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CORR Insights®: Recurrent Versus Primary Lumbar Disc Herniation Surgery: Patient-reported Outcomes in the Swedish Spine Register Swespine

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Where Are We Now?

Recent large, prospective studies [1, 5] have supported acceptable, cost-effective, validated patient reported clinical outcomes for discectomy under direct visualization for the treatment of primary lumbar disc herniation. Recurrent disc herniation is infrequent, but when it occurs, it is an important driver of costs. Prior studies [2] have suggested acceptable clinical results with redo

discectomy for recurrent herniation. However, these studies have tended to be case reports with small numbers of patients and inconsistent use of validated outcome measures. The current registry study suggests reasonable short-term clinical results using validated outcome measures in patients undergoing reoperation for a presumed diagnosis of “recurrent disc herniation” after prior discectomy. From a registry, it is difficult to determine whether the patients undergoing repeat surgery truly

had a recurrent disc herniation, or ongoing/recurrent sciatic symptoms after discectomy surgery with subsequent imaging studies showing disc pathology that triggered further surgery. This is an important distinction in terms of identifying who might benefit from the index and the additional surgery.

The current study suggested patients with reoperations for a presumed recurrent disc herniation had worse self-described functional levels and higher pain scores prior to the index discectomy procedure than patients without reoperations. This raises the question as to whether those patients ultimately undergoing a second surgery had baseline characteristics that predisposed them to a less than optimal outcome after the primary procedure.

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Where Do We Need To Go?

Registry studies are useful in terms of defining a macro view of a clinical problem or treatment outcome in

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everyday practice. These studies need to be complemented by narrower studies providing greater detail, controlling for patient demographics and treatment techniques. Pertinent questions include: Which subset of patients with a herniated disc might achieve greatest benefit with surgical intervention? Which patients are at higher risk for recurrent herniation? Are there any surgical or postsurgical techniques that might reduce this risk? Recent studies have analyzed techniques of annular closure to mitigate risks of recurrent herniation [3]. Answering these questions will likely require narrower controlled prospective studies. The answers are clinically important particularly as discectomy surgery is the most frequently performed spinal procedure in the United States.

The recent Spine Patient Outcomes Research Trial prospective studies provide a treasure trove of information regarding patient-centered outcomes, predictors of those outcomes, and cost-utility data after discectomy surgery as well as non-surgical treatment for a diagnosis of primary herniated nucleus pulposus [5]. Although the study has been criticized for the high patient crossover and statistical analyses performed (intent to treat versus as-treated reported results), further studies of this quality are required.

How Do We Get There?

Prospective studies analyzing responders and nonresponders to discectomy for a diagnosis of disc herniation would potentially provide valuable clinical information. The optimal timing of discectomy surgery has yet to be elucidated. Duration of symptoms prior to discectomy surgery has been shown to be a predictor of clinical results and was not reported in the current registry study [4]. Detailed MRI findings are also not typically captured in a registry of this nature. These imaging studies likely have important implications for the diagnosis of both a primary and a recurrent disc herniation and may also have prognostic value and should be incorporated into future studies.

Many patients with a diagnosis of herniated nucleus pulposus may respond to nonsurgical care. Although considered “conservative”, these treatments are significant drivers of cost, are time consuming, and may not prevent surgery from coming into the picture. Predicting which patients have a high likelihood of responding to nonsurgical treatments would be extremely valuable. In the past decade, various costly, less invasive, percutaneous techniques for performing discectomy have been introduced. These techniques generally have not

been subject to rigorous studies and claims of success remain unproven. Further research in this area is required.

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