Hip spine syndrome

see
http://www.healio.com/orthopedics/journals/ortho/2015-1-38-1/%7B03d36065-abf4-44d7-b248-5b873
8cd77d0%7D/the-hip-spine-connection-understanding-its-importance-in-the-treatment-of-hip-
pathology.pdf

The term hip-spine syndrome was first coined by Offierski and MacNab in 1983 and was used to
describe patients with coexisting hip and spine degenerative changes

Significant lumbar spinal stenosis and lower extremity arthritis may coexist in the elderly.

The hip and spine have coordinated movement, and limitations of one area will affect the other. This
may manifest itself as pain.

Farfan described the relationship, and advantage, of lumbar lordosis and hip extension for upright
activity.

He noted that lumbar muscle activity increased as the lumbar spine flexed to 45° and that further
flexion thereafter required pelvic rotation. The rigidity of spinal column ligamentous structures
determined the endpoint of flexion, at which point the muscles involving the pelvic girdle—including
the iliopsoas and abdominals—activated to allow for further flexion. The hamstrings, posterior hip
muscles, and lumbar paraspinals activated to counteract these flexion forces. At terminal flexion, the
paraspinals were inactive and resisted further spine bending in their fully elongated position

Lee and Wong measured movements of the hip and spine in forward, backward, lateral, and twisting
motions in 20 healthy participants. They confirmed what previous studies have shown using video
techniques: the contributions of the spine and hip in forward and backward bending are similar, with
the spine having a greater contribution in the early stage of the movement, and less so toward the
end.

Lateral flexion of the lumbar spine was accompanied by abduction of the ipsilateral hip and adduction
of the contralateral hip; however, the hip joint contribution was small. On the other hand, during
twisting of the trunk, the hips contributed most of the motion

Epidemiology

The incidence of symptomatic osteoarthritis of the hip and degenerative lumbar spinal stenosis is
increasing in our aging population

Classification

Cases in which the spine symptoms are aggravated by deformity of the hip were called a secondary
hip-spine syndrome. Symptomatic disease at both the hip and spine can present as a complex hip-
spine syndrome

Etiology

The etiology of the pathology may be difficult to discern due to the overlap of innervation in certain
areas of the spine, pelvic girdle, and hip.
Clinical features

Symptoms from both sites gives a confusing clinical picture and may require ancillary investigations to diagnose the major source of disability. Failure to recognize concurrent disease at both the hip and spine may lead to misdiagnosis and possibly erroneous treatment.\(^5\)

Evaluation of the patient with lower extremity pain in consideration for total joint arthroplasty should include functional inquiry of the spinal nerves. Diagnostic tests and injections may allow an informative weighting of the patient's symptoms, leading to a better understanding of the patient's pain syndrome. There is a group of patients who have a total hip arthroplasty and then develop or may continue to have pain of groin and buttock, secondary to sciatica of lumbar spinal stenosis. For the patient undergoing total hip arthroplasty with asymptomatic spinal stenosis, there may be increased neurological risk at surgery, related to the stenosis. The patient with both conditions may require surgical decompression of the lumbar stenosis as well as joint arthroplasty of the arthritic joint.\(^6\)

A study demonstrated an improvement in LBP levels (VAS and ODI) and postural balance in patients with HSS following THR surgery. No significant changes have been noted in radiographic spinal sagittal alignment postoperatively. The improvement in LBP levels does not correlate with postoperative changes in spinopelvic alignment or postural balance.\(^7\)

Diagnosis

This combination of lumbar stenosis with radiculopathy and lower extremity arthritis may lead to diagnostic uncertainty.

A thorough history and physical examination, coupled with selective diagnostic testing, can be performed to differentiate between these clinical entities and help prioritize management. Determining the potential benefit from surgical intervention and the order in which to address these conditions are of utmost importance for patient satisfaction and adequate relief of symptoms.\(^8\)

Differential diagnosis


Case series

Thirty-five patients were reviewed with what is called hip-spine syndrome. Concurrent disease at both the hip and spine is not infrequent in the older population. In most cases, the finding and diagnosis were straightforward, and were classified as a simple hip-spine syndrome. Cases in which the spine symptoms are aggravated by deformity of the hip were called a secondary hip-spine syndrome. Symptomatic disease at both the hip and spine can present as a complex hip-spine syndrome.

Symptoms from both sites gives a confusing clinical picture and may require ancillary investigations to diagnose the major source of disability. Failure to recognize concurrent disease at both the hip and spine may lead to misdiagnosis and possibly erroneous treatment.\(^9\)


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