

Impact of Continuous Serratus Plane Block on Quality of Recovery After VATS

A prospective, double-blind, placebo-controlled trial



PRESENTER:
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BACKGROUND

Video-assisted thoracoscopic surgery (VATS) is commonly associated with significant postoperative pain despite its minimally invasive approach. Serratus anterior plane block (SAPB) is a promising regional analgesic technique for thoracoscopic surgery, but evidence on the impact of continuous SAPB infusion on validated measures of postoperative recovery remain limited.

HYPOTHESIS

Continuous SAPB infusion of local anesthetic will improve the quality of recovery on postoperative day one in patients undergoing VATS procedures.

METHODS

- 1. Design: Prospective randomized, blinded, placebo-controlled trial at a single tertiary centre (IRB approved; informed consent obtained).
- 2. Participants: Adults (ASA I-IV, BMI ≤ 40 kg/m²) undergoing elective VATS.
- 3. Intervention: Ultrasound-guided serratus anterior plane catheter with ropivacaine bolus (20ml 0.5%) followed by infusion (0.2% at 7ml/hr) vs. saline placebo. All participants received multimodal analgesia including surgical local anesthetic infiltration and PCA hydromorphone.
- 4. Primary outcome: Quality of Recovery-40 (QoR-40) score on POD1. Secondary outcomes: QoR-40 on POD2–4, pain scores, opioid use, complications, LOS, 30-day readmission.

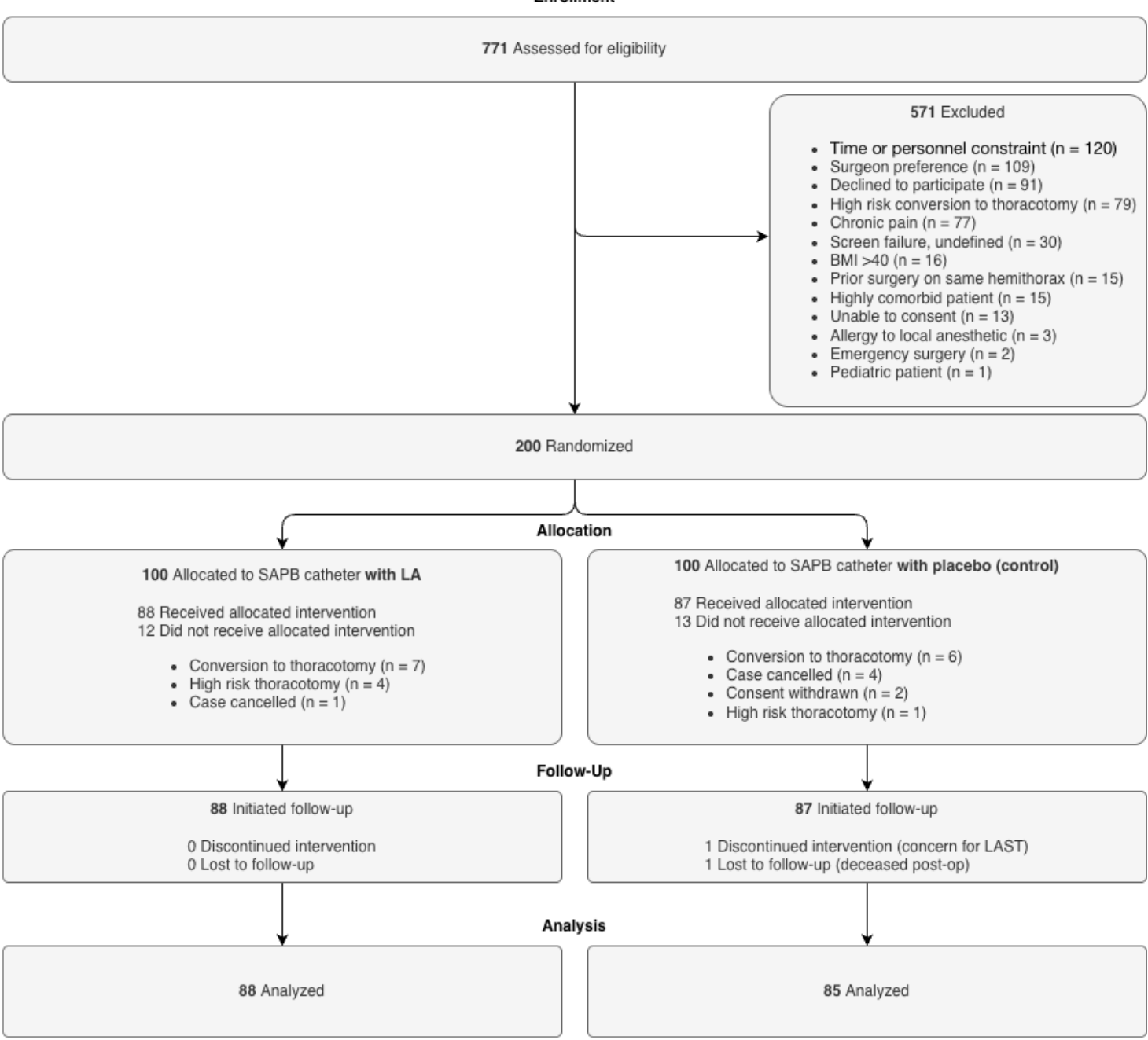


Figure 1: CONSORT flow diagram.

Continuous serratus anterior plane block does not improve quality of recovery (QoR-40) after VATS, but significantly reduces early postoperative opioid use.

