Patients Undergoing Primary Hip Arthroscopy with Previous Lumbar Spine Surgery Achieve Favorable Midterm Results

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INTRODUCTION:
There is a paucity of literature measuring patients undergoing primary hip arthroscopy for femoroacetabular impingement syndrome (FAIS) or labral tears with previous lumbar spine surgery at minimum 5-year follow-up. The purpose of this study is to report patient-reported outcomes (PROs) and clinical psychometric evaluations for patients undergoing primary hip arthroscopy with history of lumbar spine surgery to a control group of patients undergoing primary hip arthroscopy without history of lumbar spine surgery.
METHODS:
Data was prospectively collected and retrospectively reviewed on all patients undergoing primary hip arthroscopy for FAIS or labral tears that received a previous lumbar spine surgery between April 2008 and July 2015. Lumbar spine surgeries were defined as a decompression or fusion. Patients were marked eligible if they completed preoperative and minimum 5-year patient-reported outcome (PROs) questionnaires for the modified Harris Hip Score (mHHS), Nonarthritic Hip Score (NAHS), Hip Outcome Score Sports Specific Subscale (HOS-SSS), and Visual Analog Scale (VAS) for pain. Patients were excluded if they had a previous hip condition (such as fractures, slipped capital femoral epiphysis, avascular necrosis, or Legg-Calve-Perthes disease), were unwilling to participate in the YYY registry, had a Tönnis osteoarthritis grade greater than 1, or had a previous hip surgery on the ipsilateral hip. The lumbar spine group was propensity-score matched in a 1:3 ratio to a group of control patients.
RESULTS:
A total of 43 hips were eligible and 36 hips (83.7%) had minimum 5-year follow-up. The lumbar spine cohort experienced significant (P < 0.001) and comparable improvement to group of control patients across all PROS. However, the lumbar spine group demonstrated lower preoperative NAHS (48.13 ± 17.1 vs 55.53 ± 18.4) and HOS-SSS (24.96 ± 23.1 vs 34.75 ± 24.5) scores compared to the the control group, respectively (P = 0.035 and 0.025). Additionally, both the lumbar spine and control groups achieved high rates of MCID in the mHHS (87.0% vs 79.8%, respectively P = 0.555) and NAHS (82.6% vs 83.3%, respectively P > 0.999).
DISCUSSION AND CONCLUSION:
Despite history of previous spine surgery, patients undergoing primary hip arthroscopy achieved comparable rates of improvement, and postoperative scores at the minimum 5-year mark when analyzed against a control group undergoing primary hip arthroscopy without previous lumbar spine surgery. Additionally, both groups were able to achieve high proportions of MCID in the mHHS, and NAHS.

Table IV. Minimum 5 Year PROs

	Lumbar Spine Group	Control Group	P value
mHHS			
Preoperative	52.04 ± 14.2 (47.4 – 56.7)	57.05 ± 17.0 (53.8 – 60.2)	0.116
Latest	81.43 ± 18.4 (75.4 – 87.4)	86.46 ± 15.7 (83.5 – 89.4)	0.336
Delta	26.18 ± 20.7 (19.4 – 32.9)	26.45 ± 19.8 (22.7 – 30.2)	0.953
P value	<0.001*	<0.001*	
NAHS			
Preoperative	48.13 ± 17.1 (42.5 – 53.7)	55.53 ± 18.4 (52.0 – 59.0)	0.035*
Latest	79.93 ± 19.4 (73.0 – 86.3)	85.38 ± 16.3 (82.3 – 88.5)	0.149
Delta	27.05 ± 21.0 (20.2 – 33.9)	28.35 ± 20.3 (24.5 – 32.2)	0.789
P value	<0.001*	<0.001*	
HOS-SSS			
Preoperative	24.96 ± 23.1 (17.39 – 32.5)	34.75 ± 24.5 (30.1 – 39.3)	0.025*
Latest	65.88 ± 30.8 (55.8 – 75.8)	65.39 ± 29.4 (59.9 – 70.9)	0.799
Delta	30.34 ± 37.0 (18.2 – 42.4)	27.11 ± 29.5 (21.6 – 32.7)	0.684
P value	<0.001*	<0.001*	
iHOT-12			
Latest	70.73 ± 26.6 (62.0 – 79.4)	74.78 ± 25.7 (69.9 – 79.6)	0.490
VAS Pain			
Preoperative	5.82 ± 2.6 (4.9 – 6.7)	5.20 ± 2.4 (4.7 – 5.6)	0.161
Latest	2.86 ± 2.6 (2.0 – 3.7)	1.80 ± 2.1 (1.4 – 2.2)	0.108
Delta	-3.15 ± 3.3 (-4.2 – -2.0)	-3.13 ± 2.7 (-3.6 – -2.6)	0.568
P value	<0.001*	<0.001*	
Satisfaction			
Latest	8.0 ± 2.5 (7.2 - 8.8)	8.32 ± 2.2 (7.9 – 8.7)	0.763

Table I. Demographics and Preoperative Radiographic Measurements

	Lumbar Spine Group	Control Group	P Value
Age	51.11 ± 10.8 (47.6 – 54.6)	52.92 ± 10.3 (51.0 – 54.9)	0.369
Sex			>0.999
Male	17 (47.2%)	51 (47.2%)	
Female	19 (52.8%)	57 (52.8%)	
BMI	28.67 ± 5.1 (27.1 – 30.3)	29.22 ± 5.3 (28.2 – 30.2)	0.631
Follow-up Time, months	66.00 ± 9.0 (63.1 – 68.9)	63.67 ± 6.2 (62.5 – 64.8)	0.400
Tonnis Grade			0.373
0	28 (77.8%)	91 (84.3%)	
1	8 (22.2%)	17 (15.7%)	
Alpha Angle	60.02 ± 11.7 (56.1 – 63.8)	61.60 ± 13.5 (59.0 – 64.1)	0.426
LCEA	30.44 ± 4.8 (28.8 – 32.0)	31.17 ± 6.5 (29.9 – 32.4)	0.486
Acetabular Inclination	5.26 ± 4.8 (3.7 – 6.8)	5.57 ± 4.6 (4.7 – 6.4)	0.748
ACEA	30.44 ± 6.2 (28.4 – 32.4)	30.29 ± 7.8 (28.8 – 31.8)	0.426

Figure 1. Patient Selection Process

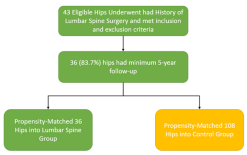

Table 5. Clinical Psychometric Evaluations

	Lumbar Spine Group	Control Group	P value
mHHS			
MCID	20 (87.0%)	67 (79.8%)	0.555
PASS	15 (65.2%)	62 (73.8%)	0.582
MOIST	12 (52.2%)	52 (61.9%)	0.546
NAHS			
MCID	19 (82.6%)	65 (83.3%)	>0.999
PASS	9 (39.1%)	50 (64.1%)	0.058
MOIST	12 (52.2%)	53 (67.9%)	0.254
HOS-SSS			
MCID	15 (71.4%)	41 (64.1%)	0.724
PASS	7 (33.3%)	27 (42.2%)	0.644
iHOT-12			
PASS	14 (60.9%)	77 (77.8%)	0.158
VAS Pain			
MCID	15 (65.2%)	57 (73.1%)	0.638
MOIST	11 (47.8%)	50 (64.1%)	0.246