

Candidate No: \_\_\_\_\_



**The Hong Kong College of Anaesthesiologists**

**Final Fellowship Examinations**

**Paper II – Critical Appraisal of Literature**

**17 March 2025 (Monday)**

**11:30 – 12:10 hours**

**Article**

**"Intravenous Lidocaine for Gut Function Recovery in Colonic Surgery: A Randomized Clinical Trial" Paterson, et al. JAMA 2025; 333(1): 39-48.**

**Instructions**

- There are 8 multiple choice questions in this section, based on the above paper.
- **ANSWER ALL** questions, they carry equal marks.
- For each question, choose the **ONE** best answer.
- If you mark more than one answer, you will receive NO mark for that question. No marks will be deducted for incorrect answers.

1. Which of the following(s) is(are) accurate description(s) of the ALLEGRO trial design?

- I. Superiority trial
- II. Case-control study
- III. Observer-blinded trial
- IV. Intention-to-treat analysis

- A. I only.
- B. II only.
- C. I and III only.
- D. II and IV only.
- E. I, III and IV only.

2. In the introductory section, the authors highlighted a “metaanalysis of IV lidocaine (vs comparator) in laparoscopic abdominal surgery (14 trials, 742 patients) reported .... faster resumption of diet (weighted mean difference, -6.2 hours [95% CI, -12.37 to -0.03];  $I^2 = 93.8\%$ ).<sup>8</sup>” The result suggested that:

- A. the p value for weighted mean difference between groups was 0.0062.
- B. with 95% confidence, the “true” weighted mean difference could be 15 hours.
- C. the confidence intervals for the mean difference of the 14 individual studies overlapped significantly in the metaanalysis.
- D. the variability between the 14 individual studies was 93.8%.
- E. the “weight” was inversely proportional to the number of patients for individual study.

3. Analyses in the ALLEGRO trial was “adjusted for the minimization factors for sex (male, female), age group (<50 years, 50-74 years, ≥75 years), and trial site”. Minimization in this context means:

- A. the differences between groups for sex, age and other independent variables were minimized.
- B. the sample size required for each outcome variables was minimized.
- C. the number of independent factors used for the analyses was minimized.
- D. the number of analyses that could be performed was minimized.
- E. the threshold for p-value that was considered significant was minimized.

**4. In ALLEGRO Trial, a patient would be included in the per-protocol analysis if (s)he:**

- I. had been randomized by research staff.
- II. had completed elective minimally invasive colon resection.
- III. withdrawn informed consent.
- IV. had received the allocated trial drug (lidocaine or saline).

- A. I only.
- B. I and II only.
- C. I and III only.
- D. II and IV only.
- E. I, II and IV only.

**5. Compared with per-protocol analysis dataset, the primary analysis dataset:**

- I. contained more patients in each group.
- II. included patients who had not received the allocated trial drug.
- III. had a higher chance of being confounded by baseline factors.
- IV. had larger generalizability reflecting the real-world practice.

- A. I only.
- B. I and II only.
- C. II and IV only.
- D. I, II and IV only.
- E. I, II, III and IV.

**6. The primary outcome was “analyzed using a generalized linear model with a log-link function adjusted for the minimization factors”. An alternative statistical test would be:**

- A. Wilcoxon signed rank test.
- B. logistic regression.
- C. unpaired student’s t test.
- D. McNemar test.
- E. analysis of variance.

**7. In ALLEGRO trial, which of the following procedure(s) was(were) considered consistent with “enhanced recovery after colorectal surgery (ERAS)” practice:**

- I. avoidance of laxative after surgery.
- II. intrathecal opioid for perioperative analgesia.
- III. putting in nasogastric tube after surgery.
- IV. chewing gum for prevention of postoperative nausea and vomiting.

- A. I only.
- B. I and II only.
- C. II and IV only.
- D. I, II and III only.
- E. I, II, III and IV.

**8. With respect to the secondary outcomes in ALLEGRO trial,**

- A. they should be considered as exploratory analysis.
- B. the analyses had been corrected for multiple testing.
- C. these outcomes helped to determine whether the trial was “positive” or “negative”.
- D. a non-significant result should be interpreted as no difference between groups.
- E. they have been statistically powered with the given sample size.

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