



THE MORTALITY OF ELECTIVE VS EMERGENCY VENTRAL HERNIA REPAIR - AN ANALYSIS OF THE ACHQC DATABASE



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BACKGROUND

- Ventral hernia repair (VHR) is a common surgical procedure with outcomes that differ significantly between elective and emergency operations.
- Emergency VHR is often performed due to incarceration or strangulation and has been associated with increased morbidity and mortality.

AIM

- To evaluate differences in 90-day mortality and associated risk factors between elective and emergency ventral hernia repair.

METHODS

- Data Source: Retrospective analysis of the ACHQC database (2013–2023).
- Study Population: Adult patients (≥ 18 years) undergoing elective or emergency ventral hernia repair (VHR).
- Inclusion: Open, laparoscopic, robotic, and converted procedures with ≥ 90-day follow-up.
- Exclusion: Inguinal hernia repairs and patients with insufficient follow-up.
- Primary Outcome: 90-day postoperative mortality.
- Analysis: Multivariable logistic regression to identify independent risk factors for mortality.

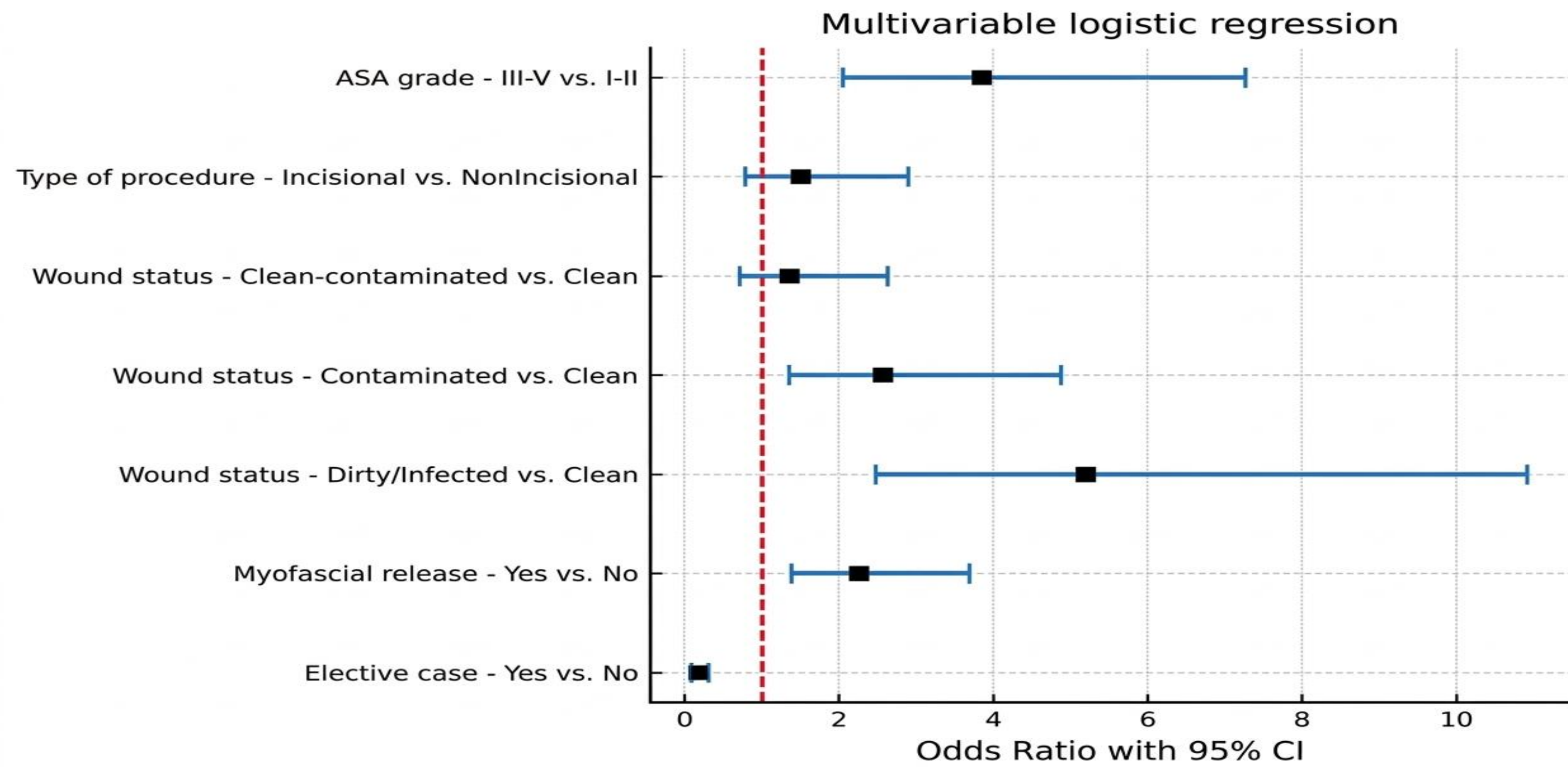
CONCLUSION

Emergency ventral hernia repair is associated with significantly higher 90-day mortality compared with elective repair. Early elective intervention in appropriate patients may reduce the need for emergency surgery and improve outcomes.

Table 1. Characteristics of Non-Survivors vs. Survivors

Variable	Elective Non-Survivors (N=72)	Elective Survivors (N=35751)	Emergency Non-Survivors (N=15)	Emergency Survivors (N=950)
Age (Median, years)	70	57	69	59
ASA Class III-V (%)	85%	48%	94%	69%
COPD (%)	18%	6%	27%	9%
Myofascial Release (%)	71%	34%	27%	24%

Figure 1. Multivariable Predictors of 90-Day Mortality



RESULTS

- Cohort Size: 36,788 patients (35,823 elective; 965 emergency).
- Mortality: Significantly higher in emergency vs. elective cases (1.5% vs. 0.2%, $p<0.001$).**
- Patient Profile: Non-survivors were older (median ~70 years), more likely Medicare-insured, and had higher rates of COPD and anticoagulation use.
- Operative Complexity: Mortality was associated with ASA class III-V, larger hernia defects, and longer operative times.
- Complications: Sepsis, septic shock, and respiratory failure requiring intubation were strongly correlated with 90-day mortality.

DISCUSSION

- Risk Escalation: Emergency presentation increases 90-day mortality nearly eight-fold compared to elective repair.
- Key Predictors: High ASA class III-V, wound contamination (Contaminated/Dirty), and complex reconstructions requiring myofascial release are independent drivers of death.
- Clinical Implication: Findings underscore the critical need for timely elective repair and rigorous preoperative optimization in high-risk patients.
- Protective Factor: Elective surgery remains a significant protective factor against perioperative mortality (OR 0.173).

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