Objectives: We have investigated the hypothesis that statin, an agent with pleiotropic effects, could augment the therapeutic potential of AdSCs. **Methods:** ILD was induced by bleomycin (BLM) in C57BL/6 mouse, and the mice were assigned in the following groups: 1) Control, 2) NP-AdSCs (2.5×10^4 cells), and 3) STNP-AdSCs (2.5×10^4 cells).

Results: Simvastatin-conjugated nanoparticles (STNP) significantly promoted the migration activity and cell survival without changing the proliferation activity, and up-regulated transforming growth factor (TGF) β -1 in vitro assays. Lung inflammation and fibrosis assessed were significantly suppressed at 4 weeks after starting BLM administration in STNP-AdSCs group (Figure). The levels of IL-4, IFN- γ , TNF- α , COL1A1, and TIMP1 mRNA expression at 28 days after BLM administration were significantly lower in STNP-AdSCs group compared with that in other groups.

Conclusion: Simvastatin-conjugated nanoparticles enhanced the therapeutic effect of a small number of AdSCs transplantation.

Abstract THU0338 – Figure 1

REFERENCE:

[1] Sci Rep 6; 7 (1): 14608, 2017.

Acknowledgement: This study was supported by Grants-in-Aid for Scientific Research-KAKENHI- of Japan (18K08160).

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.6636

THU0339 PULMONARY INVOLVEMENT AND OUTCOME IN SYSTEMIC SCLEROSIS (SSC) – ILD-PH AS AN IMPORTANT SUBSET

Michael Kreuter¹, Francesco Bonella², Ulf Müller-Ladner³, Elise Siegert⁴, Jörg Henes⁵, Gabriela Riemekasten⁶, Norbert Blank⁷, Marc Schmalzing⁸, Ina Koetter⁹, Claudia Guenther¹⁰, Tim Schmeiser¹¹, Gabriele Zeidler¹², Alexander Kreuter¹³, Margitta Worm¹⁴, Laura Susok¹⁵, Aaron Juche¹⁶, Christiane Pfeiffer¹⁷, Cord Sunderkoetter¹⁸, Donja Homayoon¹⁹, Kathrin Kuhr²⁰, Hanns-Martin Lorenz²¹, Pia Moinszadeh²², Nicolas Hunzelmann²². ¹Center for interstitial and rare lung disease, Thoraxklinik, University Hospital, Pneumology, Heidelberg, Germany; ²Center for interstitial and rare lung disease Ruhrlandklinik University Hospital, Essen, Germany; ³Justus Liebig University, Campus Kerckhoff, Rheumatology, Giessen, Germany; ⁴Charité – Universitätsmedizin Berlin, Rheumatology, Berlin, Germany; ⁵Center for Interdisciplinary Clinical Immunology, Rheumatology and Autoinflammatory Diseases, University Hospital, Tuebingen, Germany; ⁶University Medical Center – UKSH, Rheumatology, Luebeck, Germany; ⁷University Hospital Heidelberg, Rheumatology, Heidelberg, Germany; ⁸University Hospital Würzburg, Rheumatology, Würzburg, Germany; ⁹Asklepios Klinik Altona, Internal Medicine, Rheumatology, Immunology and Nephrology, Hamburg, Germany; ¹⁰University Hospital Carl Gustav Carus, Dermatology, Dresden, Germany; ¹¹Hospital St. Joseph, Rheumatology, Wuppertal, Germany; ¹²Johanniter-Krankenhaus im Fläming, Rheumatology, Treuenbrietzen, Germany; ¹³HELIOS St. Elisabeth Hospital Oberhausen, University Witten-Herdecke, Dermatology, Oberhausen, Germany; ¹⁴Charité – Universitätsmedizin Berlin, Dermatology, Berlin, Germany; ¹⁵Ruhr-University-Bochum, St. Josef Hospital, Dermatology, Bochum, Germany; ¹⁶Immanuel Hospital Berlin (Buch), Rheumatology, Berlin, Germany; ¹⁷University Hospital Ulm, Dermatology, Ulm, Germany; ¹⁸University Hospital Halle (Saale), Dermatology, Halle, Germany; ¹⁹Medical University of Graz, Dermatology, Graz, Austria; ²⁰University of Cologne, IMSB, Cologne, Germany; ²¹Center for interstitial and rare lung disease Ruhrlandklinik University Hospital, Pneumology, Essen, Germany; ²²University Hospital Cologne, Dermatology, Cologne, Germany

Background: Pulmonary involvement is the leading cause of death in SSC and can manifest as interstitial lung disease (ILD), pulmonary

hypertension (PAH) or a combination (ILD-PH). Aim of this analysis was to determine prevalence, clinical characteristics and outcomes of different forms within the German SSC Network.

