grants from: Abbvie, Amgen, Aurora, Bristol-Myers Squibb, Celgene, Hospira, Janssen, Lilly, Medexus, Merck, Novartis, Pfizer, Roche, Sanofi, & UCB. Dr. Bombardier held a Canada Research Chair in Knowledge Transfer for Musculoskeletal Care and a Pfizer Research Chair in Rheumatology
DOI: 10.1136/annrheumdis-2021-eular.912

OP0180

IMPACT OF RF AND ANTI-CITRULLINATED PROTEIN ANTIBODY SEROSTATUS ON 2-YEAR RETENTION OF ABATACEPT IN PATIENTS WITH RA

R. Alten¹, X. Mariette², R. M. Flipo³, R. Caporali^{4,5}, M. H. Buch^{6,7}, Y. Patel⁸, R. Sanmarti⁹, S. Marsal¹⁰, M. T. Nurmohamed¹¹, H. Griffiths¹², P. Peichi¹³, B. Bannert¹⁴, A. Forster¹⁵, M. Chartier¹⁶, S. Connolly¹⁷, Y. Elbez¹⁸, C. Rauch¹⁹, V. Khaychuk²⁰, K. Lozenski²¹. ¹Schlosspark-Klinik University, Department of Internal Medicine, Rheumatology, Berlin, Germany; ²Université Paris-Saclay, AP-HP, Hôpital Bicêtre, Department of Rheumatology, Paris, France; ³Centre Hospitalier Universitaire de France, Department of Rheumatology, Lille, France; ⁴University of Milan, Department of Clinical Sciences and Community Health, Milan, Italy; ⁵G. Pini Hospital, Clinical Rheumatology Unit, Milan, Italy; ⁶University of Leeds, Leeds Institute for Rheumatic and Musculoskeletal Medicine, Leeds, United Kingdom; ⁷University of Manchester, Division of Musculoskeletal & Dermatological Sciences, Manchester, United Kingdom; ⁸Hull Royal Infirmary, Rheumatology, Hull, United Kingdom; ⁹Hospital Clinic de Barcelona, Rheumatology Department, Barcelona, Spain; ¹⁰Hospital Universitari Vall d'Hebron, Rheumatology, Barcelona, Spain; ¹¹ARC Amsterdam University Hospitals – VU University Medical & Reade, Department of Rheumatology, Amsterdam, Netherlands; ¹²University Hospital Geelong, Barwon Rheumatology Service, Geelong, Australia; ¹³Evangelical Hospital, Department of Internal Medicine, Vienna, Austria; ¹⁴Universitätsspital Basel, Rheumatologische Universitätsklinik, Basel, Switzerland; ¹⁵Schulthess Klinik, Department of Rheumatology, Zürich, Switzerland; ¹⁶Bristol Myers Squibb, Non-Registralional Data Generation, Rueil-Malmaison, France; ¹⁷Bristol Myers Squibb, Global Drug Development, Princeton, United States of America; ¹⁸Deepcover, Biostatistics, Puteaux, France; ¹⁹Bristol Myers Squibb, Medical Immunology & Fibrosis, Munich, Germany; ²⁰Bristol Myers Squibb, US Medical Immunology and Fibrosis, Princeton, United States of America; ²¹Bristol Myers Squibb, Immunology and Fibrosis, Princeton, United States of America

Background: Up to 50% of patients with RA discontinue DMARD treatment within 18 months.¹ However, up to 20% of patients who fail multiple treatments may have a good treatment response to another therapy.¹ Predictive biomarkers, such as RF and anti-citrullinated protein antibodies (ACPAs), may be useful to stratify patients with RA to the most appropriate treatment.¹ ASCORE (Abatacept SubCutaneous in Routine Clinical Practice; NCT02090556) was a 2-year, observational, prospective, multicentre study of SC abatacept for the treatment of RA in routine clinical practice.² **Objectives:** To determine if RF/ACPA serostatus and treatment line impact abatacept retention in patients with RA in a *post hoc* analysis of ASCORE.

