Opioid-Sparing Pain Management Following Total Hip Arthroplasty

Jonathan Gabor BS[1], Jorge Padilla MD[1], Hayeem Rudy BA[1], Daniel Waren MSPH[1],Sarah Ulcoq MOT[2], Seong Jin Kim MPH[2], Bronwyn Spira PT[2], Ran Schwarzkopf MD[1], Roy Davidovitch MD[1]

[1]NYU Langone Orthopedic Hospital, NYU Langone Health, New York, NY
[2]Force Therapeutics, New York NY

Introduction

Postoperative pain management following total hip arthroplasty (THA) is as equally important as the surgery itself. An effective pain management regimen could promote faster functional recovery and improve patients' quality of life. Traditionally, THA patients are prescribed some form of opioid after their surgery, making orthopaedics a major contributor to the current opioid epidemic. There has recently been a rising awareness in the orthopaedics community and many surgeons and care teams have started prescribing less opioids to their patients. The aim of this study is to evaluate postoperative outcomes of THA in patients in traditional and opioid-sparing pain control regimens.

Methods

688 patients who had undergone anterior THA performed by a single surgeon at a single institution between April 2017 to June 2018 were included. Patients were divided into two groups: 1) Traditional pain management (Cases performed prior to Nov 27, 2017, when opioid-sparing regimen was first implemented) 2) Opioid-sparing pain management (Cases performed on or after Nov 27,2017). As a standard of care, both groups were given access to an electronic patient rehabilitation application (EPRA) where they could view exercise and care instruction videos, communicate with their care team and report their progress. Hip Disability and Osteoarthritis Outcome Score Jr. (HOOS Jr.) were collected at pre-op, and 12 weeks post surgery: additionally, patients' pain scores (range 0-10) were collected daily upon their logging into EPRA from Day -30 to 90. Two-sample t-tests were used to compare the postoperative outcomes between the two groups. All statistical analyses were performed using SAS (Cary, NC) and $p<.05$ was deemed statistically significant. Level of Evidence: III, Retrospective Study.

Results

Mean age and body mass index (IQR) were 64.7 (58-72) and 27.0 (23.5-29.7), respectively. No statistically significant difference ($p>.05$) was observed in patients' postoperative pain scores between traditional and opioid-sparing groups (See Table). Similar results were also seen in HOOS Jr. scores (See Table).

Mean Score (n)	Pre-op Pain	Post-op Pain Day 1-30	Post-op Pain Day 31-60	Post-op Pain Day 61-90
Traditional	6.60 (n=270)	3.51 (n=280)	1.71 (n=203)	1.45 (n=218)
Opioid-Sparing	6.43 (n=322)	3.69 (n=315)	1.95 (n=173)	1.37 (n=157)
P-value	0.28	0.23	0.17	0.65

Mean Score (n)	Pre-op HOOS Jr.	Post-op HOOS Jr 12 Weeks
Traditional	52.65 (n=268)	83.63 (n=252)
Opioid-Sparing	52.68 (n=323)	83.77 (n=142)
P-value	0.98	0.92

Conclusions

Study results could indicate that the opioid-sparing pain management following THA provides equivalent outcomes to traditional pain management without exposing patients to the potential opioid-related side effects including nausea, emesis, urinary retention, hypotension and constipation. Further research is warranted to examine longer-term outcomes.

Disclosures

The NYU authors have no financial relationships to disclose. Force Therapeutics is the parent company of the electronic patient rehabilitation application used in the study.