



Outcomes of Immunocompromised Patients Undergoing Elective Ventral Hernia Repair: A Propensity-Matched Analysis of the ACS-NSQIP Database



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BACKGROUND

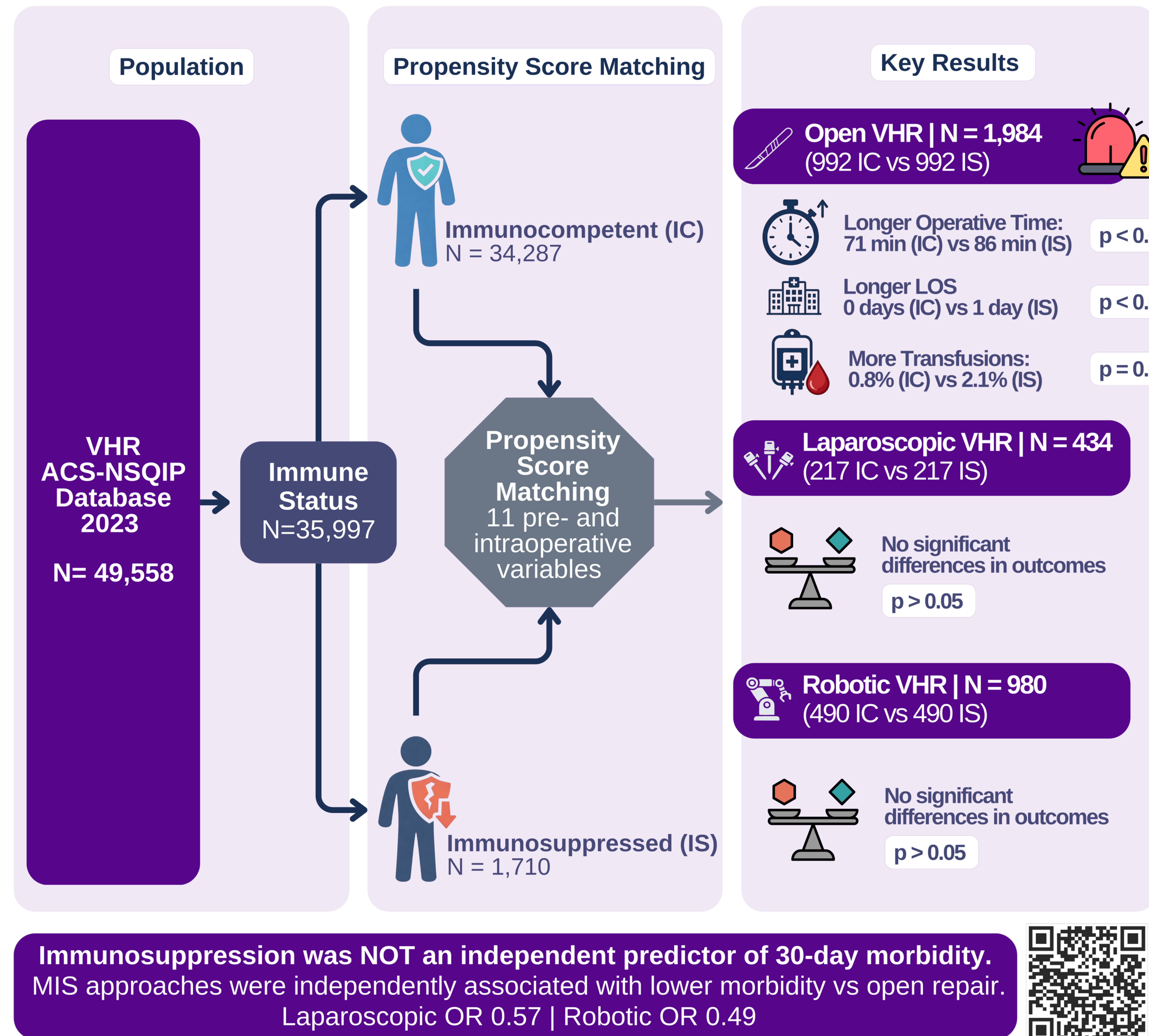
- Immunosuppression status is traditionally considered a risk factor for short-term complication in ventral hernia repair (VHR).
- However, with the emerging of MIS the impact of immunosuppression on these approaches has not be assessed.

METHODS

- Adult patient who underwent elective VHR in 2023 were identified from the ACS-NSQIP database.
- Patients were categorized as immunocompetent (IC) or immunocompromised (IS) based on steroid use.
- Propensity Score Matching was performed for open, laparoscopic and robotic approaches, using 11 pre- and intraoperative variables.
- Compared 30-day outcomes between IC vs IS withing the operative approach.

RESULTS

- Open immunosuppressed (IS) VHR patients had longer median operative time (71 vs 86, $p=0.001$), longer median LOS (1 vs 0, $p<0.001$), and were more likely to receive transfusions within 72 hours of surgery start (2.1% vs 0.8%, $p=0.015$) compared to open immunocompetent (IC) VHR patients.
- There was no difference in outcomes between laparoscopic-IS and laparoscopic-IC VHR patients, or between robotic-IS and robotic-IC VHR patients.



UNIVARIATE AND MULTIVARIATE ANALYSIS

- On **univariate analysis**, immunosuppression was not associated with increased 30-day morbidity (OR 1.03; CI 0.83-1.29).
- Multivariable analysis** showed that recurrent hernia repair (OR 1.75; CI 1.33-2.27), smoking status (OR 1.44; CI 1.00-2.03), preoperative dialysis (OR 2.03; CI 1.07-3.62) and increasing ASA class (OR 1.53; CI 1.21-1.93) were associated with overall 30-day morbidity.
 - Laparoscopic (OR 0.57; CI 0.38-0.83) and robotic approach (OR 0.49; CI 0.37-0.65) were associated with reduced morbidity compared to open repair.

CONCLUSION

Immunosuppression was not an independent predictor of 30-day morbidity after elective VHR. Minimally invasive repair was independently associated with lower morbidity compared with open repair, highlighting a potential protective role.

ACKNOWLEDGEMENTS

The authors declare that they have no conflict of interest.



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TABLES