Psoriasis and the risk of Myocardial Infarction: a population-based cohort study using the Clinical Practice Research Datalink


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BACKGROUND: The association between psoriasis and the risk of myocardial infarction (MI) is not clearly understood.

OBJECTIVE: To investigate whether psoriasis is independently associated with risk for MI after adjusting for cardiovascular disease (CVD) risk factors.

METHODS: An inception cohort of patients with psoriasis and matched controls (1:5) was identified for the interval 1994-2009 using the Clinical Practice Research Datalink. Patients were at least 20 years old with no history of CVD or diabetes. Risk factors explored included psoriasis, severe psoriasis (exposure to systemic therapy or biologics), inflammatory arthritis (IA), diabetes, chronic kidney disease (CKD), hypertension, hyperlipidaemia and smoking as time-varying covariates; depression, age, gender and calendar year as baseline characteristics. Cox proportional hazard regression using shared frailty models estimated hazard ratios (HRs) with 95% confidence intervals for the risk of incident (fatal and non-fatal) MI associated with psoriasis.

RESULTS: 48,523 patients with psoriasis and 208,187 controls were identified. Mean (SD) age at index date was 48 years (16); 56.40% were female. During a median follow-up of 5.2 years, 664 (1.37%) incident MI events occurred in patients with psoriasis and 2,601 (1.25%) in controls. In the multivariable analysis all risk factors (IA HR 1.60 (1.32-1.94); diabetes HR 1.26 (1.09-1.44); CKD HR 1.29 (1.12-1.48); hypertension HR 1.30 (1.21-1.41); hyperlipidaemia HR 1.14 (1.03-1.26); current smoker HR 2.58 (2.34-2.83); age HR 1.07 (1.07-1.07); male gender HR 2.46 (2.20-2.73); and calendar year HR 0.95 (0.94-0.95)) were highly significant except for depression HR 1.05 (0.97-1.15), psoriasis and severe psoriasis. The crude HRs of MI for psoriasis were 1.05 (0.97-1.15) and for severe psoriasis 1.45 (1.02-2.20), while the adjusted HRs were attenuated to 0.96(0.88-1.05) and to 1.22 (0.81-1.83).

CONCLUSION: Neither psoriasis nor severe psoriasis were associated with an increased risk of MI after adjusting for known CVD risk factors. However, IA was associated with a 60% increased risk of MI.