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Prevalence of Hip Symptoms in Older Adults with Chronic LBP

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ABSTRACT

INTRODUCTION: *This study aims to determine (1) whether there are differences in the prevalence of clinical hip symptoms between older adults with and without chronic low back pain (CLBP); and (2) whether coexisting hip symptoms are associated with worse physical performance and poorer health-related quality of life (HRQOL).*

METHODS: *This is a case-control study. Individuals participated in a standardized evaluation in a clinical laboratory. Clinical hip symptoms, which are proposed predictors of radiographic hip osteoarthritis according to American College of Rheumatology guidelines, were evaluated in a volunteer sample of community-dwelling older adults with CLBP (n=54; aged 60-85y) and in age- and sex-matched healthy controls (n=54). Physical performance was measured by the repeated chair rise test and stair-climbing test. HRQOL was measured by the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36).*

RESULTS: *Hip joint pain, morning stiffness, and pain with hip internal rotation were more common among older adults with CLBP (P<.05). Participants with CLBP and coexisting hip symptoms had worse physical performance than individuals without CLBP or hip symptoms (P<.0001). Additionally, the presence of coexisting hip symptoms was associated with worse HRQOL, particularly in the domains of social functioning, mental health, and role limitations attributable to emotional problems as measured by the SF-36 (P<.01).*

CONCLUSION: *Given the authors' limited understanding of CLBP among older adults, there is a definitive need to systematically explore coexisting pain conditions that may contribute to worse outcomes. Based on these data, future longitudinal studies should explore whether coexisting hip symptoms are associated with a worse prognosis in older adults with CLBP.*

ANALYSIS

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Background Information

Chronic low back pain (CLBP) is one of the most common pain-related conditions in geriatric populations and is associated with potentially significant functional decline (1-7). As pain conditions can coexist and contribute to poorer long-term outcomes, it is important to understand the potential relationship between CLBP and other pain complaints (8, 9).

Given the anatomical proximity between the hip and low back/pelvis and the overlapping patterns of pain distribution, coexisting hip pain and CLBP have often been linked (this is something practicing clinicians have noticed for years!) (10, 11). While studies have often linked hip dysfunction and CLBP, understanding this clinical relationship in heterogeneous populations remains challenging, particularly in geriatric patients.

The aim of this study was to examine differences in prevalence of clinical hip symptoms in older adults with and without CLBP. Specifically, the authors hypothesized that the predictors of radiographic hip osteoarthritis (OA) would be associated with the presence of CLBP in older adults. The secondary objective was to assess whether the presence of clinical hip symptoms was associated with poorer physical performance and health-related quality of life (HRQOL) in this population.

Pertinent Results:

- In this secondary analysis, 54 participants were compared with 54 age and sex matched controls.
- **Hip joint pain, morning stiffness and pain with hip internal rotation were significantly more common in those with CLBP, and 53.7% of participants with CLBP had at least one hip symptom (compared to 13% of controls).**
- 18.5% of the participants with CLBP reported a radiographic diagnosis of hip OA from their physician, compared with only 1.9% of the group without LBP.

- After controlling for BMI, participants with both CLBP and hip symptoms were significantly slower than those without pain (during stair ascent and repeated chair rise performance).
- CLBP (with or without hip symptoms) was associated with worse function in the physical domains of the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36) (12, 13) as well as general health.
- The addition of hip symptoms to CLBP was associated with worse social function, mental health, and role limitations attributable to emotional problems.

CLINICAL APPLICATION & CONCLUSIONS

This study demonstrates a link between proposed symptomatic indicators of hip OA and CLBP. It demonstrated these predictive symptoms are more prevalent in older adults with CLBP, and the presence of both conditions is associated with poorer performance and HRQOL outcomes.

The findings of this study support the idea of a “regional interdependence” model (14) and suggest the need for a thorough investigation of hip function in those with CLBP. Further, the authors suggest that future research may identify subgroups of patients with CLBP with and without hip symptoms in order to better understand appropriate management strategies and prognosis. In particular, the worsened performance on the stair ascent and repeated chair rising in those with both conditions is important to note, as worsening performance on these tests can be predictive of functional decline in a geriatric population. Clinicians should ensure that function is a key outcome in this population, as it is critical to the patient’s independence and safety.

Worsened outcomes on the social function and mental health domains were also observed in the population with both CLBP and hip symptoms, which may be associated with multisite (widespread) pain. Widespread pain has been associated with anxiety, depression, sleep disturbance and greater comorbidity burden and it is important for clinicians to recognize that in a geriatric population, poorer social functioning has been linked with decreased social interaction and decreased survival (15-18).

EDITOR’S NOTE: Despite many of us recognizing this relationship for many years, there is very little research on the interaction between back pain and hip function (or, lack thereof). I have always espoused a comprehensive approach including, if not starting with, addressing proper hip function in an attempt to help those with low back pain, particularly those with the chronic variety. Adding a few minutes of treatment on the hips and incorporating simple home mobility work for the hips can go a long way for many of our toughest low back pain patients!

STUDY METHODS

- This study was a secondary analysis on subjects with CLBP enrolled in a preliminary trial comparing trunk muscle training to passive rehabilitation.
- Subjects were matched on a case-by-case basis with controls without CLBP based on age and sex for the final analysis.
- For the purpose of the secondary analysis, hip symptoms were assessed according to the American College of Rheumatology guidelines: hip joint pain, hip stiffness in the morning lasting less than or equal to 60 minutes, pain with hip internal rotation (19).
- Functional mobility was assessed using the repeated chair rise test (20, 21) and the stair-climbing test (22-25).
- Health-related quality of life was assessed using the SF-36 to assess for health status in eight domains (12, 13).
- Chi-square analysis was used to determine differences in the prevalence of hip symptoms in older adults with and without CLBP. The sample was then stratified into three groups for further analysis: 1) individuals without CLBP or hip symptoms; 2) individuals with CLBP and no hip symptoms; and 3) individuals with CLBP and at least one hip symptom. All statistical models were adjusted for body mass index (BMI) and Bonferroni correction for multiple comparisons were used. Effect sizes were also calculated for all outcomes.

STUDY STRENGTHS/WEAKNESSES

Strengths:

- Participants were matched to controls by age and sex, however, those with CLBP did have higher average BMI (statistically significant) – the authors did adjust for this difference in the statistical analyses.
- The authors performed thorough statistical analyses, and attempted to adjust for cofounders and make corrections for the number of tests performed.
- The authors identified the limitations of the study and used the findings to suggest future, more robust studies.

Weaknesses:

- The greatest weakness of this study is simply a result of its methodology: as a cross-sectional study, it is a snapshot in time and cannot fully explore the relationship between CLBP and hip symptoms. The authors addressed this limitation and suggested future longitudinal work.
- This study required self-reported radiographic hip OA diagnoses and thus the potential for recall bias must be considered.
- This study included a relatively small sample size (though effect sizes were calculated) and future studies should include more robust samples.

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