What problems did the researchers set out to study, and why?

It has been reported that a subset of patients with knee osteoarthritis (OA) also have OA of the hip. In one study, it was shown that patients with knee OA had decreased pain during provocative hip testing immediately following joint mobilization directed to the hip. The researchers of the current study set out to develop a clinical prediction rule (CPR) to identify which patients with knee OA are likely to respond favorably to hip mobilization. Prediction rules assist with clinical decision making by identifying a succinct composite of key examination findings that predict an outcome in response to treatment.

Who participated in the study?

60 subjects between the ages of 51 and 79 years. Subjects had to be at least 50 years old, have a primary report of knee pain, and meet at least 3 of the clinical criteria developed by Altman and colleagues for the presence of knee OA. Two student physical therapists served as examiners, and 2 other student physical therapists served as the treating therapists.

What new information does this study offer?

This study adds preliminary evidence for the use of manual hip mobilizations in patients with knee OA. At the 48-hour follow-up, 68% of the subjects met the predetermined criteria for a favorable response to hip mobilizations. The authors identified a composite of examination findings to develop a CPR for a favorable response to hip mobilizations in patients with knee OA. The 5 variables in the CPR were: (1) hip or groin pain or paresthesia, (2) anterior thigh pain, (3) passive knee flexion less than 122 degrees, (4) passive hip internal rotation less than 17 degrees, and (5) pain with hip distraction. The single best examination finding that predicted a favorable response to hip mobilization was hip or groin pain or paresthesia.

How might the results of the study apply to the practice of physical therapy?

These results can help therapists identify those patients with knee OA who might benefit from manual therapy directed to the hip region. Sixty-eight percent of subjects with knee OA responded favorably to the hip joint mobilizations. Thus, the pretest probability of success in this study was 68%. The posttest probability of success increased to 92% for patients meeting at least 1 of the 5 CPR criteria. If a patient met 2 of the criteria, the probability of success increased to 97%. Furthermore, if a patient reported hip or groin pain or paresthesia, the posttest probability of success was 95%.

What are the limitations of the study, and what further research is needed?

This study is an initial step in the development of a CPR for identifying patients with knee OA who respond favorably to mobilization directed to the hip. The follow-up examination was conducted 48 hours after treatment, thus the results indicate short-term effects only. The results do not provide information on longer-term benefits of the intervention or the CPR. With the lack of a control group, it is possible that the short-term effects observed in this patient population could potentially be influenced by other factors. In addition, although subjects in this study did have knee pain and a diagnosis of knee OA, they were not actively seeking treatment by a physical therapist or physician. The
The next step is to validate the CPR by conducting a randomized trial comparing hip mobilizations to a competing therapy in patients with knee OA, using longer-term follow-up periods to assess the effects of the intervention and CPR. To improve the generalizability of the findings, it would be useful to conduct a multicenter trial utilizing multiple clinicians (rather than students) at each site. It also would be interesting to compare the non-thrust mobilization protocol used in this study to other manual techniques, such as thrust manipulation of the hip.

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