AB0544  PHENOTYPING ON MUCOSAL MOLECULAR SIGNATURE OF PATIENTS WITH ULCERATIVE COLITIS ANALYSIS

Keywords: Gastrointestinal tract, Autoantibodies, -Omic

M. R. Chen1,2, Q. Wang1,2, J. W. Hao1,2, M. J. Chang1,2, S. X. Zhang1,2, Q. Yu1, P. F. He3,4. 1Shanxi Medical University, Ministry of Education, Key Laboratory of Cellular Physiology, Taiyuan, China; 2Second Hospital of Shanxi Medical University, Department of Rheumatology, Taiyuan, China; 3Shanxi Medical University, Shanxi Key Laboratory of Big Data for Clinical Decision, Taiyuan, China; 4Shanxi Medical University, School of Management, Taiyuan, China; 5Shanxi Medical University, Medical Data Sciences, Taiyuan, China

Background: Ulcerative colitis (UC) is an inflammatory bowel disease characterized by idiopathic and recurrent mucosal inflammation, whereas disease heterogeneity has not sufficiently translated into current clinical subclassifications [1].

Objectives: This study aims to identify and characterize subgroups of patients with similar target status and molecular biomarkers to reliably predict treatment response which is of great interest for the treatment of UC patients.

Methods: 16 microarray datasets including 602 colon tissue samples (455 patients with UC and 147 healthy controls) were both obtained from GEO database. Depend on up-regulated differentially expressed genes (DEGs), unsupervised clustering [2] was applied to group the samples and pathways and biomarkers associated with UC was unearthed by gene-set enrichment analysis. Xgboost classifier was used for evaluating the efficacy of different biologics in patients with UC.

Results: According to the 267 upregulated DEGs of UC, colon tissue samples were classified into three subtypes (A-C) with distinct molecular and cellular characteristics. Subtype A is designated as epithelial hyperplastic subtype with epithelial features while subtype C was characterized by the immune activation subtype with prominent immune cells and proinflammatory signatures. The subtype B is named mixed, which is in between the above two and is moderately activated in all signaling pathways. It is worth noting that, compared with subtype C as refractory UC patients, subtype A shows stronger correlation with the excellent reactions of biological agents such as golimumab (80% in A vs 37.5% in C), infliximab (100% in A vs 16.7% in C), vedolizumab (80% in A vs 65.2% in C), and adalimumab (100% in A vs 78.9% in C) and disease activity.

Conclusion: These results, based on the most comprehensive microarray provide an in-depth understanding of the pathophysiological characteristics of UC, and build an accurate typing model for ulcerative colitis, which can benefit clinical treatment.

REFERENCES:

Acknowledgements: NIL.
Disclosure of Interests: None Declared.
DOI: 10.1136/annrheumdis-2023-eular.1190

AB0545  EFFECT OF BELIMUMAB ON CLINICAL PROFILES AND DAILY LIVING SCORE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE)

Keywords: Biomarkers, bDMARD, Mental health

T. Ishizuka1, K. Fujioka1, M. Tangiku1, H. Tani1, A. Maeda1, A. Kato1. 1Gifu Municipal Hospital, Center of General Internal Medicine, Gifu, Japan

Background: Belimumab (BE) was shown to decrease disease activity, glucocorticoid intake, and flare rates, thereby suppression of disease progression, and also has been included in the 2019 EULAR recommendations on SLE management as an approved biological drug to be used in patients with a refractory response to a standard of care regimen.

Objectives: We have examined the effect of belimumab on activities of daily living score (AS), immunological data, disease activities and dose of PSL in patients with SLE.

Methods: We selected 36 cases (F/M 30/6) from 2018 to 2022 in patients with SLE treated with BE (iv or sc) to clarify the effect of BE on immunological data, disease activities (SLEDAI), AS (Lupus 26: 849, 2017), and dose of PSL after treatment for 6 months (M), 12M and 24M.

