Paper #39

Spinal Fusion and Total Hip Arthroplasty: Why Timing Is Important

Nequesha S. Mohamed, MD, Ethan A. Remily, DO, Wayne A. Wilkie, DO, Sahir S. Pervaiz, MD, Scott J. Douglas, MD, Justin A. Stafford, DO, Johannes F. Plate, MD, Qais Naziri, MD, MBA, James Nace, DO, Ronald E. Delanois, MD

Introduction: In recent years, there has been much debate over the relationship between low back spinal fusion and total hip arthroplasty (THA). The timing of both procedures has been brought into question, as several studies have documented "hip spine syndrome" with concurrent degenerative disease in both the hip and lumber spine. Few large studies have directly compared the results of patients who undergo fusion prior to THA to those who undergo fusion after THA. Thus, the current study matched THA patients with a prior lumbar spinal fusion to patients that underwent lumbar spinal fusion after THA to assess postoperative outcomes.

Methods: The Symphony database was retrospectively reviewed with the PearlDiver Supercomputer to identify all patients undergoing THA between 2010 and 2018 (n=716,084). Patients who underwent a lumbar fusion prior to THA and after THA were then matched 1:1 on demographics. Categorical and continuous variables were analyzed utilizing analyses of variance and chi-square, respectively.

Results: Between pre-THA and post-THA fusion patients, age (p=0.246), male sex (p=0.999), CCI (p=0.999) and morbid obesity (p=0.999) were evenly matched. The length of stay for pre-THA patients was slightly shorter (p=0.015). There was a similar number of revisions performed (p=0.183). Pre-THA fusion patients experienced significantly more dislocations in the postoperative period compared to post-THA fusion patients (p=0.048). All other complications were nonsignificant.

Conclusions: Prior spinal fusion has been demonstrated to increase the risk of postoperative dislocation in patients undergoing THA. The results of the present study demonstrate increased dislocations in prior spinal fusion compared to post-THA fusion. For patients with "hip spine syndrome" requiring both a spinal fusion and a THA, it may be more beneficial to undergo THA prior to lumbar fusion. Arthroplasty surgeons may wish to collaborate with spinal surgeons to ensure optimal outcomes for this group of patients.

Notes