INTRAVENOUS LIDOCAINE INFUSION VERSUS PLACEBO FOR POSTOPERATIVE ACUTE PAIN CONTROL IN PATIENTS UNDERGOING STAGING LAPAROSCOPY

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BACKGROUND

- Staging laparoscopy is routine in oncology, yet postoperative pain can delay recovery, prolong PACU stay and raise opioid need.
- Systemic lidocaine has analgesic, anti-inflammatory and anti-hyperalgesic effects; evidence in laparoscopic surgery is mixed.
- Local evidence for staging laparoscopy is lacking.

OBJECTIVE

To compare postoperative mean pain scores and mean morphine consumption between IV lidocaine and placebo in patients undergoing staging laparoscopy.

Trial registration: NCT07419815

METHODS

Design: Randomized, placebo-controlled, blinded trial; SKMCH&RC, Lahore.

Patients: 62 adults, 18–60 y, ASA I–II, elective staging laparoscopy (≤60 min); consecutive sampling.

Sample size: 31 per group (80% power, 95% CI; OpenEpi). Computer-generated randomization.

Group A: Lidocaine 1 mg/kg bolus over 3 min before incision, then 2 mg/kg/h (max 200 mg/h) until closure.

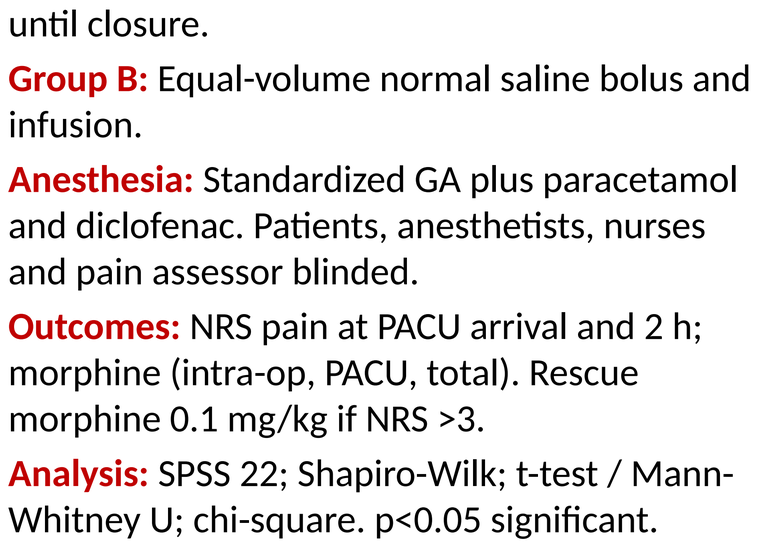
Group B: Equal-volume normal saline bolus and infusion.

Anesthesia: Standardized GA plus paracetamol and diclofenac. Patients, anesthetists, nurses and pain assessor blinded.

Outcomes: NRS pain at PACU arrival and 2 h; morphine (intra-op, PACU, total). Rescue morphine 0.1 mg/kg if NRS >3.

Analysis: SPSS 22; Shapiro-Wilk; t-test / Mann-Whitney U; chi-square. p<0.05 significant.

PATIENT FLOW



RESULTS

Lidocaine (red) vs placebo (grey)

1.6 mg total morphine

4.5 mg total morphine

2.2 NRS at 2 h

3.6 NRS at 2 h

All primary comparisons p<0.001

TABLE 1. BASELINE DATA

Variable	Lidocaine	Placebo	p
Age, years	42.7±10.4	43.9±9.8	0.642
Male, n (%)	12 (38.7)	11 (35.5)	0.793
BMI, kg/m²	26.1±3.7	26.4±3.9	0.755
ASA II, n (%)	18 (58.1)	19 (61.3)	0.798
Surgery, min	42.8±8.6	43.5±8.9	0.749

TABLE 2. POSTOPERATIVE PAIN

Outcome	Lidocaine	Placebo	p
NRS, PACU arrival	**2.9±1.0**	**4.1±1.3**	**<0.001**
NRS at 2 h	**2.2±0.9**	**3.6±1.2**	**<0.001**
Mild pain, arrival	21 (67.7)	10 (32.3)	0.013
Mild pain at 2 h	27 (87.1)	15 (48.4)	0.003

p for mild/moderate/severe distribution (chi-square).

TABLE 3. MORPHINE AND RECOVERY

Outcome	Lidocaine	Placebo	p
Intra-op morphine, mg	2.1±1.5	3.8±2.0	<0.001
PACU morphine, mg	1.9±1.8	4.5±2.7	<0.001
Total morphine, mg	**1.6**	**4.5**	**<0.001**
Rescue morphine	11 (35.5)	22 (71.0)	0.005
PONV	3 (9.7)	8 (25.8)	0.096
Dizziness	2 (6.5)	3 (9.7)	0.641
PACU discharge-ready ≤2 h	26 (83.9)	18 (58.1)	0.025
Lidocaine toxicity	0	0	—

Mean±SD or n (%). t-test (continuous); chi-square (categorical).

