A highly active disease, treatment with glucocorticoids or coxibs but not the treatment with TNF inhibitors were identified as risk factors for a cardiac failure in RA

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Objective: To compare the incidence rates of cardiac failure (CF) in RA patients receiving anti-TNF agents with rates found in patients treated with conventional DMARDs.

Patients and Methods: Patients with rheumatoid arthritis (RA) aged between 18 and 70 who were enrolled into the German biologics register RABBIT were available for the following analysis. RABBIT is a prospective cohort study of patients who had a new prescription of etanercept (ETA), adalimumab (ADA), or infliximab (INF), or who had a change in their DMARD therapy (control group). Treating rheumatologists assessed adverse events (AE) and serious adverse events (SAE) according to the ICH guidelines. Cox proportional hazard model with time depending covariates was used to analyse the hazard risks of a cardiac failure. The following risk factors were taken into account: age, gender, comorbidity at study entry (cardiovascular disease (CVD) y/n, diabetes y/n, COPD/chronic lung disease y/n), body mass index (BMI), disease duration, rheumatoid factor, functional capacity at start of treatment, and as time varying covariates: disease activity score (DAS28), CRP, anti-TNF treatment y/n, coxibs y/n, prednisolone dosage. Kaplan-Meier method was applied to calculate crude rates of CF within three years of follow-up.

Results: Among the 3709 patients enrolled, 1012 received ETA, 868 ADA, 528 INF, and 1301 were treated with conventional DMARDs (control cases, CON). Twenty seven new onsets (21) or flares (6) of cardiac failures were reported. The corresponding crude rates of CF within 3 years were 1.6% in anti-TNF patients and 1.2% in controls. Adjusted for age and gender significantly increased hazard risks were found for patients with comorbid CVD, elevated CRP, higher DAS28, higher BMI, patients with lower functional capacity, treatment with coxibs or glucocorticoids but not for a treatment with biologics. These results were confirmed by stepwise multivariate Cox regression. The following risk factors remained significant: age, gender, CVD (HR: 4.4 p=0.009), BMI (p=0.008), and DAS28 (HR: 1.4, p=0.01), prednisolone dosage per 5mg unit (HR 1.5, p=0.008), treatment with coxibs (HR: 2.4, p=0.03). No significant hazard ratio was found for anti-TNF treatment compared to CON (HR: 1.4 p= 0.5).

Conclusion: Besides risk factors known from the general population we identified highly active disease, treatment with coxibs or glucocorticoids as RA specific risk factors of a cardiac failure. No significant association was found with regard to the treatment with TNF inhibitors.

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