Steroid Injections in Patients with Mild, Moderate, and Severe Hip Osteoarthritis: High Risk, Low Reward

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INTRODUCTION:
Hip osteoarthritis (HOA) represents a leading cause of disability in the United States. Consequently, intraarticular corticosteroid injections (IACSI) are routinely recommended and utilized for non-surgical management of symptomatic HOA. While shown to decrease pain intensity, few studies have reported on the potential risk of rapidly progressive osteoarthritis (RPOA). This study aimed to assess the rate of OA progression following IACSI in patients with mild, moderate, and severe HOA.
METHODS:
This single-institution study retrospectively reviewed patients who underwent fluoroscopy-guided IACSI for HOA between January 1st, 2022, and December 31st, 2022, with a minimum follow-up of 1 year. Pre-injection and post-injection radiographic images were reviewed to assign HOA grades (0-4) using The Kellgren-Lawrence (KL) classification system. Patients with mild, moderate, and severe (KL 2-4) HOA on pre-injection radiographs were subsequently included. Primary outcomes included changes in post-injection KL grades and time-to-total hip arthroplasty (THA).
RESULTS:
564 patients were included, with an average age of 66.7 ± 10.2, a mean BMI of 30.1 ± 5.83, and 59.5% females. Before IACSI intervention, all participants exhibited radiographic evidence of joint space narrowing and osteophyte formation, while 413 (73.8%) and 198 (35.4%) also exhibited sclerosis and subchondral cysts, respectively. Post-injection, 508 (90.7%) exhibited sclerosis while 56.8% had subchondral cyst formation. For patients with <4 KL grading, 185 (45.7%) increased by one level, and for patients with <3 KL grading, 33 (22.4%) increased by two levels. The average time-to-THA was 206 ± 95.6 days. There were no significant differences between pre- and post-injection patient-reported outcomes (PROs).
DISCUSSION AND CONCLUSION:
Radiographic comparisons before and after IACSI revealed concerning HOA progression in nearly half the patients without severe arthritis. Combined with a minimal change in PROs and most patients electing to undergo THA within the following months, the safety and utility of IACSI in this population must be reconsidered.

Table 1

Demographics	Total Data N=564 N (SD or % when indicated)
Age	66.7 (10.2)
BMI	30.1 (5.83)
Gender:	
Women	335 (59.4%)
Men	229 (40.6%)
Race:	
Black	54 (9.57%)
White	452 (80.1%)
Other	43 (7.62%)
ASA	2.44 (.59)
CCI	.62 (1.06)
CCI Age	3.84 (1.58)
Laterality:	
Bilateral	5 (.89%)
Left	261 (46.3%)
Right	297 (52.7%)
Preinjection HOOS JR Interval	48.0 (12.0)
Postinjection HOOS JR Interval	48.0 (17.9)

BMI= body mass index, ASA= American Society of Anaesthesiologists Score, CCI= Charlson Comorbidity Index, CCI Age= Age Adjusted Charlson Comorbidity Index, HOOS, JR = Hip Disability and Osteoarthritis Outcome Score, Joint Replacement.