Efficacy and safety of acupuncture-related interventions for renal colic caused by upper urinary tract stones:

a systematic review and meta-analysis of randomized controlled trials

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BACKGROUND & AIM

NSAIDs are first-line for renal colic but limited by adverse effects and contraindications. We compared acupuncture ± medication vs medication alone.

METHODS

8 databases to Mar 2026 (PubMed, WoS, Embase, CENTRAL, CNKI, Wanfang, VIP, CBM); RCTs only; RoB 2.0; RevMan 5.4.1, random-effects. 16 RCTs, 1,417 patients.

STUDY CHARACTERISTICS & CLINICAL VALUE

- **Interventions:** body acupuncture (8), wrist-ankle acupuncture (4), warm acupuncture (2), acupoint injection (2), ear (1)
- **Core acupoints:** Qiu's point, Zusanli (ST36), Chengshan (BL57); + ST29 (groin radiation), + PC6 (nausea/vomiting)
- **Parameters:** retain needles 20–30 min, stimulate every 10 min; EA dense–disperse wave (2/15 Hz), tolerable intensity
- **Positioning:** pre-treatment before analgesics, or alternative if NSAIDs contraindicated; add-on reduces drug dose and adverse events

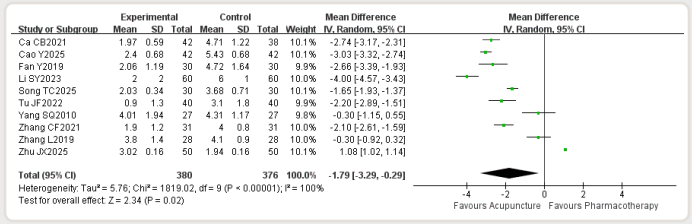

Fig. 1 Pain score: acupuncture vs medication

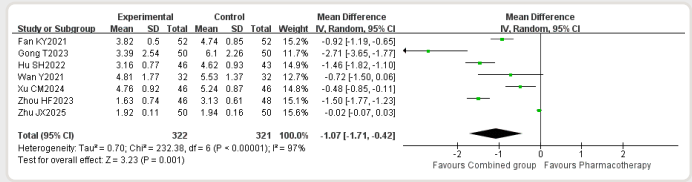

Fig. 2 Pain score: acupuncture + medication vs medication

RESULTS

Pain score (VAS, 30 min)

Acu: MD −1.79 (−3.29,−0.29), P = 0.02 · Comb: MD −1.07 (−1.71,−0.42), P = 0.001

Analgesic response rate

Acu: RR 1.22 (1.06,1.40), P = 0.005 · Comb: RR 1.14 (1.05,1.23), P = 0.001

Time to pain relief

Acu: MD −8.49 min (−15.21,−1.77), P = 0.01 · Comb: MD −4.89 (−9.55,−0.23), P = 0.04

Adverse events

Acu: RR 0.42 (0.27,0.64), I^2 = 0%, P < 0.0001 · Comb: RR 0.45 (0.26,0.79), P = 0.005

Acu = acupuncture; Comb = acupuncture + medication.

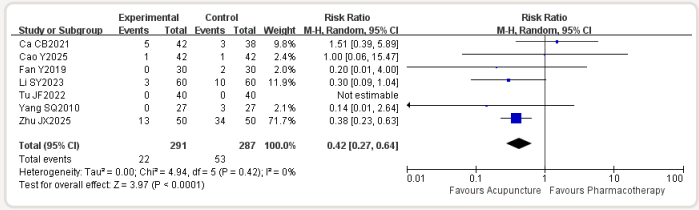

Fig. 3 Adverse events: acupuncture vs medication (I^2 = 0%)

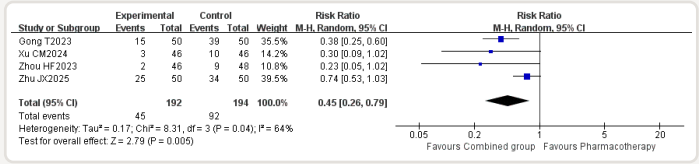

Fig. 4 Adverse events: acupuncture + medication vs medication

Take-home message

Acupuncture ± medication reduced pain scores, shortened time to pain relief, and lowered adverse events.

Interpret with caution: high heterogeneity for pain outcomes, low/very low GRADE certainty, and possible publication bias.