GLOBAL TRENDS OF THE SURVIVAL OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS BETWEEN THE 1950S TO 2020

Keywords: Organ damage, Epidemiology, Systemic lupus erythematosus

T. Lim1, S. Angkodijo2, M. Cheung2, A. Mak1. 1National University of Singapore, Medicine, Singapore, Singapore; 2Sengkang General Hospital, General Medicine, Rheumatology & Immunology, Singapore, Singapore; 3National University of Singapore, Psychology, Singapore, Singapore

Background: The trend of, and the impact of major organ damage on the short- and longer-term survival of patients with systemic lupus erythematosus (SLE) globally over the past 60 years have not been systematically studied by meta-analyses, particularly regarding the impact of the interaction of pharmacological companies including GlaxoSmithKline, Johnson & Johnson, Pfizer, Grant, research support from: Dr. Williams has received research funding from Biometrics, Eli Lilly, the Engineering and Physical Sciences Research Council, GlaxoSmithKline, Johnson & Johnson, Lundbeck, the National Institute of Health Research, Pfizer, Takeda, and Wellcome Trust., Employee of: Dr. Williams has previously consulted for a number of pharmaceutical companies; I previously worked for Pfizer.

Methods: Observational studies that were written in English and reported the survival rates of patients with SLE published between the 1950 and 2021 were searched, identified and extracted from PubMed and Embase. Studies which only reported survival rates shorter than 5 years were excluded. The effect sizes of the overall 5-, 10-, 15- and 20-year survival rates and their respective trends over time of patients with SLE were determined by random-effects meta-analyses. Meta-regression analyses were conducted to investigate the impact of covariates, including the interaction between the year of publication (time) and factors including major organ damage that comprised cardiovascular, renal, neuropsychiatric and musculoskeletal damage, proportion of female SLE patients in respective studies, and regions (including Asia, Europe, Middle East, North America, South America, Oceania and others) where the studies were conducted.

Results: In total, 281 observational studies that were published between 1955 and 2020 were identified and eligible for analyses. The overall 5- and 10-year survival rates of SLE patients increased from 71.82% to 94.27%, and from 58.23% to 90.44%, respectively, from 1960 to 2020. The overall 15-year survival rate of SLE patients increased from 64.36% in the 1980s to 85.00% in 2020, while that of 20-year survival rate increased from 58.82% to 84.02%.

The trend of the 10-year survival rate of SLE patients in the past 60 years

Conclusion: Both the short- and longer-term survival of patients with SLE have been increasing steadily from the 1950s to 2020. While cardiovascular damage impacted significantly the 5-year survival rate, neuropsychiatric and overall SLE disease damage at baseline with their interactions with time, exerted a significant impact on the 10-year survival rate of patients with SLE since the 1950s. Although the 15- and 20-year survival rates of SLE patients have been promisingly increasing, more studies are required to further address the determinants of these longer-term survival rates. The impact of sex difference with its interaction with time on the survival of SLE patients require more focused and mechanistic studies.

REFERENCES: NIL.

Disclosure of Interests: Tritan Lim: None declared, Mark Williams: None declared.

Acknowledgements: NIL.