Review: High initial pain intensity is associated with persisting symptoms after whiplash

Scholten-Peeters GG, Verhagen AP, Bekkering GE, et al. **Prognostic factors of whiplash-associated disorders: a systematic review of prospective cohort studies.** Pain. 2003;104:303-22.

QUESTION

What factors determine the prognosis of patients who have had whiplash injury?

DATA SOURCES

Studies were identified by searching MEDLINE (1966 to April 2002), CINAHL (1982 to April 2002), EMBASE/Excerpta Medica (1988 to September 2001), and the Dutch Institute of Allied Health Professions (1987 to April 2002); and scanning references of retrieved studies.

STUDY SELECTION AND ASSESSMENT

Studies were selected if they were full reports published in English, French, German, or Dutch of prospective cohort studies with the objective of assessing the prognostic factors associated with recovery in patients with whiplash. Studies were excluded if they addressed risk factors for onset of whiplash injury in healthy persons or the study participants were other than human adolescents or adults. 2 reviewers independently assessed study quality using a modified, validated criteria list for systematic reviews of prognostic factors for patients with musculoskeletal disorders (maximum score 16 points).

OUTCOMES

Functional recovery in terms of persisting symptoms and continuing disability. Levels of evidence were categorized as strong (consistent findings in ≥ 2 high-quality cohorts), moderate (1 high-quality cohort and consistent findings in ≥ 1 low-quality cohort), limited (findings in 1 cohort or consistent findings in ≥ 1 low-quality cohort), and inconclusive (inconsistent findings irrespective of study quality).

MAIN RESULTS

29 cohort studies met the selection criteria. The quality score ranged from 1 to 13 points (median 7 points). Patient sample size ranged from 29 to 7462 patients. The studies could not be pooled because of significant heterogeneity. Of > 100 prognostic factors examined, strong evidence showed that high initial pain intensity was associated with persisting symptoms and that older age, female sex, high acute psychological response, rear-end collision, angular deformity of the neck, and compensation were not associated with delayed functional recovery.

CONCLUSION

In patients with whiplash, strong evidence shows that of several prognostic factors, only high initial pain intensity is associated with persisting symptoms, and 6 other factors have no prognostic importance for poor functional recovery.

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COMMENTARY

The review by Scholten-Peeters and colleagues invites a substantial shift in thinking about the prognosis for whiplash-associated disorder (WAD). Of all the old beliefs we had about factors predicting poor prognosis, only high initial pain intensity withstood the test of this new empirical evidence, although persisting symptoms were weakly associated with nervousness, highway accidents, being hit in a stationary car, and the need to resume physiotherapy. Continuing disability was weakly associated with driving as an occupation, high initial pain intensity, restricted neck movement, low muscle workload, high number of complaints, and previous psychological problems. These different conclusions from those of previous reviews may come from more rigorous methods and comprehensive literature searching.

These findings may alert the clinician to the types of patients who may need more attention. The authors infer that early intervention may prevent chronicity in such patients, although the evidence for this is very limited. In general, the evidence favors interventions involving activity by the patient over rest and immobilization (1). In a subset of patients in whom facet joint pain can be confirmed with medial branch blocks, medial branch neurotomy offers the best chance of complete and prolonged relief of pain and disability (2).

This review should offer hope to patients with factors previously thought to indicate a poor prognosis. WAD carries the reputation of being a disabling and incurable condition. However, this review and other natural history research paint a brighter picture: 82% of patients with WAD are free of symptoms at 2 years (3). This is better than the more common condition of idiopathic neck pain, where only 43% of patients are symptom free at 10 years (4). Hence it is reasonable to be reassuring with patients presenting in the early stages of WAD. Reassurance is a good start on the road to recovery.

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