

Impact of the pattern of interstitial lung disease on mortality in rheumatoid arthritis: A systematic literature review and meta-analysis

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Abstract

Objective

An important extra-articular manifestation of rheumatoid arthritis (RA) is interstitial lung disease (ILD). The relationship between the usual interstitial pneumonia (UIP) pattern and mortality in patients with RA is unclear. The purpose of this study was to complete a systematic literature review and meta-analysis on the association between RA-ILD pattern and mortality risk.

Methods

We performed a systematic literature review through December 12, 2018. Study characteristics, unadjusted and adjusted relative risks (RR) of mortality for ILD pattern were extracted from the identified studies and quality assessments were performed. RR for mortality (RA-UIP vs. other RA-ILD) was pooled using inverse variance weighting and random effects models.

Results

Ten retrospective cohort studies met our eligibility criteria. A total of 1256 RA-ILD patients were included with 484 total deaths. Meta-analysis yielded a pooled RR of 1.66 (95% confidence interval 1.07 to 2.56) for death among those with UIP RA-ILD compared with other patterns. In sub-group analysis when pooling studies comparing UIP to NSIP pattern of RA-ILD, the RR was 2.39 (95% CI 0.86–6.68).

Conclusion

Through a systematic literature review and meta-analysis, we found UIP pattern to be associated with a higher mortality risk in RA-ILD compared to other patterns of RA-ILD although more recent studies emphasize the importance of pulmonary physiology and the extent of lung involvement as significant predictors of mortality rather than the pattern of RA-ILD. Recognizing the small number of studies satisfying eligibility and inconsistent accounting for confounders, further study of mortality risk in RA-ILD is needed with standardized assessment of various RA, ILD, and patient-related factors.

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Biography

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