Are pregnant patients subject to increased morbidity and mortality after non-obstetric surgery?

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Objective: The existing literature is conflicting regarding the occurrence of adverse outcomes following non-obstetric surgery in pregnant compared to non-pregnant women. However, those conflicting conclusions may be the result of inadequate control of selection bias between pregnant and non-pregnant women. We hypothesize pregnant patients are at greater risk of postoperative complications than comparable non-pregnant patients undergoing the same operations.

Methods: To generate comparable cohorts, pregnant patients from the American College of Surgeons National Surgical Quality Improvement Program (NSQIP) Participant User File, 2005-2011, were matched 1:1 with non-pregnant patients undergoing the same operations based on 62 preoperative characteristics. 30-day mortality and 21 postoperative complications were compared.

Results: The unmatched cohorts included 2,952 pregnant patients (48.8% underwent emergent surgery) and 591,563 non-pregnant patients (12.3% underwent emergent surgery). After propensity matching, there were no meaningful differences in all 62 preoperative characteristics between 2807 pregnant and 2807 non-pregnant patients (standardized differences all <0.1). 30-day mortality rates were similar (0.5% vs. 0.8%, p=0.37), while there was an association with a lower complication rate in pregnant vs. non-pregnant patients (7.3% vs. 10.7%, p<0.001). The difference in complication rates persisted in the emergent subgroup (8.4% vs. 13.3%, p<0.001), but not the non-emergent subgroup (6.2% vs. 8.6%, p=0.81). In both subgroups there was no statistical difference in 30-day mortality rates.

Conclusion: Contrary to our hypothesis, a lower complication rate was observed in pregnant versus non-pregnant propensity-matched patients undergoing similar operations. This persisted in the emergent subgroup, but not the non-emergent subgroup. In all groups, there was no difference in 30-day mortality.