2018
- [2] Arthritis Rheum, 2006, 54(2), p:600-6.

Acknowledgement: Novartis Pharma AG and IQVIA for supporting the EuroSpA collaboration

Disclosure of Interests: Lykke Ørnbjerg Grant/research support from: Unrestricted grant: Novartis, Cecilie Heegaard Brahe Grant/research support from: Unrestricted grant: Novartis, Anne Gitte Loft: None declared, Johan Askling Grant/research support from: Karolinska Institutet (JA) has or has had research agreements with the following pharmaceutical companies, mainly in the context of the ATRIS national safety monitoring programme for rheumatology biologicals: Abbvie, BMS, MSD, Eli Lilly, Pfizer, Roche, Samsung Bioepis, and UCB., Consultant for: Karolinska Institutet has received remuneration for JA participating in ad boards arranged by Lilly, Novartis, and Pfizer., Adrian Ciurea Consultant for: AbbVie, Celgene, Janssen-Cilag, MSD, Eli Lilly, Novartis, Pfizer, UCB, Speakers bureau: Abbvie, Celgene, Janssen-Cilag, MSD, Eli Lilly, Novartis, Pfizer, UCB, Heřman Mann Consultant for: Pfizer, Eli Lilly, Sanofi, Speakers bureau: AbbVie, Roche, Pfizer, MSD, Eli Lilly, Sanofi, Servet Akar Grant/research support from: MSD, Abbvie, Roche, UCB, Novartis, Pfizer, Amgen, Consultant for: MSD, Abbvie, Roche, UCB, Novartis, Pfizer, Amgen, Speakers bureau: Pfizer, Eirik Kristianslund: None declared, Dan Nordström Grant/research support from: MSD, Pfizer, Consultant for: AbbVie, BMS, MSD, Novartis, Roche, Pfizer, UCB, Speakers bureau: Novartis, UCB, Maria Jose Santos: None declared, Catalin Codreanu: None declared, Manuel Pombo-Suarez: None declared, Ziga Rotar: None declared, Björn Gudbjörnsson: None declared, Daniela Di Giuseppe: None declared, Michael Nissen Consultant for: AbbVie, Lilly, Novartis, and Pfizer, Karel Pavelka: None declared, Soner Senel: None declared, Joe Sexton: None declared, Kari Eklund: None declared, Anabela Barcelos: None declared, Ruxandra Ionescu: None declared, Carlos Sánchez-Piedra: None declared, Matija Tomsic: None declared, Arni Jon Geirsson: None declared, Irene van der Horst-Bruinsma Grant/research support from: MSD, Pfizer, AbbVie, Consultant for: Abbvie, UCB, MSD, Novartis, Speakers bureau: BMS, AbbVie, Pfizer, MSD, Gary Macfarlane Grant/research support from: Have received research grants (not current) from Abbvie and Pfizer.

Have received research grants (not current) from the British Society for Rheumatology, who received the funds from Abbvie, Pfizer and UCB. Have received research grant (current) from the British Society for Rheumatology, who received the funds from Celgene., Florenzo Iannone Consultant for: F Iannone has received consultancy fees and/or speaker honoraria from Pfizer, AbbVie, MSD, BMS, Novartis, Lilly, UCB outside this work, Speakers bureau: F Iannone has received consultancy fees and/or speaker honoraria from Pfizer, AbbVie, MSD, BMS, Novartis, Lilly, UCB outside this work, Brigitte Michelsen: None declared, Lise Hyldstrup: None declared, Niels Steen Krogh: None declared, Merete L. Hetland Grant/research support from: BMS, MSD, AbbVie, Roche, Novartis, Biogen, Pfizer, Consultant for: Eli Lilly, Speakers bureau: Orion Pharma, Biogen, Pfizer, CellTrion, Merck, Samsung Bioepis, Mikkel Østergaard Grant/

research support from: Abbvie, Celgene, Centocor, Merck, Novartis, Consultant for: Abbvie, BMS, Boehringer-Ingelheim, Celgene, Eli Lilly, Hospira, Janssen, Merck, Novartis, Novo, Orion, Pfizer, Regeneron, Roche, and UCB, Speakers bureau: Abbvie, BMS, Boehringer-Ingelheim, Celgene, Eli Lilly, Hospira, Janssen, Merck, Novartis, Novo, Orion, Pfizer, Regeneron, Roche, and UCB

DOI: 10.1136/annrheumdis-2019-eular.4960

FRI0379 LONG-TERM EVALUATION OF SECUKINUMAB 150 MG IN ANKYLOSING SPONDYLITIS: 5-YEAR END-OF-STUDY EFFICACY AND SAFETY RESULTS FROM A PHASE 3 TRIAL

