

Does a Pericapsular Nerve Group Block Reduce Perioperative Opioid Consumption among Patients Undergoing Anterior or Posterior Total Hip Arthroplasty?

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INTRODUCTION: Pericapsular nerve group (PENG) blocks used for total hip arthroplasty (THA) provide postoperative anesthesia without the associated motor weakness implicated with other regional nerve blocks. The purpose of this study was to assess the effect of PENG blocks on perioperative opioid consumption and complications among patients undergoing anterior or posterior THA. We hypothesized that anterior THA patients who received a PENG block would have greater benefit than posterior THA patients who received a PENG block.

METHODS: We reviewed 559 primary THA (261 anterior and 299 posterior). Of the 261 anterior THA, 57% received a PENG block and 43% did not. Average age was 69 and 59% were female. Mean BMI was 26. Of the 299 posterior THA, 63% received a PENG block and 37% did not. Average age was 70 and 58% were female. Mean BMI was 29. Perioperative opioid consumption was assessed in the post-anesthesia care unit (PACU) and inpatient floor (up to 12 hours) and converted to morphine milligram equivalents (MME). Postoperative complications occurring up to 30 days postoperatively were evaluated.

RESULTS: Among anterior THA patients, those who had a PENG block received less opioids than those without a PENG block in the PACU (18.3 and 24.4 respectively, $p < 0.006$), but there was no difference once patients transitioned to the inpatient floor (Table 1). Among posterior THA patients, there was no difference in opioid consumption in the PACU or inpatient floor between those who received a PENG block and those who did not. Postoperative complications occurred in 6% of anterior THA patients and 10% of posterior THA patients. There were no differences in complications between PENG block groups within either approach.

DISCUSSION AND CONCLUSION: We evaluated the effect of PENG blocks on perioperative opioid consumption among patients undergoing anterior or posterior THA. Since the PENG block is directed at the sensory fibers of the anterior hip capsule, a larger benefit was expected in patients undergoing anterior THA. We found a statistically significant reduction in PACU MMEs among those who received a PENG block for anterior THA; this difference was not observed among posterior approach THA patients, which supported our hypothesis.

Table 1. Mean morphine milligram equivalents (MME).

	PACU	Floor (up to 12 hours)
Anterior THA		
PENG block	18.3	19.8
No PENG block	24.4	16.9
<i>p-value</i>	<i>0.006</i>	<i>0.364</i>
Posterior THA		
PENG block	15.6	16.2
No PENG block	14.7	15.4
<i>p-value</i>	<i>0.666</i>	<i>0.644</i>