

A CASE CONTROL STUDY OF PREDICTORS OF FOOT ULCERATION IN PATIENTS WITH RHEUMATOID ARTHRITIS (RA)

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Aim: Whilst foot ulcers occur frequently in patients with RA, the factors that influence risk in this client group are unknown. The aim of this study was to determine the predictors of foot ulceration in a sample of patients with RA using a case control approach.

Methods: The cases were 15 RA patients reporting foot ulceration in response to a postal survey of patients sampled from a diagnostic register in secondary care (n=1130). The controls were 66 RA patients randomly sampled from the survey respondents (n=883) after matching for age, sex and disease duration. Patients with coexistent diabetes were excluded. Clinical examination included screening for known risk factors for foot ulceration in diabetes: neuropathy (insensitivity to 10g monofilament); peripheral vascular disease (ankle-brachial pressure index -ABPI); foot deformity (Platto indices) and raised plantar pressures (PressureStatTM readings). A 44 swollen joint count (which reflects RA disease activity), the presence of pre-ulcerative lesions and current steroid therapy were identified through univariate analysis as potential predictors of ulceration in patients with RA.

Results: Forward step-wise logistic regression analysis showed that the following variables were significant predictors of ulceration: steroid therapy (OR 9.70, 95% C.I. 2.09-45.11, p=0.004); abnormal ABPI (OR 13.45, 95% C.I. 1.19-151.43, p=0.035), the presence of pre-ulcerative lesions (OR 7.40, 95% C.I. 1.51-36.30, p=0.014) and swollen joint count (OR 1.25, 95% C.I. 1.02-1.53, p=0.034). Abnormal sensation, foot deformity and raised plantar pressures were not significant predictors of ulceration. The wide confidence intervals for ABPI were due to sparse data, with very few abnormal values, and the results of Exact logistic regression (more accurate where data is sparse and case matching employed) found that ABPI was no longer a significant predictor (p = 0.054). The significance of the other predictors did not differ substantially in the exact analysis.

Discussion: In this preliminary study, the aetiology of foot ulceration in RA appears to differ from diabetes. Abnormal sensation, foot deformity and raised plantar pressures were not significantly associated with foot ulceration but active disease and current steroid therapy were. The contribution of peripheral vascular disease to risk is unclear and a multi-centre case control study is planned to investigate this further.