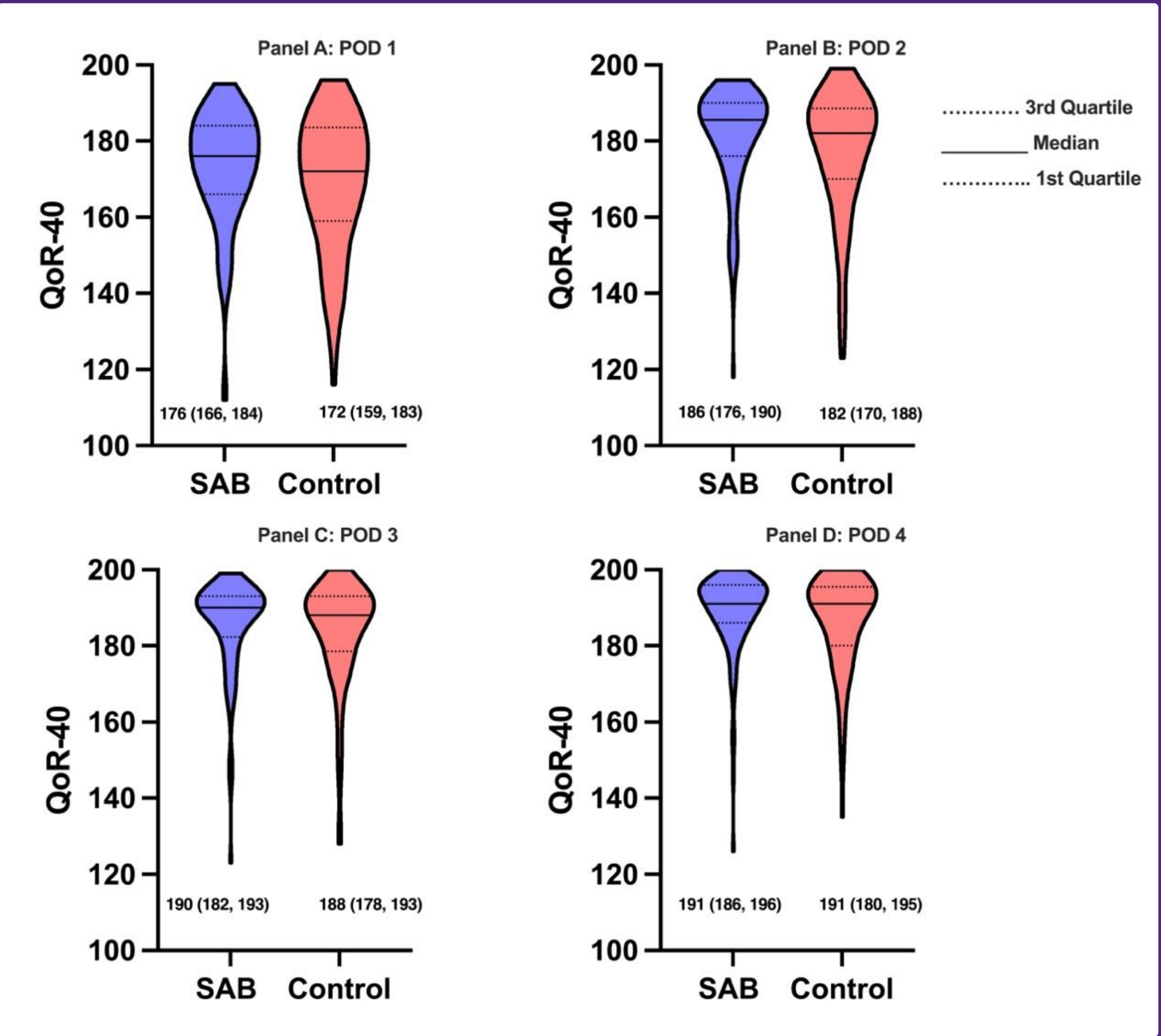


Figure 2: Violin plots illustrate the distribution of quantitative quality of recovery QoR-40 scores, displaying the continuous distribution and density of patient-reported quality of recovery.

RESULTS

- A total of 173 participants completed follow-up through POD4 (88 in intervention group, 85 in control group), see *Figure 1*
- The primary outcome, QoR-40 on postoperative day 1, **was not statistically significantly different** between groups (p=0.10), see *Figure 2*
- QoR-40 scores remained numerically higher in the SAPB group across POD2–4.
- Patients receiving continuous SAPB had significantly lower early opioid use:

Total opioid consumption (MME in mg, mean ± SD)				
	SAPB (n=88)	Control (n=85)	P value	% Reduction
PACU	8.0 ± 7.4	10.6 ± 9.3	0.0388	24%
POD1	12.73 ± 10.75	16.45 ± 12.17	0.0349	22%

- Hospital length of stay was approximately **one day shorter with SAPB**, although this difference was not statistically significant (2.7 vs 3.5 days; p=0.087).
 - In an exploratory analysis, this translated to a cumulative cost savings of \$91,520 across 88 participants in the SAPB group.
- Pain scores, postoperative complications, and 30-day readmissions were similar between groups. No block related complications were observed.

DISCUSSION

Continuous SAPB infusion did not significantly improve QoR-40 after VATS but was associated with meaningful early reductions in opioid consumption. Length of stay was nearly one day shorter with SAPB, and no block-related complications were observed, supporting SAPB as a safe opioid-sparing adjunct within multimodal analgesia.

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