Disk Degeneration in Lumbar Spine Precedes Osteoarthritic Changes in Hip

The American Journal of Orthopedics
July 2013; pp. 309-312

Navkirat S. Bajwa, BS, Jason O. Toy, MD, Ernest Y. Young, BS, Daniel R. Cooperman, MD, Nicholas U. Ahn, MD: From the Department of Orthopaedics, University Hospitals, Case Western Reserve University, Cleveland, Ohio.

KEY POINTS FROM THIS STUDY

1) “Osteoarthritis (OA) disables about 10% of people older than 60 years.”

2) It is not clear whether spinal degeneration leads to hip arthritis, or hip arthritis leads to spinal degeneration. “Degeneration in the hip can lead to changes in the spine, and degeneration in the spine can lead to changes in the hip. The question is which pathology occurs first in normal people and predisposes them to the other pathology.” This study using 340 human cadavers (aged 18-105) was conducted to objectively evaluate which degenerative process precedes the other.

3) “In all specimens, hip OA was significantly associated with endplate degeneration at the L1, L3, and L5 levels.”

4) Of the specimens younger than 29 years, 35% had evidence of DDD in at least 1 lumbar level and 17% of hip OA changes. These authors interpret this finding as to mean that as a rule, spinal DDD precedes and increases risk of developing hip OS.

5) Of the specimens 60 years and older, 100% of the specimens had evidence of DDD and 50% of hip OA changes. Again, these authors interpret this finding as to mean that as a rule, spinal DDD precedes and increases risk of developing hip OS.

6) “There was a significant association between lumbar DDD and hip OA changes. Early lumbar DDD was twice as common as hip OA changes in the early 20s age range. These findings suggest that lumbar degeneration precedes hip degeneration and may be a causative factor for hip OA.”

7) In all age groups, lumbar DDD was 2 to 6 times more common than hip OA.

8) “Our study results showed that early degeneration is more common in the lumbar spine than in the hip joint and that progressively increasing degeneration in the lumbar spine is associated with hip OA.”

9) “Our study results seem to indicate that degenerative changes in the lumbar spine lead to altered biomechanics in as early as the fourth decade causing soft-tissue alterations and gait changes that can be a significant causative factor leading to hip OA.”