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# Surface protein A as an important biomarker for interstitial lung disease in the assessment of occurrence, progression, acute exacerbation and mortality: a systemic review and meta-analysis

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## ADMINISTRATIVE INFORMATION

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

**Conflicts of interest -** None declared.

**INPLASY registration number:** INPLASY202450092

**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 92 May 2024 and was last updated on 92 May 2024.

## INTRODUCTION

**Review question / Objective** This meta-analysis aims to clarify the relationship between serum SP-A and ILD.

**Condition being studied** Interstitial lung disease (ILD) is a large group of heterogeneous pulmonary disorders with complex etiologies. Non-invasive biomarkers serve as important tools for diagnosis and predicting prognosis of ILD. However, there is no comprehensive evidence for the clinical value of serum surface protein A(SP-A) in ILD patients.

## METHODS

**Participant or population** Interstitial lung disease patients.

**Intervention** Serum SP-A levels in patients with ILD under different outcomes(occurrence, progression, acute exacerbation and mortality).

**Comparator** Serum SP-A levels in patients under different outcomes(control group：non-ILD, stable, non-acute exacerbation and survival).

**Study designs to be included** Prospective or retrospective studies.

**Eligibility criteria** (1) Prospective or retrospective studies; (2) According to published clinical guidelines[10-12], ILD was diagnosed after multidisciplinary discussion combining the clinical signs and symptoms with high-resolution CT (HRCT) results, with pathological examination if necessary. AE is defined as exacerbations of respiratory symptoms that occur in the recent period accompanied by new ground-glass

opacities or consolidation in lungs, which cannot be explained by infection, heart failure, etc.[13-15]; Progression is charactered by a decline in forced vital capacity (FVC) ≥ 5% of predicted value and/or decline in diffusing capacity of the lungs for carbon monoxide (DLCO) ≥ 10% of predicted value within one year of follow-up; (3) Parameters investigated included serum SP-A, which was continuous quantitative data or obtained through algorithms.

**Information sources** PubMed, Embase, Web of science, Scopus, Ovid and Cochrane Library published before May 1, 2024.

**Main outcome(s)** occurrence, progression, acute exacerbation and mortality of ILD patients.

**Quality assessment / Risk of bias analysis** The Newcastle-Ottawa Scale was put to use for quality assessment of included literatures; Publication bias was judged by funnel plots and Egger's test, and if necessary, correction for publication bias was conducted using the trim-and-fill method.

**Strategy of data synthesis** In Stata 16.0 software, meta package for meta-analysis was applied.

**Subgroup analysis** Subgroup analyses were operated according to the types of ILD and control groups, as well as the characteristics of pulmonary HRCT imaging.

**Sensitivity analysis** The sensitivity analysis was performed by ruling out one type of studies at a time, and results were confirmed stably and credibly if the influence when excluding one type of studies was not remarkable.

**Country(ies) involved** China.

**Keywords** Interstitial lung disease, surface protein A, biomarker.

**Contributions of each author**

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