Venous Thromboembolism After Ventral Hernia Repair: National Impact on 30-Day Mortality, Readmission, and Length of Stay

Jonathan S Selway, BS[1]; Carlos Balthazar da Silveira, MD[2]; Sakura Horiuchi, MD[1]; Paul Kang[1]; Vikram Deka, MD[2]; Conrad Ballecer, MD[2]; Thomas Gillespie, MD, FACS[1]

[1]Creighton University School of Medicine – Phoenix
[2]St. Joseph's Hospital and Medical Center

Background

- Venous thromboembolism (VTE) events are recognized, albeit infrequent, complications after VHR.
- Despite their infrequency, **VTE events** following VHR are associated with a significantly increased **risk for adverse outcomes**, impacting overall mortality.
- **Our objective** was to quantify the **clinical burden of VTE post-VHR,** analyzing the impact of VTE on **mortality, readmission** rates, and **length of stay (LOS).**

Methods

National Readmission Database searched for patients who underwent VHR.

Outcomes (related to VTE burden)

- 30-day all-cause readmission.
- 30-day all-cause mortality.
- Readmission-related length of stay (LOS).

> **Statistics**: Weighted logistic or linear regression.

Baseline Characteristics:
- Mean Age: 60.2 years
- Sex: 54.5% Female

Primary Payer (%, SE)
- Medicaid: 15.4 (0.15)
- Medicare: 46.6 (0.17)
- Private: 30.3 (0.17)
- Self-Pay: 4.28 (0.08)

385,306 patients

VTE Readmission: 0.24%

Summary of Findings

Variables (n = 393, 546)	Unplanned VTE-Specific 30-day Readmission	
	OR (95% CI)	p-value
Surgical Approach		
Open	REF	
Minimally Invasive	0.69 (0.53, 0.89)	0.005
Respiratory Failure		
No	REF	
Yes	1.43 (1.06, 1.93)	0.017
Infection		
No	REF	
Yes	1.57 (0.71, 3.49)	0.26
Hemorrhage		
No	REF	
Yes	0.73 (0.37, 1.42)	0.35
Wound Dehiscence		
No	REF	
Yes	1.37 (0.50, 3.74)	0.54

Presence of VTE increased odds of all-cause readmission.
- OR 1.14, 95% CI 1.08–1.19; p<0.001

Higher mortality among those with VTE
- 5.17%, OR 1.28, 95% CI 1.04–1.58; p<0.001

VTE significantly increased index LOS
- 13.3 vs 7.9 days: β +2.09 days; p<0.001

VTE significantly increased readmission LOS
- β +0.67 days, p=0.001

MAIN FINDINGS

Conclusion

- After VHR, VTE is linked to substantially worse short-term clinical outcomes, including higher 30-day mortality, greater readmission risk, and longer LOS.
- Older age, male sex, and higher comorbidity further compound risk.
- These findings emphasize the clinical importance of prevention, early detection, and proactive post-discharge follow-up for patients at risk of VTE following VHR.

References

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