



ASO Visual Abstract: In-Hospital Venous Thromboembolism and Pulmonary Embolism After Major Urological Cancer Surgery

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After major urological cancer surgeries, venous thromboembolism (VTE) rates increased while pulmonary embolism (PE) rates decreased. Radical cystectomy (RC), radical nephrectomy (RN), and partial nephrectomy (PN) surgeries were associated with higher VTE and PE risk than radical

prostatectomy (RP). Patients with VTE or PE exhibited higher mortality after RC and RN (<https://doi.org/10.1245/s10434-023-14246-0>).

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AIM: Temporal trends of in-hospital venous thromboembolism (VTE) and pulmonary embolism (PE) after major urological cancer surgeries (MUCS). Within the Nationwide Inpatient Sample (NIS) database (2010-2019), of 196,915 patients, 1,180 (1.0%) exhibited VTE and 583 (0.3%) PE.



Rates of VTE in MUCS patients increased between 2010 and 2019: estimated annual percent change +4.0, $p=0.01$.



Rates of PE after MUCS decreased between 2010 and 2019: estimated annual percent change -4.5 $p=0.01$.



Multivariable* logistic regression models predicting in-hospital VTE and PE after MUCS			
Characteristic	OR [†] VTE	OR [†] PE	p-value
Major urological cancer surgery			
Radical prostatectomy (RP)	Reference		-
Radical cystectomy (RC)	4.9	4.4	<0.001
Radical nephrectomy (RN)	4.5	3.2	<0.001
Partial nephrectomy (PN)	3.6	3.9	<0.001

*Covariables: age, year of diagnosis, length of stay, sex, race/ethnicity, smoking habit, obesity, annual hospital volume, institutional teaching status, CCI, region, surgical approach (minimal invasive vs. open), lymph node dissection, neoadjuvant chemotherapy.

Multi-variable regression models predicting mortality with VTE or PE after MUCS				
surgery		OR VTE	p-value	OR PE
Radical cystectomy (RC)	13.1	3.7	<0.001	8.0
Radical nephrectomy (RN)	11.2	5.2	<0.001	7.1

*Covariables: age, year of diagnosis, length of stay, sex, race/ethnicity, smoking habit, obesity, annual hospital volume, institutional teaching status, CCI, region, surgical approach (minimal invasive vs. open), lymph node dissection, neoadjuvant chemotherapy.



CONCLUSION: After major urological cancer surgeries, VTE rates increased while PE rates decreased. RC, RN, and PN surgeries were associated with higher VTE and PE risk than RP. Patients with VTE or PE exhibited higher mortality after RC and RN.

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