Candidate No: _____

The Hong Kong College of Anaesthesiologists

Final Fellowship Examinations

Paper II – Critical Appraisal of Literature

16 March 2026 (Monday)

11:30 – 12:10 hours

Article

"Risk of perioperative cardiorespiratory complications and mortality associated with preoperative glucagon-like peptide-1 receptor agonist use in type 2 diabetes mellitus: a nationwide propensity-score matched study" Wu, et al. British Journal of Anaesthesia 2026; 136 (1): 86 – 97.

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. What is the design of this study?

A. Randomized controlled trial
B. Prospective observational cohort study
C. Retrospective observational cohort study
D. Retrospective case-control study

2. What is the null hypothesis of this study?

A. Preoperative GLP-1 RA use is associated with an increased risk of postoperative respiratory complications within 7 days of surgery.
B. Preoperative GLP-1 RA use is not associated with an increased risk of postoperative respiratory complications within 7 days of surgery.
C. Preoperative GLP-1 RA use is associated with an increased risk of postoperative respiratory complications within 30 days of surgery.
D. Preoperative GLP-1 RA use is not associated with an increased risk of postoperative respiratory complications within 30 days of surgery.

3. Which of the following patients were excluded from the study?

I. Patients with type 1 diabetes mellitus
II. Patients who have history of pneumonia 6 months before operation
III. Patients who were not receiving GLP-1 RA 90 days before operation
IV. Patients who underwent operation under regional anaesthesia

A. I and II
B. I, II and IV
C. III and IV
D. All of the above

4. The use of propensity-score matching in this study is to avoid,

A. Selection bias
B. Reporter bias
C. Misclassification bias
D. Confounding bias

5. How did the author manage the missing data?

A. Removed the patients with missing data from the cohort.
B. Addressed missing data through multiple imputation with chained equations, then conducted a sensitivity analysis using cases with complete data.
C. Kept the patients with missing data and matched only those available values.
D. There was no missing data in this study.

6. Which of the followings were possible limitations of this study?

I. Limited generalizability
II. Confounding from unknown variables
III. Non-standardized anaesthetic practice across contributing centers
IV. Selection bias due to lack of randomization

A. I and II
B. II and III
C. I, II and III
D. II, III and IV

7. What is the conclusion from the author?

A. Preoperative GLP-1 RA use was associated with fewer perioperative respiratory complications in people with type 2 diabetes mellitus.
B. Preoperative GLP-1 RA use reduced perioperative respiratory complications in people with type 2 diabetes mellitus.
C. Preoperative GLP-1 RA use was associated with more perioperative respiratory complications in people with type 2 diabetes mellitus.
D. Preoperative GLP-1 RA use increased perioperative respiratory complications in people with type 2 diabetes mellitus.

8. How should I change my anaesthetic practice to reduce postoperative pulmonary complications according to the result of this study?

A. Advise my patients who have type II diabetes to start GLP-1 RA treatment before operation.
B. Advise all patients with risk of postoperative pulmonary complications to start GLP-1 RA treatment before operation.
C. Continue GLP-1 RA medication throughout the perioperative period.
D. Prolonged fasting is not needed for patients taking GLP-1 RA.

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