Erector Spinae Plane Block versus Pectoral Nerve Block Type II for Postoperative Analgesia in Breast Cancer Surgery:
An Updated Systematic Review and Meta-analysis

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Introduction:
- Breast cancer surgery (BCS) related to acute and chronic postoperative pain.
- Erector spinae plane block (ESPB) and pectoral nerve block type II (PECS II) are used for analgesia with conflicting results regarding their comparative efficacy.

Methods:
- Women undergoing breast cancer surgery randomized to ESPB or PECS II.
- PROSPERO: CRD420261369640.
- Literature Search: MEDLINE, Embase, and Cochrane Library with 14 RCTs included | 802 patients.
- Outcomes:
  - Primary: postoperative morphine consumption at 24h after surgery
  - Secondary: postoperative static pain score at 24h after surgery.
- Statistical Analysis:
  - Mean difference (MD) with 95% confidence interval (CI).
  - Statistical heterogeneity assessed using I^2.
  - Leave-one-out sensitivity analysis performed to assess the influence of individual studies.

Results:
- 24h morphine consumption: MD 1.73; 95% CI −1.49 to 4.94; P = 0.29; I^2 = 98.0%, P < 0.001.
- 24h static pain scores: MD −0.14; 95% CI −1.26 to 0.98; P = 0.81; I^2 = 97.8%, P < 0.001.



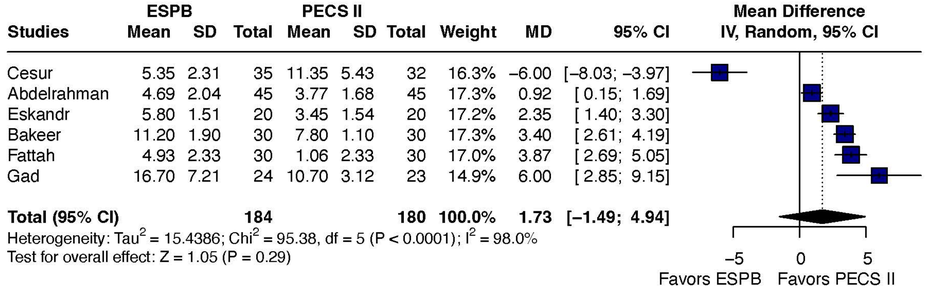
ESPB vs PECS II in breast cancer surgery:

This meta-analysis showed ***no statistically significant advantage*** *regarding* ***morphine consumption*** *and* ***static pain*** *scores at 24h post procedure.*

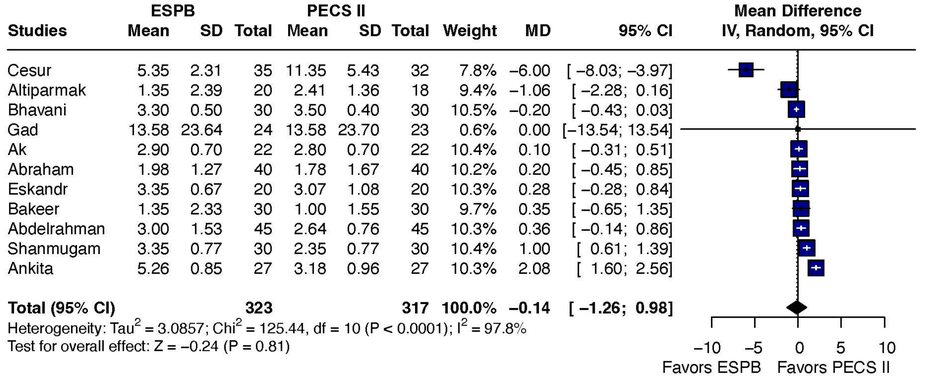
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Sensitivity analysis excluding Cesur 2023:
- 24h morphine consumption: MD 2.98; 95% CI 1.59 to 4.37; P < 0.0001; I^2 = 87.2%.
- 24h static pain scores: MD 0.40; 95% CI −0.13 to 0.93; P = 0.14; I^2 = 89.8%.

Discussion:
- There is no statistically significant difference in morphine consumption and static pain scores at 24h after procedure.
- Leave-one-out sensitivity analysis demonstrated that, excluding Cesur 2023, morphine consumption was increased with PECS II, whereas static pain findings remained consistent.
- Considerable heterogeneity limits certainty regarding the pooled estimates.



1. Forest plot: 24h postoperative morphine consumption



2. Forest plot: static pain at 24h