

# INPLASY PROTOCOL

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**Review Stage at time of this submission:** Data analysis.

**Conflicts of interest:**  
None declared.

## Serum anti-citrullinated protein antibodies and rheumatoid factor increase the risk of rheumatoid arthritis-associated interstitial lung disease: a meta-analysis

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**Review question / Objective:** Our aims to determine the association between antibodies including anti-citrullinated protein antibodies (ACPA) and rheumatoid factors (RF) and risk of rheumatoid arthritis-associated interstitial lung disease (RA-ILD). The research methods were observational study and randomized controlled trial.

**Condition being studied:** We have more than 3 researchers conducting literature search, data extraction, and disagreements are resolved through discussion.

**Information sources:** PubMed, Cochrane, and Embase databases.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 April 2021 and was last updated on 12 April 2021 (registration number INPLASY202140071).

### INTRODUCTION

**Review question / Objective:** Our aims to determine the association between antibodies including anti-citrullinated protein antibodies (ACPA) and rheumatoid factors (RF) and risk of rheumatoid

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## METHODS

**Participant or population:** This study including 992 rheumatoid arthritis-associated interstitial lung disease patients and 2,223 rheumatoid arthritis non interstitial lung disease patients.

**Intervention:** Positive of anti-citrullinated protein antibodies and rheumatoid factors.

**Comparator:** Negative of anti-citrullinated protein antibodies and rheumatoid factors.

**Study designs to be included:** Observational studies and randomized controlled trial.

**Eligibility criteria:** Rheumatoid arthritis(RA) was diagnosed according to American College of Rheumatology 1987 RA classification standard or European League Against Rheumatism 2010 RA classification standard. Rheumatoid arthritis-associated interstitial lung disease was diagnosed based on diagnostic criteria or judged by high-resolution computed tomography.

**Information sources:** PubMed, Cochrane, and Embase databases.

**Main outcome(s):** Incidence rate of Rheumatoid arthritis-associated interstitial lung disease.

**Quality assessment / Risk of bias analysis:** The quality of case-control study was assessed using the Newcastle-Ottawa Scale (NOS). The quality of the cross-sectional study was assessed according to the Agency for Health Care Quality and Research (AHRQ). The randomized controlled study was evaluated by modified JADAD scale.

**Strategy of data synthesis:** Review Manager 5.4 software was used for meta-analysis. The dichotomous data was expressed by odds ratio (OR) and 95% confidence interval (CI), and the continuous data was expressed by standard mean

difference (SMD) and 95% CI.  $\alpha=0.1$  and  $P < 0.05$ , the random effects model was used, otherwise the fixed effects model was used.

**Subgroup analysis:** Subgroup analysis was performed according to the study area, publication time (before or after 2015), study design, and data sources.

**Sensitivity analysis:** Stata16.0 software was used for sensitivity analysis. One study was removed at a time and the pooled effect was recalculated to assess the impact of each study on the pooled effect.

**Country(ies) involved:** China.

**Keywords:** Anti-citrullinated protein antibody, rheumatoid arthritis-associated interstitial lung disease, rheumatoid factor, meta-analysis

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