Preoperative Venous Thromboprophylaxis and Postoperative Outcomes in Non-Ambulatory Ventral Hernia Repair: Retrospective Cohort Study

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Introduction

- Patients undergoing non-ambulatory ventral hernia repair (VHR) are at risk of postoperative venous thromboembolism (VTE).
- Current practices regarding preoperative chemoprophylaxis in this population vary widely.
- **Aim**: Evaluate the influence of preoperative chemoprophylaxis on postoperative VTE events following VHR.

Methods

- Retrospective analysis of patients after CAWR between 2018 to 2024
- Patients were stratified by preoperative VTE chemoprophylaxis (heparin/enoxaparin vs none)
- **Primary outcome**: postoperative VTE
  Secondary outcomes: bleeding events, reoperation, hospital length of stay (LOS)

Results

Table 1. Preoperative Patient Characteristics

Characteristic	No VTE Meds (N=301)	VTE Meds (N=57)	p-value
Age	60.10 (53.05, 69.01)	60.03 (54.15, 66.65)	0.634
BMI (kg/m2)	31.15 (26.62, 35.14)	32.30 (26.79, 37.49)	0.575
Sex			0.184
Female	156.00 (51.83%)	35.00 (61.40%)	
Male	145.00 (48.17%)	22.00 (38.60%)	
ASA Class			0.188
1	8.00 (2.66%)	1.00 (1.75%)	
2	137.00 (45.51%)	18.00 (31.58%)	
3	151.00 (50.17%)	37.00 (64.91%)	
Comorbidities			
DM	61.00 (20.27%)	16.00 (28.07%)	0.189
Smoker	14.00 (4.65%)	7.00 (12.28%)	0.057
Home antiplatelet	50.00 (16.61%)	15.00 (26.32%)	0.081
Home anticoagulation	26.00 (8.64%)	9.00 (15.79%)	0.096
Hernia Area	234.43 (120.00, 312.00)	227.50 (120.00, 315.00)	0.967
Operative Approach			0.022
Open	215.00 (71.43%)	49.00 (85.96%)	
Robotic	86.00 (28.57%)	8.00 (14.04%)	
Operative Time (mins)	238.33 (178.00, 291.00)	265.05 (200.00, 321.00)	0.048

Table 2. Postop Outcomes

Characteristic	No VTE Meds (N=301)	VTE Meds (N=57)	p-value
All VTE	7.00 (2.33%)	3.00 (5.26%)	0.202
DVT	5.00 (1.66%)	2.00 (3.51%)	0.309
PE	3.00 (1.00%)	2.00 (3.51%)	0.181
Hematoma	8.00 (2.66%)	2.00 (3.51%)	0.664
Surgical Site Infection	31.00 (10.30%)	10.00 (17.54%)	0.115
Any reoperation	19.00 (6.31%)	5.00 (8.77%)	0.561
Reoperation for bleeding	5.00 (1.66%)	1.00 (1.75%)	>0.999
Any readmission	26.00 (8.64%)	8.00 (14.04%)	0.203
Readmission for bleeding	2.00 (0.66%)	0.00 (0.00%)	>0.999
Length of stay (days)	5.02 (3.00, 6.00)	6.26 (3.00, 7.00)	0.08
Hernia recurrence	28.00 (9.30%)	5.00 (8.77%)	0.899

Table 3. Logistic Regression for Postoperative Outcomes

	Odds Ratio	CI	p-value
Preop VTE Med	2.83	0.64–12.50	0.171
Age	1.08	1.01–1.16	0.023
BMI	1.09	0.99–1.21	0.081
Smoking	0	0.00–Inf	0.991
Diabetes	1.26	0.30–5.32	0.75
ASA ≥ III	0.5	0.13–1.96	0.321

Conclusion

- Preoperative chemoprophylaxis was not independently associated with a reduction in postoperative VTE after non-ambulatory VHR.
- Preoperative prophylaxis in all patients may be unwarranted and perioperative anticoagulation strategies should be risk-adapted, with consideration for patient-specific factors such as age, obesity, and prior thromboembolic history.
- Prospective studies are needed to define evidence-based, individualized prophylaxis protocols in complex hernia patients.

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