

# Rheumatoid arthritis vs. diabetes mellitus as risk factors for cardiovascular disease: the CARRE study

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**R**heumatoid arthritis (RA) is a chronic inflammatory joint disease of unknown cause, which affects approximately 1% of the general population. Mortality rates are quite high in RA patients, probably due to associated cardiovascular disease. The magnitude of cardiovascular risk in RA was insufficiently quantified up to the present days.

The CARRE study (CARdiovascular research and RhEumatoid arthritis) is a cohort study aiming to investigate the association between RA and type II diabetes mellitus (DM), major cardiovascular risk factor, and cardiovascular disease (CVD).

The study included 294 patients with RA, with normal glucidic metabolism, 258 non-diabetic controls and 194 patients with type II DM. Patients were aged between 50 and 75. Follow up lasted 5 years.

Diagnosis of diabetes mellitus was established based on 1999 OMS criteria. Cardiovascular disease was diagnosed in case of affectation of coronary, cerebral or peripheral arteries. At every study visit investigators monitored:

blood pressure, body mass index, waist to hip ratio, glycemia, C reactive protein, serum creatinin and lipid level.

The prevalence of CVD was 5% (95% CI 2.3-7.7%) in the non diabetic group, 12.4% (95% CI 7.5- 17.3%) in the diabetes group and 12.9% (95% CI 8.8- 17.0%) in the RA group. Using the non diabetic controls as reference group, the relative risk of CVD, adjusted for age and sex was 2.3 in patients with DM and 3.1 in RA patients. The investigators noted an attenuation of CVD prevalence after adjustment for classical cardiovascular risk factors (relative risk 2 in DM vs. 2.7 in RA).

The conclusion of the study is that cardiovascular affectation in RA is much higher compared to normals and similar to that of diabetic patients. The higher prevalence of cardiovascular risk factors in the RA group explains only partially this observation. Thus, RA should be considered a disease with significant cardiovascular risk, similar to diabetes. Implementation of profilaxy and treatment methods for cardiovascular disease in RA is mandatory. □

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*Comment on a paper:*

VP Van Halm, MJ Peters, AE Voskuyl et al – Rheumatoid arthritis versus diabetes as a risk factor for cardiovascular disease: a cross-sectional study, the CARRE Investigation. *Ann Rheum Dis* 2009; 68(9):1395-1400