Helena Marzo-Ortega¹, Joachim Sieper², Alan Kivitz³, Ricardo Blanco⁴, Martin Cohen⁵, Karel Pavelka⁶, Eumorphia Maria Delicha⁷, Anna Stefanska⁸, Hanno Richards⁷, Susanne Rohrer⁷. ¹NIHR Leeds Biomedical Research Centre, Leeds Teaching Hospitals NHS Trust, University of Leeds, Leeds, United Kingdom; ²University Clinic Benjamin Franklin, Berlin, Germany; ³Altoona Center for Clinical Research, Duncansville, United States of America; ⁴Hospital Universitario Marqués de Valdecilla, Santander, Spain; ⁵McGill University, Montreal, Canada; ⁶Institute of Rheumatology and Department of Rheumatology, 1st Faculty of Medicine, Charles University in Prague, Prague, Czech Republic; ⁷Novartis Pharma AG, Basel, Switzerland; ⁸Novartis Ireland Limited, Dublin, Ireland

Background: Evaluation of long-term efficacy and safety for treatments for ankylosing spondylitis (AS) is important. Secukinumab, a fully human monoclonal antibody that directly inhibits interleukin-17A, has shown significant and sustained improvement in the signs and symptoms of AS through 3 years in the MEASURE 2 study (NCT01649375).¹

Objectives: We report the 5-year end-of-study results of subcutaneous (s.c.) secukinumab 150 mg in the MEASURE 2 study.

Methods: AS patients (pts; N = 219) were randomised to receive s.c. secukinumab 150 mg, 75 mg or placebo at baseline, Weeks (Wks) 1, 2 and 3 and every 4 wks from Wk 4. At Wk 16, placebo-treated pts were re-randomised to receive secukinumab 150/75 mg. Efficacy results are reported for pts initially randomised to secukinumab 150 mg and those who switched from placebo to secukinumab 150 mg at Wk 16 (N = 106). An optional dose escalation from secukinumab 75 mg to 150 mg was initiated beginning Wk 140. Outcome measures at Wk 260 included ASAS20/40, BASDAI50, BASMI, BASFI, SF-36 PCS and ASAS partial remission. Analyses stratified by anti-TNF status (anti-TNF-naïve and anti-TNF inadequate response [IR]) were performed. Safety analysis included all pts who received ≥1 dose of secukinumab. Results are reported as observed.

Results: The retention rate to Wk 260 was 77% (82/106) for secukinumab 150 mg. Sustained efficacy was observed with secukinumab 150 mg across all endpoints through 5 years (Table). Improvements were maintained regardless of prior exposure to anti-TNF therapy with greater responses in anti-TNF-naïve pts. A total of 49 pts on secukinumab 75 mg (46.7%) escalated dose to 150 mg after Wk 140; efficacy responses improved in pts whose dose was escalated. Over the entire study period, the mean exposure (±SD) to secukinumab was 1459.1 ± 597.8 days. Exposure-adjusted incidence rates (per 100 pt-years) with any secukinumab dose for selected adverse events were: *Candida* infections (1.0), Crohn's disease (0.5), major adverse cardiovascular events (0.7), uveitis (0.5), and malignant/unspecified tumours (0.5).

Conclusion: Secukinumab 150 mg provided sustained improvement in the signs, symptoms, and physical function in pts with AS through 5 years of treatment. The safety profile of secukinumab remained consistent with previous reports.¹⁻³

REFERENCES:

- Marzo-Ortega, et al. *RMD Open*. 2017;3:e000592; 2. Marzo-Ortega, et al. *Ann Rheum Dis*. 2016;75:812-3; 3. Baraliakos X, et al. *Clin Exp Rheumatol* 2017.

Disclosure of Interests: Helena Marzo-Ortega Grant/research support from: Janssen, Novartis and Pfizer, Consultant for: AbbVie, Celgene, Janssen, Eli-Lilly, Novartis and UCB, Speakers bureau: AbbVie, Celgene, Janssen, Eli-Lilly, Novartis and UCB, Joachim Sieper Consultant for: Abbvie, Boehringer Ingelheim, Janssen, Lilly, Merck, Mylan, Novartis, Pfizer, UCB., Speakers bureau: Abbvie, Boehringer Ingelheim, Janssen, Lilly, Merck, Mylan, Novartis, Pfizer, UCB., Alan Kivitz Shareholder of: Novartis, Consultant for: Abbvie, Janssen, Pfizer, UCB, Genzyme, Sanofi, Regeneron, Boehringer Ingelheim, Sun Pharma Advanced Research, Flexion., Paid instructor for: Celgene, Horizon, Merck, Novartis, Pfizer, Genzyme, Sanofi, Regeneron, Speakers bureau: Celgene, Horizon, Merck and Genetech,

Flexion, Ricardo Blanco Grant/research support from: Abbvie, MSD and Roche, Consultant for: Abbvie, Pfizer, Roche, Bristol-Myers, Janssen and MSD, Speakers bureau: Abbvie, Pfizer, Roche, Bristol-Myers, Janssen and MSD, Martin Cohen Consultant for: AbbVie, Amgen, Celgene, Lilly, Novartis, Pfizer, Sandoz, Sanofi and UCB, Speakers bureau: AbbVie, Amgen, Celgene, Janssen, Merck, Novartis and Pfizer, Karel Pavelka: None declared, Eumorphia Maria Delicha Employee of: Novartis, Anna Stefanska Shareholder of: Novartis, Employee of: Novartis, Hanno Richards Shareholder of: Novartis Pharma AG, Employee of: Novartis Pharma AG, Susanne Rohrer Shareholder of: Novartis, Employee of: Novartis