Results: Mean BMI and duration of disease were 20.5±3.7 kg/m² and 15.7±13.8 years. Two cases could not continue due to arthralgia and loss of hair within 24M. After treatment with BE for 6M and 12M, anti-dsDNA antibodies (AU/mL) were significantly decreased for 12M and 24M, respectively (p<0.05, before 61±103, 6M 28±48, 12M 23±23), and C3, C4 and CH50 (U/mL) were significantly increased (p<0.05, before 76±26, 14±7 and 28±10.18, 6M 186±18, 18±7 and 35±9.2, 12M 185±18, 18±7 and 135±9.2). Levels of SLEDAI score were significantly decreased (p<0.01, before 12±7, 6M 5±3, 12M 4±3 and Doses of PSL (mg) were significantly decreased (p<0.05-0.02, before 10±6.1, 6M 5±7.7±3.0). AS scores were also significantly improved (p<0.01-0.05), before 28±14.2, 12M 14±15.8, 24M 16±10.9. Especially, anxiety, depression and loss of concentration, which were important marker for activities of living score, were not significantly changed.

Conclusion: Effects of BE on immunological data, disease activities, and daily living scores, induction of clinical remission and dose reduction of prednisolones were tolerated without major adverse effects in patients with SLE.

REFERENCE:

Acknowledgements: NIL.
Disclosure of Interests: None Declared.
DOI: 10.1136/annrheumdis-2023-eular.1367

AB0546  DESIGN OF ANIFROLUMAB STUDY OF TREATMENT EFFECTIVENESS IN THE REAL WORLD (ASTER): A MULTI-NATIONAL, OBSERVATIONAL, POST-LAUNCH STUDY TO DESCRIBE THE CLINICAL EFFECTIVENESS OF ANIFROLUMAB IN ROUTINE CLINICAL PRACTICE IN PATIENTS WITH SLE

Keywords: Real-world evidence, Quality of life, Systemic lupus erythematosus

M. Mosca1, C. Emmas2, C. Nan2, H. Stinadel-Farrant2, S. Chen2, L. Carry3, B. Desta2, C. Seo2, S. Chen2, A. Sorrentino3. 1University of Pisa, Clinical and Experimental Medicine, Pisa, Italy; 2AstraZeneca, Respiratory & Immunology Evidence, BioPharmaceuticals Medical, Cambridge, United Kingdom; 3AstraZeneca, CVRM Evidence, BioPharmaceuticals Medical, Mïndal, Sweden; 4AstraZeneca, Oncology Outcomes Research, Global Medical Affairs, Cambridge, United Kingdom; 5AstraZeneca, Evidence Delivery, BioPharmaceuticals Medical, Mïndal, Sweden; 6AstraZeneca, BioStatistics, Cambridge, United Kingdom; 7AstraZeneca, BioPharmaceuticals Business Unit, Gaithersburg, MD, United States of America; 8AstraZeneca, Patient Centered Science, BioPharmaceuticals Medical Evidence, Gaithersburg, MD, United States of America; 9AstraZeneca, BioPharmaceuticals Medical, Gaithersburg, MD, United States of America; 10AstraZeneca, Global Medical Affairs, Respiratory & Immunology, BioPharmaceuticals Medical, Cambridge, United Kingdom

Background: Real-world evidence (RWE) on prescription medication use for systemic lupus erythematosus (SLE) is limited, and no real-world studies to date have investigated medication use post-launch with anifrolumab, a type I interferon receptor inhibitor. ASTER is the first multi-national, real-world study to examine patients with SLE receiving standard therapy who initiate anifrolumab treatment as an add-on biologic.

Objectives: To describe the study design of ASTER.

Methods: ASTER (NCT05637112) is a longitudinal, observational cohort study with 1 year of retrospective baseline data and 3 years of follow-up after first anifrolumab initiation until patient discontinuation, death, loss to follow-up or end of study (whichever occurs first). Adults with an SLE diagnosis per the 2019 European