

LOCAL ANESTHETICS WITH/WITHOUT ADJUVANTS FOR SINGLE-SHOT ADDUCTOR CANAL BLOCK IN TKA: NETWORK META-ANALYSIS

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INTRODUCTION

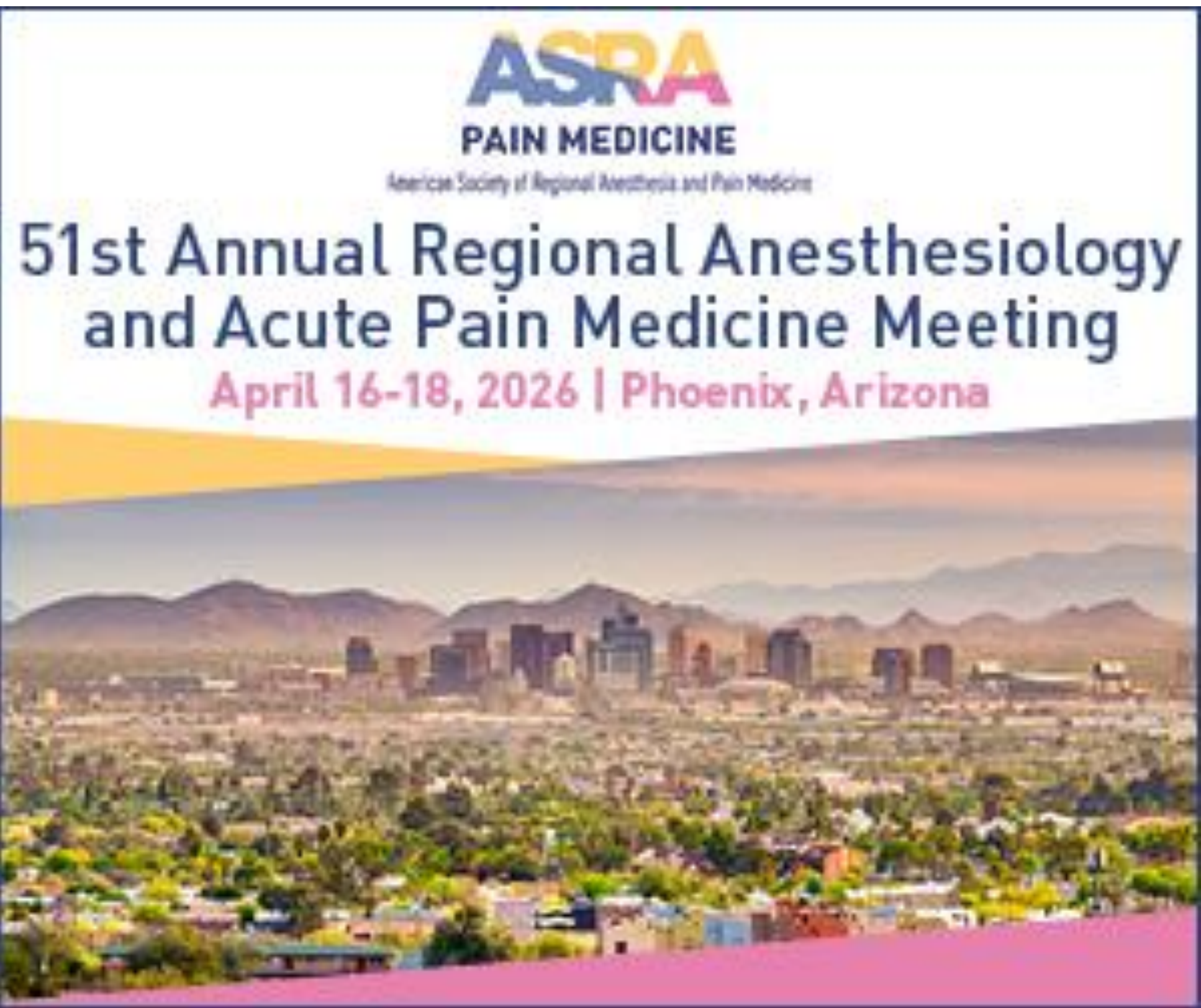
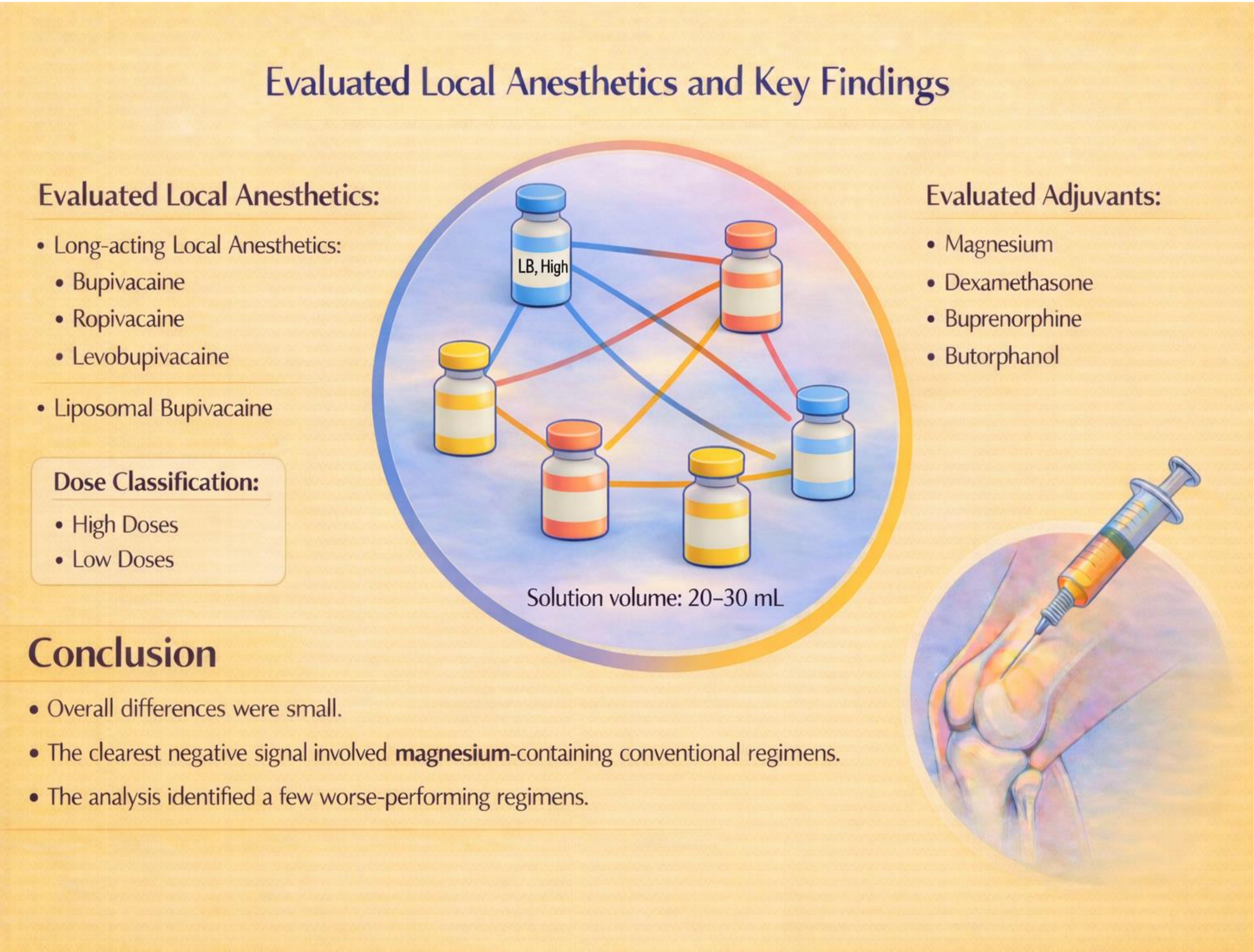
- Total knee arthroplasty (TKA) is associated with substantial acute postoperative pain.
- Single-shot ACB is widely used to improve analgesia while preserving quadriceps function.
- We performed a network meta-analysis comparing studied single-shot ACB injectates for TKA.