Methods: Eligible patients, aged ≥ 18 years, with active moderate-to-severe RA (ACR/EULAR 2010 criteria) who were IV abatacept-naïve and initiated SC abatacept 125mg once weekly, were enrolled into two cohorts: biologic (b) DMARD-naïve patients and those with ≥ 1 prior bDMARD treatment failure. This *post hoc* analysis assessed abatacept retention rate at 2 years in a subset of patients with RF/ACPA serostatus data (n=1748) from the ASCORE study (N=2892; as observed). Baseline (BL) serostatus groups examined by treatment line were: RF/ACPA double positive (+/+) RA, RF/ACPA single positive (RF+/ACPA- or RF-/ACPA+) RA (data not shown) and RF/ACPA double negative (-/-) RA. Last observation carried forward (LOCF) analyses were used to assess change from BL and measures of disease remission (DAS28 [CRP] < 2.6 , CDAI ≤ 2.8 , and SDAI ≤ 3.3) in patients with +/- RA versus -/- RA. **Results:** BL demographic and disease characteristics were similar across serostatus groups and treatment lines (Table 1). Mean age was 57.1 and 57.8 years for +/- RA and -/- RA, respectively. Mean DAS28 (CRP) was 4.7 and 4.8 for +/- RA and -/- RA, respectively. In patients with +/- RA, abatacept retention was greater when given as first-line treatment (57% vs 48% when given as $\geq$ second-line) (Figure 1). Retention was similar in patients with -/- RA regardless of treatment line. After 2 years, mean (SE) change from BL (LOCF) in DAS28 (CRP) was -1.41 (0.06) and -0.97 (0.09) for patients with +/- and -/- RA, respectively. For patients with +/- RA, mean (SE) change from BL in DAS28 (CRP) was -1.62 (0.08) for those in whom abatacept was first-line and -1.19 (0.08) for those in

whom abatacept was $\geq$ second-line. For patients with -/- RA, mean (SE) change from BL in DAS28 (CRP) was -1.03 (0.13) for those in whom abatacept was first-line and -0.93 (0.12) for those in whom abatacept was $\geq$ second-line. Remission rates (LOCF) were significantly ($p < 0.0001$) higher in patients with +/- RA vs -/- RA respectively: DAS28 (CRP) 38.4% (n=393) versus 19.3% (n=62); CDAI 50.6% (n=513) versus 33.0% (n=107); and SDAI 49.5% (n=497) versus 32.5% (n=102). **Conclusion:** In this real-world analysis, patients with +/- RA treated with first-line abatacept had higher retention than patients receiving abatacept as a $\geq$ second-line therapy. Remission rates on abatacept were higher in patients with +/- RA versus -/- RA. These results support early treatment with abatacept and highlight the importance of further evaluating precision medicine approaches in RA.

REFERENCES:

- Smolen JS, et al. *Ann Rheum Dis* 2020;79:685–699.
- Alten R, et al. *Ann Rheum Dis* 2019;78(suppl 2):A1639.

Figure 1. Retention rates by treatment group in patients with +/- RA

Patients with missing data for baseline RF/ACPA status are excluded.
+/- RF/ACPA double positive; ACPA=anti-citrullinated protein antibody; KM=Kaplan-Meier.

Acknowledgements: Professional medical writing and editorial assistance was provided by Lindsay Craik at Caudex and was funded by Bristol Myers Squibb. This study was funded by Bristol Myers Squibb.

