

IMPACT OF VENOUS THROMBOEMBOLISM PRESENCE AT THE TIME OF NEPHRECTOMY FOR RENAL CELL CARCINOMA ON COMPLICATIONS, COSTS, AND SURVIVAL

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Introduction

- Venous thromboembolism (VTE) such as pulmonary embolism (PE) or deep venous thrombosis (DVT) are often seen with advanced malignancy
- Presence of bland IVC or renal vein thrombus at the time of nephrectomy for renal cancer is associated with worse outcomes
- Impact of VTE at time of nephrectomy remains to be understood
- We evaluated the complications, costs, and mortality associated with VTE at time of nephrectomy

Patients & Methods

- **Database:** Premier Healthcare database
- **Inclusion:** patients undergoing elective radical (RN) or partial nephrectomy (PN) for renal mass
- **Exclusion:** patients with renal vein thrombus and/or IVC thrombus
- **n:** 122,342 patients
- **Subgroups:** with or without VTE
- **Endpoints:** 90-day non-fatal Minor (Clavien 1-2) vs Major (Clavien 3-4) complication rates, Mortality rates, direct hospital cost (2019 \$)
- **Analysis:** multivariable logistic regression and quantile regression models adjusting for patient, hospital and surgical characteristics

Results

- 83,692 patients underwent RN and 38,650 patients underwent PN
- Predicted probability of 90-day minor complications in patients with VTE is significantly higher than patients with no VTE (Figure 1)
PN: 36.9% (+VTE) vs 22.5% (-VTE), p< 0.001
RN: 34.2% (+VTE) vs 21.1% (-VTE), p< 0.001
- Predicted probability of 90-day major complications in patients with VTE is significantly higher than patients with no VTE (Figure 1)
PN: 21.5% (+VTE) vs 5.0% (-VTE), p< 0.001
RN: 10.6% (+VTE) vs 5.2% (-VTE), p< 0.001
- Predicted probability of 90-day mortality in patients with VTE is significantly higher than patients with no VTE (Figure 1)
PN: 1.3% (+VTE) vs 0.3% (-VTE), p< 0.001
RN: 2.6% (+VTE) vs 1.0% (-VTE), p< 0.001
- Predicted probability of 90-day median costs in patients with VTE is significantly higher than patients with no VTE
PN: \$19,338 (+VTE) vs \$13,694 (-VTE), p< 0.001
RN: \$24,648 (+VTE) vs \$13,951 (-VTE), p< 0.001

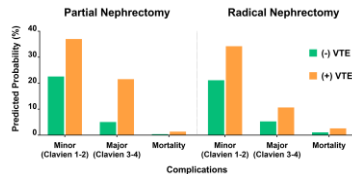


Figure 1: Predicted probability of complications for patients with VTE undergoing nephrectomy

Conclusions

- VTE at the time of nephrectomy for renal mass is associated with significantly higher rates of non-fatal minor and major complications
- VTE at the time of nephrectomy increases the risk of mortality
- VTE at the time of nephrectomy increases the cost of care

Discussion

- Given the increased risk of complications and mortality, patients with VTE at the time of nephrectomy should receive specific counseling and management to help mitigate complications and mortality

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