Order of Operation Matters in Concomitant Hip and Spine Pathology

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INTRODUCTION: In patients with coexisting lumbar spine and degenerative hip disease, there remains uncertainty regarding whether hip or spine surgery should be performed first. We hypothesized that undergoing total hip arthroplasty (THA) first would protect against ultimate lumbar spine surgery (LSS) in patients with 'hip-spine syndrome.'

METHODS: A retrospective cohort study was performed from 2013-2021 on patients with radiographically-confirmed hip osteoarthritis and degenerative lumbar spine pathology, evaluated separately in spine and arthroplasty ambulatory clinics prior to any surgical intervention. Included patients ultimately underwent THA and/or LSS. The primary outcome was survivorship free of LSS or THA after the other was initially performed.

RESULTS: Of 247 patients, 199 (81%) underwent THA first. LSS first patients had lower mean KL hip osteoarthritis grade (2.9 vs. 3.4,$p<0.01$), and increased incidence of neurogenic claudication (66% vs. 22%,$p<0.01$), radicular symptoms (90% vs. 57%,$p<0.01$), and central stenosis (71% vs. 49%,$p=0.02$). Only 11/199 (6%) who underwent THA first required subsequent LSS, while 34/48 (71%) who underwent LSS first required THA, ($p<0.01$). There was 90% survivorship free of subsequent LSS for those who underwent THA first, compared to 23% survivorship free of subsequent THA in the LSS group at 5 years. There was no difference in clinical or radiographic findings (including lumbar stenosis) in those who underwent THA alone vs those who also required LSS after THA. LSS alone patients had lower mean hip osteoarthritis KL grade (2.5 vs. 3.2,$p<0.01$), lower rates of groin pain (50% vs. 85%,$p=0.02$), and higher rates of posterior hip/buttock pain (36% vs. 6%,$p=0.02$).

DISCUSSION AND CONCLUSION: These data suggest that "hip-spine syndrome" patients may receive more initial benefit from undergoing THA, potentially reducing the subsequent need for LSS. The exception was those with lower severity hip osteoarthritis, with predominantly posterior hip pain. This should be considered when determining the order of surgical intervention for this difficult to manage cohort.