METHODOLOGY

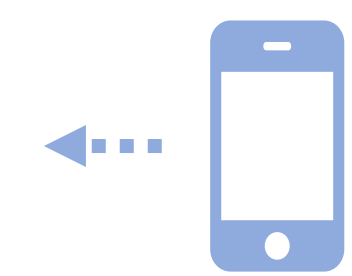
- Databases:** PubMed, Embase, Cochrane Library, and Web of Science.
- Search date:** through January 2, 2026.
- To support transitivity, only trials using **20–30 mL** injectate volume were included.
- Outcomes:** pain at **24, 48, and 72 h**; opioid consumption at **0–24, 24–48, and 48–72 h**.
- Analysis:** frequentist random-effects network meta-analysis using **MetaInsight**.
- Effect measures:** **MDs** for pain and **SMDs** for opioid consumption.
- Inclusion:** RCTs in adults undergoing unilateral TKA with single-shot ACB.
- LALA were grouped as **low- vs high-dose** using prespecified cutoffs.
- In LB+LALA admixtures, added bupivacaine dose was classified separately.
- Adjuvants** were analyzed as **present vs absent**; dose was not evaluated.

RESULTS

- Most comparisons were not statistically significant.**
- The main **worse-performing regimens** were **magnesium-containing conventional long-acting local anesthetic regimens**, which showed higher pain and, in some analyses, higher opioid use.
- Additional isolated disadvantages were seen with **low-dose conventional long-acting local anesthetics** and some regimens containing **buprenorphine, dexamethasone, or butorphanol**.



Full analyses including forest plots, network plots, and league tables are available via the QR code.



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