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Risk factors of systemic lupus erythematosus patients with pulmonary hypertension: a systematic review and meta-analysis

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Corresponding author:
Zhou Xinpeng

zhouxinpeng.no.1@163.com

Author Affiliation:
Affiliated Hospital of Shandong University of Traditional Chinese Medicine.

Lun, XP[1]; Yang, JG[2]; Liu, Y[3]; Zhao, FY[4]; Wei, ZL[5]; Sun, YY[6]; Zhou. XP[7].

ADMINISTRATIVE INFORMATION

Support - Construction project of the National Famous Traditional Chinese Medicine Inheritance Studio of the State Administration of Traditional Chinese Medicine-(Zhang Minghe National Famous Traditional Chinese Medicine Inheritance Studio) Junior High School Medical Office People's Education Letter [2018] No. 119; Shandong Provincial Health Commission 2020 Qilu Medical School Traditional Chinese Medicine Academic Genre Inheritance Project (Lu Weihan [2020] No. 132); Shandong Provincial Administration of Traditional Chinese Medicine Shandong Province Traditional Chinese Medicine Science and Technology Development Plan-Professor Zhang Minghe's Comprehensive Diagnosis and Treatment Plan for Psoriatic Arthritis Inheritance Research (2019-0066).

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 18 August 2023 and was last updated on 18 August 2023.

INTRODUCTION

Review question / Objective The study aimed to evaluate risk factors in systemic lupus erythematosus (SLE) patients with pulmonary hypertension (PH) using meta-analysis.

Condition being studied The relevant literature on the risk factors of PAH in SLE patients in China Knowledge Network, PubMed, Embase and other platforms is retrieved by computer, and the literature retrieval time is limited to the establishment of the library until October 2022.The two research institutes independently screened the literature and extracted the literature materials, including the first author, publication time, case collection time, sample size, and research factors, and used the Newcastle-Ottawa Scale (NOS) to evaluate the quality of the literature.

METHODS

Participant or population Systemic lupus erythematosus patients with pulmonary hypertension.

Intervention None.

Comparator None.

Study designs to be included Case control studies and cohort studies.

Eligibility criteria (1) Primary literature published at home and abroad on the risk factors for PAH in patients with SLE; (2) The types of literature are case-control and cohort studies, and both SLE and PAH have clear diagnostic criteria.

Information sources China National Knowledge Internet, China Science and Technology Journal Database, Wanfang Data, China Biology Medicine disc, PubMed and Embase.

Main outcome(s) Risk factors of systemic lupus erythematosus patients with pulmonary hypertension, including Raynaud's phenomenon, anti-RNP antibodies, pulmonary interstitial lesions, combined serositis, combined pericardial effusion, combined vasculitis, rheumatoid factors, etc.

Quality assessment / Risk of bias analysis The Newcastle-Ottawa Scale (NOS) was used to evaluate the quality of literature.

Strategy of data synthesis The relationship between clinical manifestations and laboratory indicators and the occurrence of PAH in SLE patients was evaluated based on the ratio ratio (OR value) and its 95% CI.

Subgroup analysis Raynaud's phenomenon, anti-RNP antibodies, pulmonary interstitial lesions, combined serositis, combined pericardial effusion, combined vasculitis, rheumatoid factors, etc.

Sensitivity analysis The heterogeneity analysis of the 9 observed indicators is carried out one by one. If $P>0.10$, and $I2\leq50\%$, the fixed effect model is used for analysis; if $P\leq0.10$, or $I2>50\%$, the random effect model is used.The results showed that the heterogeneity of Raynaud's phenomenon, anti-RNP antibodies, pulmonary interstitial lesions, serositis, and anti-sm antibodies was large, so the random effect model was used for analysis, and the overall symmetry of the funnel chart of the above observation indicators was good.The four observational indicators of pericardial effusion, vasculitis, anti-ds-DNA antibodies, and rheumatoid factors were analyzed using a fixed effect model.

Country(ies) involved China.

Keywords systemic lupus erythematosus; pulmonary hypertension; risk factors; meta.

Contributions of each author

Author 1 - Lun Xueping.
Email: lxping19960601@163.com
Author 2 - Yang Jianguo.
Email: a2271500910@163.com
Author 3 - Liu Ying.
Email: lytt_1994@163.com
Author 4 - Zhao Fuyu.
Email: herofuyu@163.com
Author 5 - Wei Zhiliang.
Email: weizhiliang777@163.com
Author 6 - Sun Yuying.
Email: sunyuying626@163.com
Author 7 - Zhou Xinpeng.
Email: zhouxinpeng.no.1@163.com