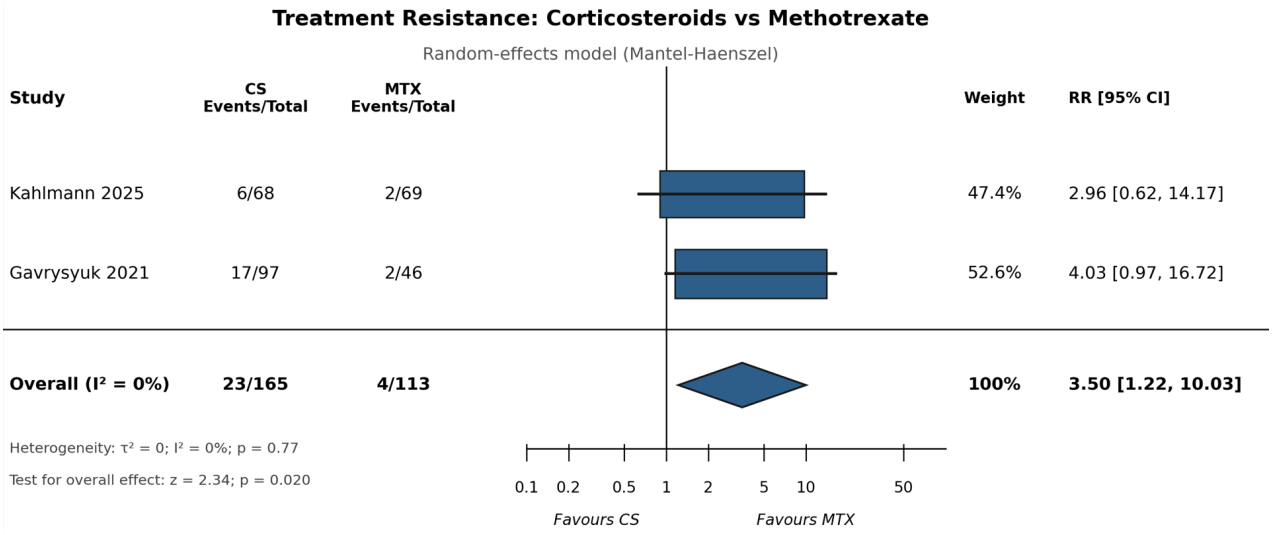
ERS CONGRESS | 2026
5-9 September | Barcelona, Spain

Methotrexate Versus Corticosteroids as First-line Treatment for Pulmonary Sarcoidosis: Systematic Review and Meta-analysis

S. Biswas (Ivano-Frankivsk, Ukraine), Y. Srivastava (Ivano-Frankivsk, Ukraine), R. Falodia (Jodhpur, India), A. Hamadttu (Khartoum, Sudan), P. Rao Kulkarni (Ballari, India), A. Shankar (Milan, Italy), N. Mally (Milan, Italy)

Introduction: Corticosteroids remain first-line for pulmonary sarcoidosis despite toxicity and weak evidence. The 2021 ERS guidelines position Methotrexate as second-line only. Following the landmark PREDMETH trial, we conducted the first systematic review comparing Methotrexate versus Corticosteroids as first-line monotherapy.

Methods: We searched PubMed, Embase, Cochrane, and ClinicalTrials.gov through January 2026 for Randomized Controlled Trials (RCTs) and prospective studies in treatment-naïve Pulmonary Sarcoidosis. Risk of bias was assessed using (RoB 2.0/ROBINS-I). Meta-analysis used random-effects models.

Results: Three studies (n=305) were included: one RCT (n=137) and two cohorts (n=167). Methotrexate was noninferior to Prednisone for Forced Vital Capacity (FVC) improvement (−1.17 pp; 95% CI −4.27 to 1.93). Corticosteroids had significantly higher treatment resistance (RR 3.50; 95% CI 1.22–10.03; p=0.02; I²=0%) **(Figure 1)**. Discontinuation rates were similar. Adverse event profiles differed: Corticosteroids caused weight gain and insomnia; Methotrexate caused nausea and elevated liver enzymes.

Conclusions: Methotrexate shows comparable efficacy with lower treatment resistance, supporting consideration as first-line alternative.