Objectives:

Methods: SSC patients were analyzed for pulmonary involvement, clinical characteristics and outcome.

Results: There were 3699 pts in 42 centers with a mean follow up time of 34.4 ± 12.6 months. At baseline, ILD was frequent (29.5%), while ILD-PH and PAH had lower prevalences (7.5%, 6.1%). At the end of follow up, 32% of SSC pts had ILD, 13% ILD-PH and 7% PAH. ILD and ILD-PH were more frequent in the diffuse form (47%, 12%), while PAH did not differ between subforms. Significant differences in baseline characteristics between PAH vs. ILD-PH vs. ILD were found for age (62, 59, 54 years), sex (males: 15%, 22%, 24%) and smoking prevalence (non-smokers 49%, 63%, 57%). Mean DLCO and FVC were 56%/93% for PAH, 49%/78% for ILD-PH and 56%/81% for ILD. Significant decreases for DLCO ($\geq 15\%$) and FVC ($\geq 10\%$) were found in 45%/26% in PAH, 45%/26% for ILD-PH and 36%/16% in ILD. All-cause mortality was 8.1% for the total cohort and differed significantly between patients without pulmonary involvement (4%), ILD (7.8%), PAH (14.2%), and ILD-PH (21%, $p < 0.001$).

Conclusion: ILD is the most prevalent pulmonary involvement in SSC, while PH-ILD is associated with the most detrimental survival. Significant differences in baseline characteristics of types of pulmonary SSC involvement may help to identify patients at risk in the future.

Disclosure of Interests: Michael Kreuter Grant/research support from: Boehringer Ingelheim, Roche Pharma, Consultant for: Boehringer Ingelheim, Roche Pharma, Speakers bureau: Boehringer Ingelheim, Roche Pharma, Francesco Bonella Consultant for: Boehringer Ingelheim, Roche Pharma, Speakers bureau: Boehringer Ingelheim, Roche Pharma, Ulf Müller-Ladner Grant/research support from: Projekt supported by an unrestricted educational grant from Celgene GmbH., Elise Siegert Shareholder of: Astra Zeneca, Grant/research support from: Actelion, Consultant for: AEC Partners, Speakers bureau: Actelion, Norsk, Jörg Henes: None declared, Gabriela Riemekasten Consultant for: Chugai, F. Hoffmann-La Roche, Speakers bureau: Chugai, F. Hoffmann-La Roche, Norbert Blank Grant/research support from: SOBI and Novartis, Speakers bureau: Novartis and SOBI, Marc Schmalzing Grant/research support from: Pfizer, Chugai, MSD, Janssen-Cilag, BMS, Celgene, UCB, Consultant for: Abbvie, Chugai, Genzyme, Hexal/Sandoz, MSD, Novartis, Roche, Sanofi Pasteur, Speakers bureau: Actelion, Baxalta/Shire, BMS, Celgene, Chugai, Janssen-Cilag, MSD, Novartis, Pfizer, Roche, UCB, Ina Koetter: None declared, Claudia Guenther Grant/research support from: Pfizer, Novartis, Employee of: 20 years ago, Novartis, Speakers bureau: Celis, Tim Schmeiser Speakers bureau: Actelion, UCB, Pfizer, Gabriele Zeidler Grant/research support from:

- MSD Sharp & Dohme GmbH
- Actelion Pharmaceuticals Deutschland GmbH
- Roche Pharma AG
- AbbVie Deutschland GmbH Co. KG
- Pfizer Pharma GmbH
- Lilly Deutschland GmbH
- Celgene GmbH

Bristol-Myers Squibb

UCB Pharma GmbH/UCB GmbH, Speakers bureau:

- MSD Sharp & Dohme GmbH
- Actelion Pharmaceuticals Deutschland GmbH
- Roche Pharma AG
- AbbVie Deutschland GmbH Co. KG
- Pfizer Pharma GmbH
- Lilly Deutschland GmbH
- Celgene GmbH

Bristol-Myers Squibb

UCB Pharma GmbH/UCB GmbH, Alexander Kreuter Speakers bureau: Actelion Pharma, MSD, AbbVie, InfektioPharm, Margitta Worm: None declared, Laura Susok: None declared, Aaron Juche: None declared, Christiane Pfeiffer: None declared, Cord Sunderkoetter: None declared, Donja Homayoon: None declared, Kathrin Kuhr: None declared, Hanns-Martin Lorenz: None declared, Pia Moinszadeh Speakers bureau: Actelion, Nicolas Hunzelmann Speakers bureau: Boehringer Ingelheim, Actelion, Pfizer, Roche

DOI: 10.1136/annrheumdis-2019-eular.1775