DOI: 10.1136/annrheumdis-2019-eular.5531

Table. Efficacy Endpoints with Secukinumab 150 mg at Week 260 (5 year)

Variable	Secukinumab 150 mg ¹		
	Total N = 106	Anti-TNF-naïve N = 66	Anti-TNF-IR N = 40
ASAS20 ²	69.9 (83)	73.7 (57)	61.5 (26)
ASAS40 ²	54.2 (83)	63.2 (57)	34.6 (26)
ASAS-Partial Remission ²	25.3 (83)	28.1 (57)	19.2 (26)
BASDAI50 ²	53.0 (83)	56.1 (57)	46.2 (26)
BASMI ³	-0.7±1.2 (80)	-	-
BASFI ³	-2.8±2.6 (83)	-	-
SF-36 PCS ³	8.0±8.5 (79)	8.5±8.9 (56)	6.8±7.4 (23)

Data are reported as observed; ¹Includes placebo switchers; ²% responders (n); ³mean change from baseline ± SD (n); IR, inadequate response; N, total number of randomised patients; n, number of evaluable patients; TNF, tumour necrosis factor

FRI0380 SECUKINUMAB PROVIDES SUSTAINED IMPROVEMENT OF ENTHESITIS IN PATIENTS WITH ANKYLOSING SPONDYLITIS: POOLED ANALYSIS OF FOUR PIVOTAL PHASE 3 STUDIES

Georg Schett¹, Xenofon Baraliakos², Filip van den Bosch³, Atul Deodhar⁴, Lianne S. Gensler⁵, Mikkel Østergaard⁶, Shital Agawane⁷, Ayan Das Gupta⁷, Shephard Mpofu⁸, Todd Fox⁹, Adam Winseck⁹, Abhijit Shete⁸, Brian Porter⁹.

¹Friedrich Alexander University Erlangen-Nuremberg, Department of Internal Medicine, Erlangen, Germany; ²Rheumazentrum Ruhrgebiet, and Ruhr University Bochum, Herne, Germany; ³Ghent University Hospital, Ghent, Belgium; ⁴Oregon Health and Science University, Oregon, United States of America; ⁵University of California, San Francisco, United States of America; ⁶Copenhagen Center for Arthritis Research (COPECARE), University of Copenhagen, Copenhagen, Denmark; ⁷Novartis Healthcare Pvt Ltd, Hyderabad, India; ⁸Novartis Pharma AG, Basel, Switzerland; ⁹Novartis Pharmaceuticals Corporation, East Hanover, United States of America

Background: Enthesitis can be a debilitating extra-articular spondyloarthritis (SpA) manifestation and cause of considerable pain and reduced quality of life/physical function.^{1,2}

Objectives: To evaluate the effect of secukinumab (SEC) on axial and peripheral enthesitis in ankylosing spondylitis (AS) patients (pts) with baseline enthesitis (BLE) across all Maastricht AS Enthesitis (MASES) sites (N=13), axial MASES sites [N=11; 13 MASES minus Achilles tendons (AT); Axs], peripheral sites (N=6; AT + lateral condyles of humerus/femur; PS) and the AT (N=2; AT) at Weeks (W) 16 and 52.

Methods: This post hoc analysis pooled data across 4 SEC studies in AS (MEASURE 1-4) from pts originally randomised to SEC 150mg (approved dose in AS), 300mg (MEASURE 3 only), or placebo (PBO) with BLE (MASES >0). Study designs have been reported previously. Evaluations include mean change from BL in MASES score, complete resolution (CR; MASES=0) and improvement from BL in MASES score of ≥5 counts. Mixed-effect model repeat measurement (MMRM) analysis was done on change from BL in MASES score and non-responder imputation for resolution of enthesitis at W16; data are reported as observed at W52.

Results: A total of 355 (70.4%), 58 (76.3%), and 280 (72%) pts had BLE in 150mg, 300mg and PBO groups, respectively. BL characteristics were generally comparable across groups. At W16, mean change from BL for overall MASES and at Axs was greater for SEC 150mg (-2.4 and -2.3) and 300mg (-2.9 and -2.9) vs PBO (-1.9 and -1.8; P<0.05 and <0.01). At W16, pts treated with SEC 150mg (40.8% and 42.7%) and 300mg (36.2% and 42.1%) vs PBO (28.9% and 30.1%) achieved CR of enthesitis based on overall MASES and at Axs. SEC150mg and 300mg were also consistently associated with higher mean change in MASES and CR of enthesitis at PS and individually at AT vs PBO. A higher proportion of pts treated with SEC 150/300mg vs PBO achieved a higher threshold of improvement (≥5 counts) in overall MASES at W16. Further improvements were observed for all endpoints at W52 (Table).