



The Hong Kong College of Anaesthesiologists

Final Fellowship Examinations

Paper II – Critical Appraisal

16 August 2021 (Monday)

11:30 – 12:10 hours

Article

Cardiovascular Pathophysiology And Outcomes. Anaesthesia & Analgesia 2021.

Instructions

There are 8 multiple choice questions in this section, based on the paper by Hallqvist and others (*Anesth Analg*, 2021), including its supplemental content (all in one pdf file). For each question, choose the ONE best answer.

1. It was a case-control study because:

- (1) all patients had noncardiac surgery in Sweden.
- (2) myocardial infarction only occurred in one group of the study.
- (3) intraoperative hypotension occurred in both groups of patients.
- (4) there were equal number of patients in both groups of patients.

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (4) only
- E. (1), (2) and (3) only

2. The study design was labelled as “nested”, because:

- A. both cases and controls were selected from the same cohort study.
- B. age and sex were similar between cases and controls.
- C. both cases and controls came from one country.
- D. electronic database was used.
- E. it is registered in a “nested” registry.

3. In this study, the independent (explanatory) variable was:

- A. intraoperative hypotension.
- B. acute type 1 myocardial infarction only.
- C. acute type 2 myocardial infarction only.
- D. past history of myocardial infarction.
- E. acute kidney injury - Improving Global Outcomes (KDIGO) criteria stage 1.

4. Which of the following patient characteristic(s) in the controls had been matched for each case in the study?

- (1) type of anesthesia (general/regional/local)
- (2) age
- (3) preoperative hemoglobin
- (4) duration of surgery

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (4) only
- E. (1), (2) and (3) only

5. Conditional logistic regression was used to analyze the data because:

- (1) the dependent variable is binary.
- (2) the independent variable is continuous.
- (3) the two groups were matched.
- (4) there were confounding variables.

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (4) only
- E. (1), (2) and (3) only

6. In this study, the risk of myocardial infarction in very-high risk patients with a decrease in blood pressure of 45 mmHg from baseline, for > 5 min was:

- A. similar to those without hypotensive episode.
- B. 2.5-fold higher than those without hypotensive episode.
- C. 3.4-fold higher than those without hypotensive episode.
- D. 6.6-fold higher than those without hypotensive episode.
- E. 10-fold higher than those without hypotensive episode.

7. This study showed that the risk of death on day 91-365 after surgery was higher in patients with:

- (1) intraoperative hypotensive episode – a decrease in blood pressure > 50 mmHg for > 5 min.
- (2) postoperative myocardial infarction.
- (3) intraoperative blood loss (> 1800 mL), Hb < 85 g/L, hypoxia (SaO₂ < 90%), and fluid balance (> 2000 mL).
- (4) postoperative acute kidney injury - Improving Global Outcomes (KDIGO) criteria stage 1.

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (4) only
- E. (1), (2) and (3) only

8. In general, the use of case-control study is particularly useful in studying

- (1) rare disease.
- (2) dynamic patient population.
- (3) outcome with long latency period.
- (4) studying multiple outcomes from a single intervention/exposure

- A. (1) only
- B. (2) only
- C. (1) and (3) only
- D. (2) and (4) only
- E. (1), (2) and (3) only

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