Disclosure of Interests: Rieke Alten Speakers bureau: AbbVie, Bristol Myers Squibb, Gilead, Janssen, Lilly, Pfizer, Consultant of: AbbVie, Bristol Myers Squibb, Gilead, Janssen, Lilly, Pfizer, Grant/research support from: AbbVie, Bristol Myers Squibb, Gilead, Janssen, Lilly, Pfizer, Xavier Mariette Consultant of: Bristol Myers Squibb, Galapagos, Gilead, GlaxoSmithKline, Janssen, Pfizer, UCB, Rene-Marc Flipo Speakers bureau: AbbVie, Bristol Myers Squibb, Janssen, Lilly, Medac, Merck Sharp & Dohme, Novartis, Pfizer, Roche-Chugai, Grant/research support from: Amgen, Janssen, Novartis, Pfizer, Roberto Caporali Speakers bureau: AbbVie, Amgen, Bristol Myers Squibb, Celltrion, Fresenius Kabi, Galapagos, Gilead, Lilly, Merck Sharp & Dohme, Pfizer, Roche, Samsung Bioepis, Sanofi, UCB, Consultant of: Galapagos, Gilead, Janssen, Lilly, Merck Sharp & Dohme, Maya H Buch Speakers bureau: AbbVie, Consultant of: AbbVie, Eli Lilly, Gilead, Merck Serono, Pfizer, Roche, Sanofi, Grant/research support from: Gilead, Pfizer, Roche, UCB, Yusuf Patel: None declared, Raimón Sanmartí Speakers bureau: AbbVie, Bristol Myers Squibb, Gebro, Janssen, Lilly, Merck Sharp & Dohme, Pfizer, Roche, Sanofi, Consultant of: AbbVie, Bristol Myers Squibb, Gebro, Lilly, Merck Sharp & Dohme, Pfizer, Roche, Sanofi, Grant/research support from: Bristol Myers Squibb, Merck Sharp & Dohme, Pfizer, Sara Marsal Speakers bureau: Bristol Myers Squibb, Celgene, Pfizer, Roche, Sanofi, UCB, Consultant of: AbbVie, Bristol Myers Squibb, Celgene, Galapagos, Merck Sharp & Dohme, Pfizer, Roche, Sanofi, UCB, Grant/research support from: AbbVie, Bristol Myers Squibb, Celgene, Janssen, Merck Sharp & Dohme, Novartis, Pfizer, Roche, Sanofi, UCB, M.T. Nurmohamed Speakers bureau: AbbVie, Bristol Myers Squibb, Eli Lilly, Roche, Sanofi, Consultant of: AbbVie, Celgene, Celltrion, Eli Lilly, Janssen, Grant/research support from: AbbVie, Bristol Myers Squibb, Celgene, Eli Lilly, Janssen, Merck Sharp & Dohme, Mundipharma, Novartis, Pfizer, Roche, Sanofi, Hedley Griffiths Consultant of: AbbVie, Gilead, Janssen, Novartis, Peter Peichi: None declared, Bettina Bannert: None declared, Adrian Forster: None declared, Melanie Chartier Shareholder of: Bristol Myers Squibb, Employee of: Bristol Myers Squibb, Sean Connolly Shareholder of: Bristol Myers Squibb, Employee of: Bristol Myers Squibb, Yedid Elbez Consultant of: Bristol Myers Squibb, Christiane Rauch Shareholder of: Bristol Myers Squibb, Employee of: Bristol Myers Squibb, Vadim Khaychuk Shareholder of: Bristol Myers Squibb, Employee of: Bristol Myers Squibb, Karissa Lozenski Shareholder of: Bristol Myers Squibb, Employee of: Bristol Myers Squibb

DOI: 10.1136/annrheumdis-2021-eular.932

Table 1. BL demographics and disease characteristics by RF/ACPA status

	+/+ RA (n=1079)		-/- RA (n=343)	
	First-line (n=511)	≥ second-line (n=568)	First-line (n=140)	≥ second-line (n=203)
Age	57.1 (13.4)	57.1 (12.2)	59.5 (14.7)	56.6 (13.2)
DAS28 (CRP)	4.7 (1.2)	4.7 (1.2)	4.8 (1.1)	4.8 (1.2)
CDAI	26.6 (12.5)	26.6 (12.4)	27.7 (12.5)	28.6 (13.8)
SDAI	28.1 (13.1)	28.1 (12.9)	29.1 (12.9)	30.2 (14.7)

Data are mean (SD). Patients with missing data for BL RF/ACPA status are excluded. ACPA=anti-citrullinated protein antibody; BL=baseline.