FIGURES

Fig 1. NRS pain score (mean±SD)

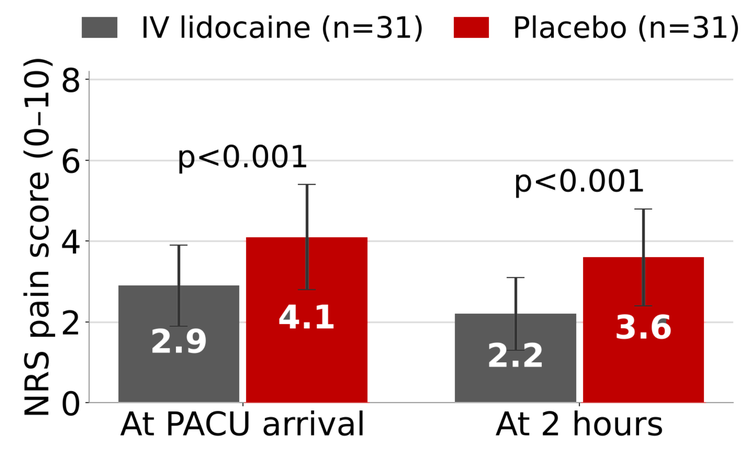


Fig 2. Morphine consumption (mean±SD)

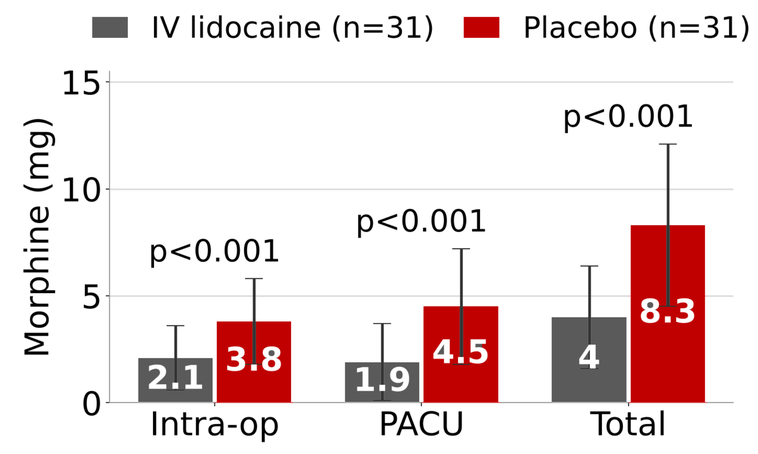
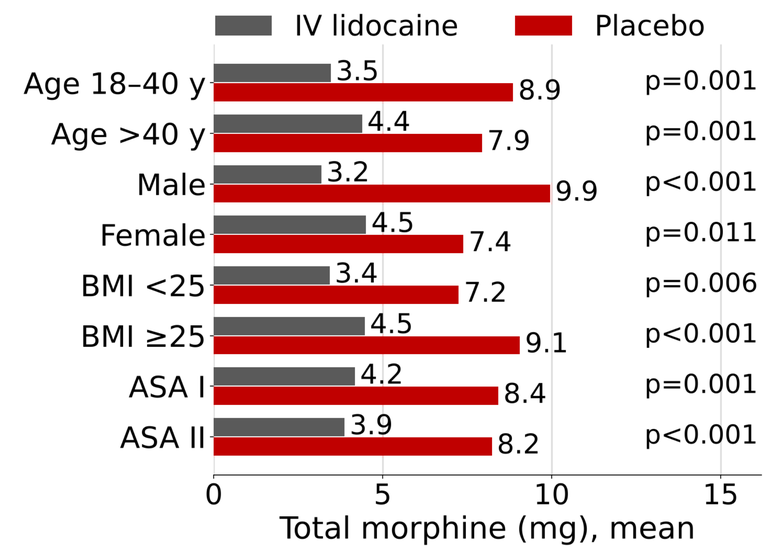


Fig 3. Total morphine by subgroup (exploratory)



CONCLUSION

- IV lidocaine lowered NRS pain at PACU arrival and at 2 h.
- Total morphine was markedly lower (1.6 vs 4.5 mg); rescue morphine 35.5% vs 71.0%.
- More patients were PACU discharge-ready within 2 h; no lidocaine toxicity.
- Supports lidocaine as an opioid-sparing part of multimodal analgesia in ASA I–II patients.

LIMITATIONS

- Single center, small sample.
- Early pain only; no quality-of-recovery or long-term outcomes.
- Subgroups exploratory; procedures >60 min excluded.

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