

# Comparison of Posterior and Anterior Quadratus Lumborum Block in Inguinal Hernia Repair: A Systematic Review and Meta Analysis

Ricardo Castro, Vitor Duraes, Matheus Arraes, MD, Julio Curi , Isabela Lefevre, Everton Silva, Savila Melo , MD, Veronica Damiao, MD

## BACKGROUND

- Quadratus lumborum block (QLB) is a widely used block in inguinal hernia repair procedures.
- However, the superiority of the anterior (QLB 3) or posterior (QLB 2) approach remains unclear.

## OBJECTIVES

- The purpose of this study was to compare the efficacy of QLB 2 and QLB 3 in postoperative analgesia and pain recovery in patients undergoing inguinal hernia repair.

## METHODS

- PubMed, Embase, and Cochrane were systematically searched for non-randomized and randomized trials comparing QLB 2 and QLB 3 in inguinal hernia repair.
- Outcomes assessed:
  1. Postoperative opioid consumption
  2. First analgesia requirement time
  3. Postoperative pain scores (VAS)
- Mean difference (MD) and Standardized Mean Difference (SMD) were pooled using a random-effects model, with statistical analysis performed in R 4.4.2. Heterogeneity was assessed with Cochran Q test and I<sup>2</sup> statistics.

## Anterior quadratus lumborum block may provide better pain management compared to the posterior approach in inguinal hernia surgery.

**Figure 1. 24-hour opioid consumption was significantly lower in QLB 3.**

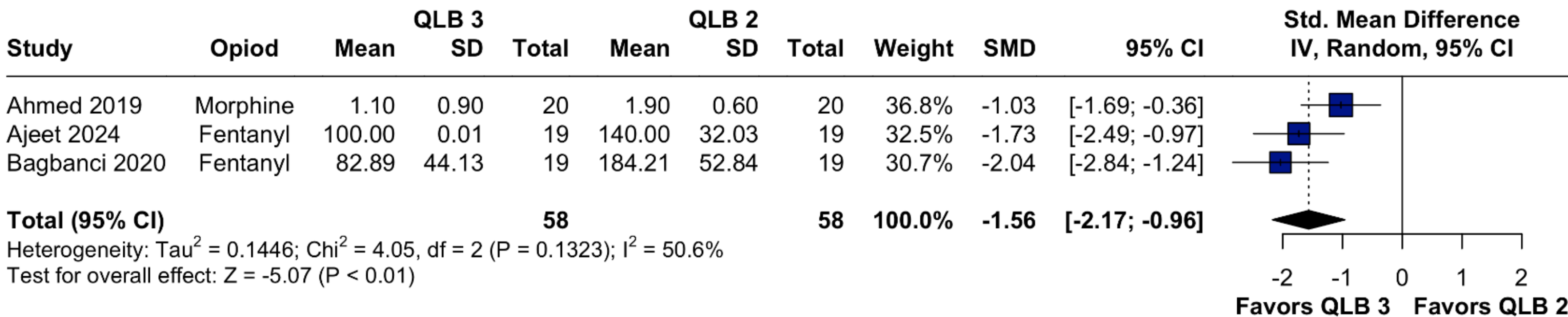
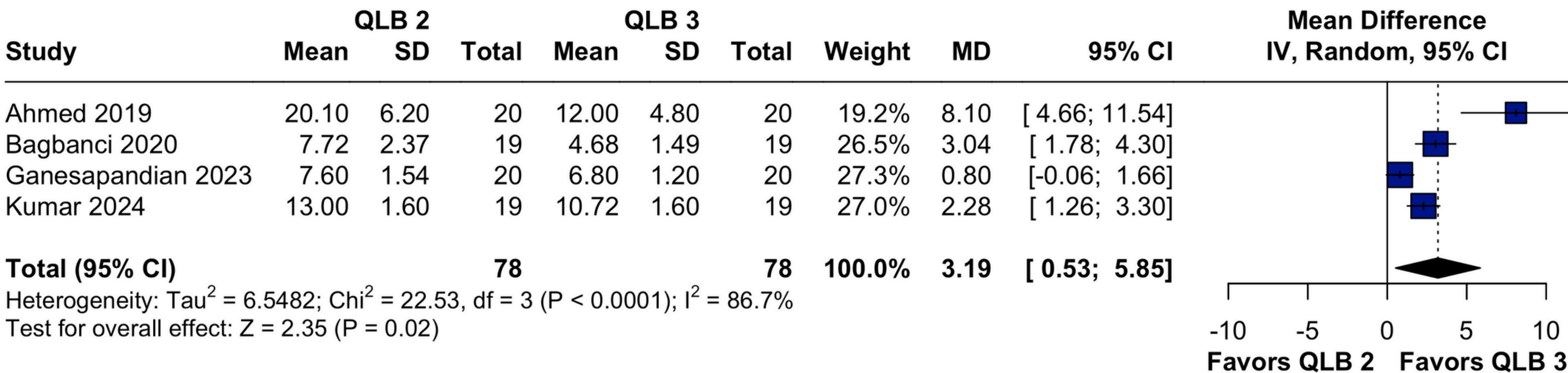


**Figure 2. Time to first analgesia requirement was prolonged in QLB 3 compared to QLB 2.**



## RESULTS

- A total of 156 ASA I or II patients from four studies (three RCTs) were analyzed, with 78 (50%) receiving QLB-3.
- QLB 3 led to lower 24-hour opioid consumption (SMD -1.56 mg; 95% CI [-2.17; -0.96]; p = 0.13).
- QLB 3 was also associated with reduced postoperative pain scores (MD -0.48; 95% CI [-0.90; -0.07]; p < 0.0001).
- The first analgesia requirement time was longer in the QLB 3 group (MD 3.19 h; 95% CI [0.53; 5.85]; p < 0.0001).

## CONCLUSION

- **Opioid Consumption:** QLB 3 is associated with reduced postoperative opioid use.
- **Analgesia Duration:** Patients with QLB 3 experience a longer pain-free period before requiring rescue analgesia, compared to QLB 2.
- **Pain Control:** QLB 3 patients experience lower postoperative pain scores compared to QLB 2.
- **Clinical Impact:** QLB 3 may offer superior analgesia and improve postoperative recovery in inguinal hernia repair.

Scan to watch a short animation  
of QLB 2 vs. QLB 3

