

Adverse outcomes after surgery in patients with asthma: a matched nationwide retrospective cohort study

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Background: Asthma is a well known risk factor among the hospitalized patients. However, limited information was available in population-based regarding the postoperative adverse outcomes among surgical patients with asthma.

Objective: To investigate postoperative major complications and mortality in surgical patients with asthma.

Methods: Using reimbursement claims from the Taiwan National Health Insurance Research Database, we identified surgical patients with ($n = 24,678$) and without ($n = 24,678$) preoperative asthma undergoing major surgeries using matching procedure with propensity score. Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) of postoperative complications and mortality associated with asthma were analyzed under the multivariate logistic regressions.

Results: Asthma increased postoperative pneumonia (OR, 1.13; 95% CI, 1.18-1.46), septicemia (OR, 1.09; 95% CI, 1.00-1.19), and urinary tract infection (OR, 1.13; 95% CI, 1.05-1.22). Preoperative emergency care (OR, 2.02; 95% CI, 1.25-3.26) and hospitalization (OR, 2.09; 95% CI, 1.04-4.18) for asthma were significantly associated with postoperative 30-day in-hospital mortality. Preoperative steroid use, emergency service and hospitalization for asthma were also associated with higher postoperative complication rates for asthmatic patients.

Conclusion: Postoperative complication and 30-day mortality rates were increased in asthma patients undergoing in-hospital major surgeries. History of prior asthma exacerbations was highly associated with postoperative adverse outcomes. We suggest the urgency revising the protocol of perioperative care for this specific population.