



Extended thromboprophylaxis in enhanced recovery after surgery for colorectal cancer: a multicenter observational cohort study

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Background

- Historically high VTE risk after colorectal cancer surgery

Enhanced Recovery After Surgery (ERAS) protocols

Minimally invasive surgical approaches

Reduced surgical stress, earlier postoperative mobilization, and shorter hospital stays

Decreased risk of postoperative VTE >>

Necessity and effectiveness of extending postoperative thromboprophylaxis beyond discharge?

Methods

- Multicenter, retrospective cohort across 6 ERAS centers.

All elective colorectal cancer resections (2018-2023)
n=2810

Based on hospital's standard of care

Until-discharge
thromboprophylaxis
n=1453

Extended
thromboprophylaxis
n=1357

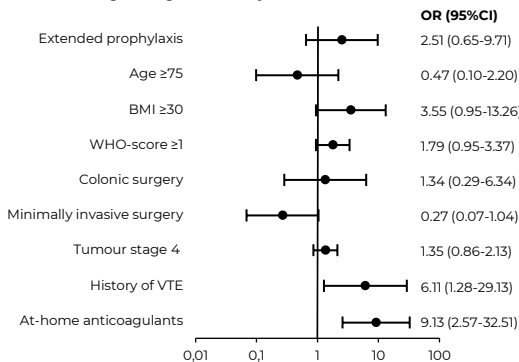
- Primary outcome:** symptomatic VTE ≤90 days
- Secondary outcomes:** major bleeding (Clavien-Dindo ≥III), factors associated with VTE or bleeding

Outcomes by standard prophylaxis regimen	Until-discharge prophylaxis (n=1453)	Extended prophylaxis (n=1357)	p-value
All VTE (n, %)	3 (0.2%)	7 (0.5%)	0.212
VTE after end of prophylaxis (n, %)	3 (0.2%)	4 (0.3%)	0.718
VTE >CD3 (n, %)	0 (0.0%)	2 (0.1%)	0.233
Type of VTE			0.305
PE (n, %)	1 (0.1%)	4 (0.3%)	
DVT (n, %)	2 (0.1%)	3 (0.2%)	
Major bleeding (n, %)	17 (1.2%)	31 (2.3%)	0.023

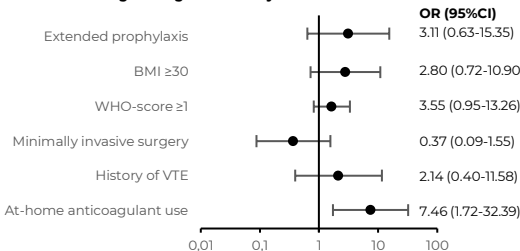
Results

- Overall VTE incidence: 0.38%** (10/2810)
- Severe VTE incidence: 0.07%** (2/2810)
- No decrease in VTE incidence with extended prophylaxis**
 - Group comparison: 0.2% vs. 0.5%, $p=0.212$
 - Multivariate analysis: OR 3.11 (95%CI 0.63-15.35), $p=0.163$
- Increase in major bleeding with extended prophylaxis**
 - Group comparison: 1.2% vs. 2.3%, $p=0.023$
 - Multivariate analysis: OR 2.01 (95%CI 1.11-3.66), $p=0.022$

Univariate logistic regression analysis of factors associated with VTE



Multivariate logistic regression analysis of factors associated with VTE



Conclusion

- Symptomatic VTE incidence is very low in modern ERAS colorectal surgery**
 - Extended prophylaxis not protective for VTE.
 - Extended prophylaxis may increase bleeding risk.
- Routine extended thromboprophylaxis after colorectal cancer surgery in ERAS settings is not supported.**
 - Risk-adapted strategy may be more appropriate.