Prognostic factors for outcome following acute ankle ligament sprain: A systematic review

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Abstract:

Aim

To provide an up-to-date synthesis of the evidence regarding prognostic factors for poor outcome following acute ankle sprain.

Methodology

A systematic search Electronic databases (Medline, CINAHL, PsycINFO, Embase, PubMed, AMED, SportDiscus, PEDro, Cochrane Register of Clinical Trials, openGREY, international ankle symposium, JOSPT and i-FAB conference proceedings) were searched for relevant studies. Longitudinal studies investigating predictor variables of outcomes of recovery after an acute ($\leq$ 7 days) ankle sprain were selected. Eligible studies had adults ($\geq$ 16years) and a prospective design (minimum follow-up of at least 3 months post-injury). Two reviewers independently screened the studies, extracted the data, evaluated methodological quality using the CHARMS checklist and assessed the quality of evidence using the QUIPS tool. No quantitative analysis was performed due to the heterogeneity (patient selection, type of prognostic factors and outcome measures) of the studies; descriptive summaries are reported.

Results

3883 articles were screened, 34 potentially relevant studies were assessed for methodological quality and 18 studies were selected for this review. Twenty-one predictors of recovery following an acute ankle sprain were reported, out of 37 potential predictors that were investigated in these studies. Age, gender, randomisation group, emergency department (ED) setting, baseline injury mechanism, previous injury, swelling, pain, range of motion, palpation score, injury grade, number of injured ligaments for laxity, clinical instability, ambulatory status, function score, activity level, self-reported athletic ability, time to return to modified training, and frequency of operative interventions were

reported as predictors that are significantly associated with recovery. Two factors, soft tissue index and size of effusion demonstrated no relationship with poor outcome.

Clinical implications and relevance

Information about prognostic factors can direct clinical treatment, avoid chronicity or reassure clinicians that patients are on a positive recovery trajectory. However, there are insufficient and inconsistent findings from the literature to provide conclusive evidence. Recovery from ankle sprains seems to be multi-factorial, but most studies had a high risk of bias with poor methodological quality that raises uncertainty about the validity of the results observed for the 21 variables reported as potential predictors of poor outcome. Futher research is needed to establish prognostic determinants of recovery for ankle sprains.