

Assessment of Adductor Canal Block in Arthroscopic Meniscal Surgery: A Retrospective Cohort Study

Nishita Lockwood MD MPH, Jonathan Shen DO, Pamela Chia MD, Xuezhi Dong MD

Department of Anesthesiology & Perioperative Medicine, David Geffen School of Medicine, UCLA



Health

David Geffen
School of Medicine

Introduction

- Ultrasound-guided adductor canal block (ACB) may be associated with improved early postoperative analgesia while preserving quadriceps strength.
- Although prior studies support its use in knee arthroscopies, real-world data on ACB’s impact on postoperative pain, opioid requirements, and hospital length of stay in arthroscopic meniscus surgery remain limited (Sehmbi, 2019; Hanson, 2014).
- We evaluated the association between ACB use and postoperative outcomes at a large academic medical center.

Methods

- Single center retrospective cohort study of adults undergoing arthroscopic meniscectomy or meniscal repair at UCLA between 1/1/2020 and 12/1/2025.
- IRB approval was obtained for this study.
- Patients receiving preoperative ultrasound-guided ACB were compared with those who did not.
- Patients undergoing emergency surgery or multiple concurrent procedures were excluded.
- Paired T Test was used for continuous variables and Chi Squared analysis for categorical variables.
- The primary outcomes were total opioid consumption in the PACU in morphine milligram equivalents (MME) and initial PACU pain score.

Variable	No Block (N=962)	Block Group (N=166)	p-value
Age (years)	43.3 ± 15.9	44.3 ± 13.4	0.40
Female sex	363 (38%)	66 (40%)	0.80
BMI	26.8 ± 5.3	27.5 ± 5.0	0.12
Surgical duration (min)	88 ± 28	95 ± 36	0.017
General anesthesia	959 (100%)	163 (98%)	0.045

Outcome	No Block (N=962)	Block Group (N=166)	p-value
Intraoperative MME	16.7 ± 10.8	17.3 ± 9.7	0.30
PACU first pain score	3.0 ± 3.2	2.8 ± 3.5	0.30
PACU MME (60 min)	4.6 ± 6.7	5.6 ± 7.1	0.039
PACU total MME	12.4 ± 11.6	14.6 ± 13.0	0.053
PONV rescue medication	43 (4.5%)	9 (5.4%)	0.60
PACU LOS (min)	108 ± 46	114 ± 49	0.30
Hospital LOS (hr)	5.8 ± 8.0	6.1 ± 3.3	<0.001

Results

- There was no statistically significant difference in PACU total opioid consumption between block and no block groups (14.59 vs. 12.43, p=0.053) or initial PACU pain score (2.80 vs. 3.03, p=0.3).
- Patients who received an ACB demonstrated higher PACU IV opioid consumption at 60 minutes postoperatively (5.63 vs. 4.62, p=0.039).
- There was no difference in PACU IV opioid consumption between 60 and 120 minutes (0.73 vs. 0.43, p=0.3) and intraoperative IV opioid consumption (17.25 vs 16.74, p=0.3).
- Hospital length of stay was also longer in the ACB group (6.11 vs. 5.77 hours, p<0.001), but there was no difference in PACU length of stay (113.61 vs. 108.42 minutes, p=0.3).

Discussion

- In this retrospective cohort study, ACB was not associated with meaningful change in postoperative pain scores and total PACU opioid consumption.
- There was a counterintuitive increase in early PACU IV opioid consumption and hospital time to discharge.
- The magnitude of difference is small and unlikely to be clinically significant. This may reflect patient selection for ACB at our institution, with preferential use in patients anticipated to have higher postoperative pain.
- These findings support that the clinical impact of ACBs in routine arthroscopic meniscal surgeries is limited.

