

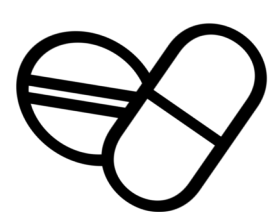
Hypertension Requiring Medication: A Silent Predictor of Poor Outcomes After Pancreaticoduodenectomy

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BACKGROUND

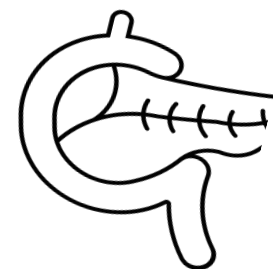
- Hypertension is prevalent and can have various implications on surgery.
- Pancreaticoduodenectomy remains highly morbid, and optimizing risk stratification and management is key.

Aim: Examine the independent association between:



Hypertension requiring medication (HTNm)

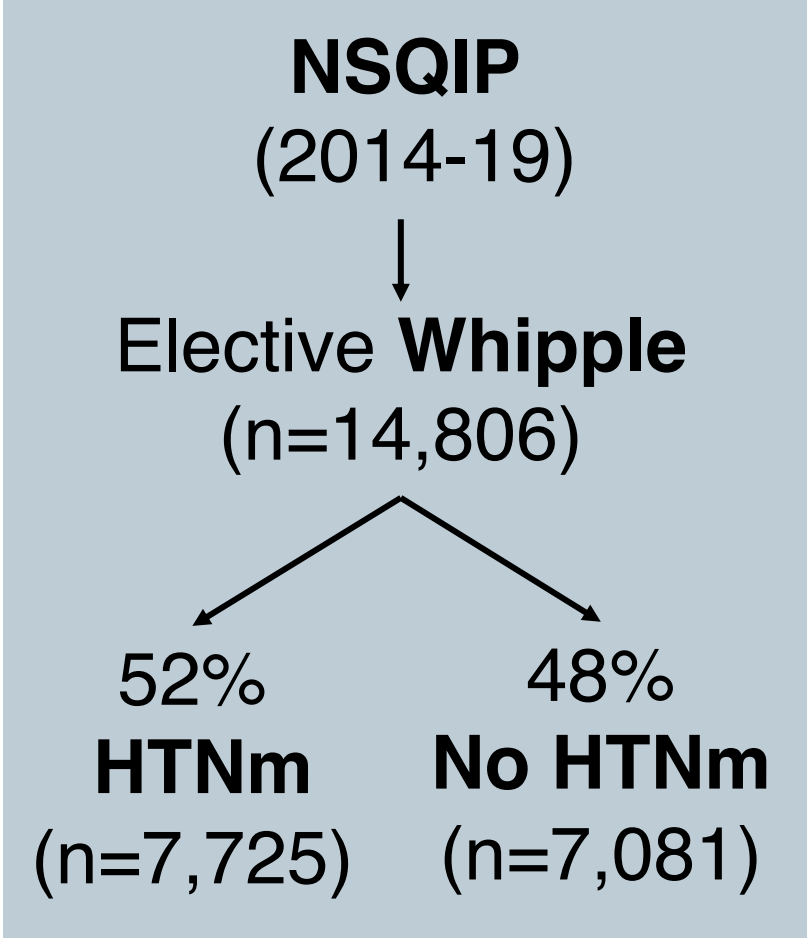
&



30-day outcomes after pancreatoduodenectomy

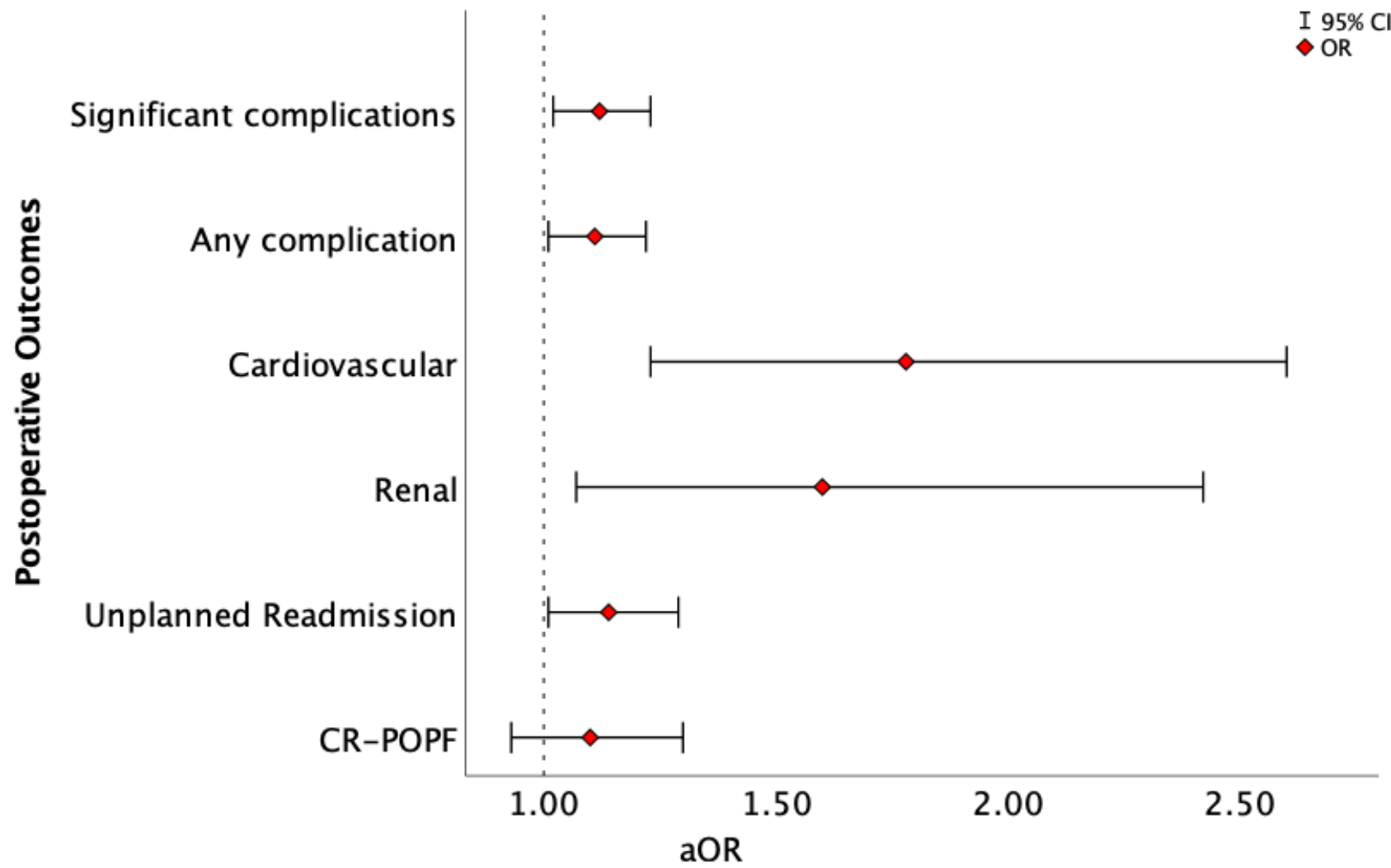
METHODS

Retrospective cohort study using national surgical outcomes data of adult patients who underwent pancreaticoduodenectomy (Whipple procedure)



RESULTS

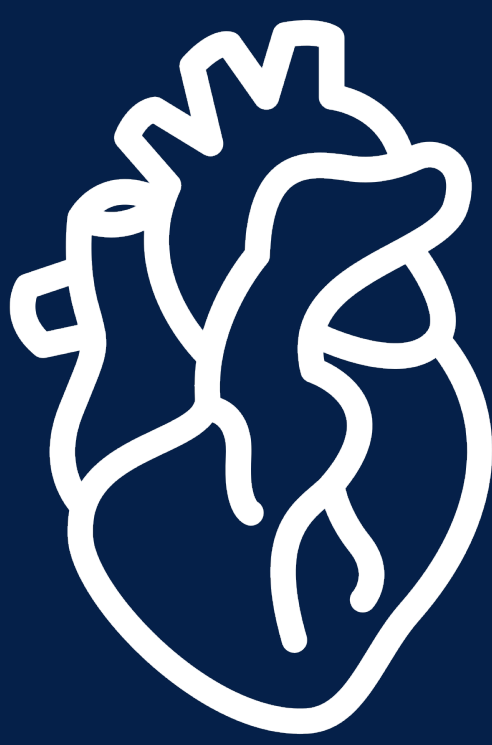
Figure 1. Adjusted odds (aOR) of postoperative complications after pancreaticoduodenectomy with preoperative HTNm



DISCUSSION

- After broad adjustment, HTNm is associated with much higher rates of severe CV and renal complications after Whipple
- Hypothesis-generating; cannot conclude if blood pressure, medications or uncaptured confounding comorbidities driving association

Hypertension requiring medication is independently associated with increased severe renal & cardiovascular complications after Whipple procedure



aOR 1.78
 $p=0.002$



aOR 1.60
 $p=0.024$

aOR 1.12*

Significant Morbidity

aOR 1.11*

All-cause Morbidity

aOR 1.14*

Unplanned Readmission

* $p < 0.05$



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Aggregate Outcomes:	1. Significant Complications	Wound or sepsis
		Cardiorenal or thrombotic
	Any:	Pulmonary or CNS
		Other severe complications
	2. Any Complications	+LOS >10, UTI, AKI, SSTI

Specific Complications:

- CV complications: *Stroke, MI, cardiac arrest*
- Renal complications: *Insufficiency or failure*
- Unplanned Readmission
- Length of Stay
- Pancreatic Fistula: *Grade B/C (CR-POPF)*

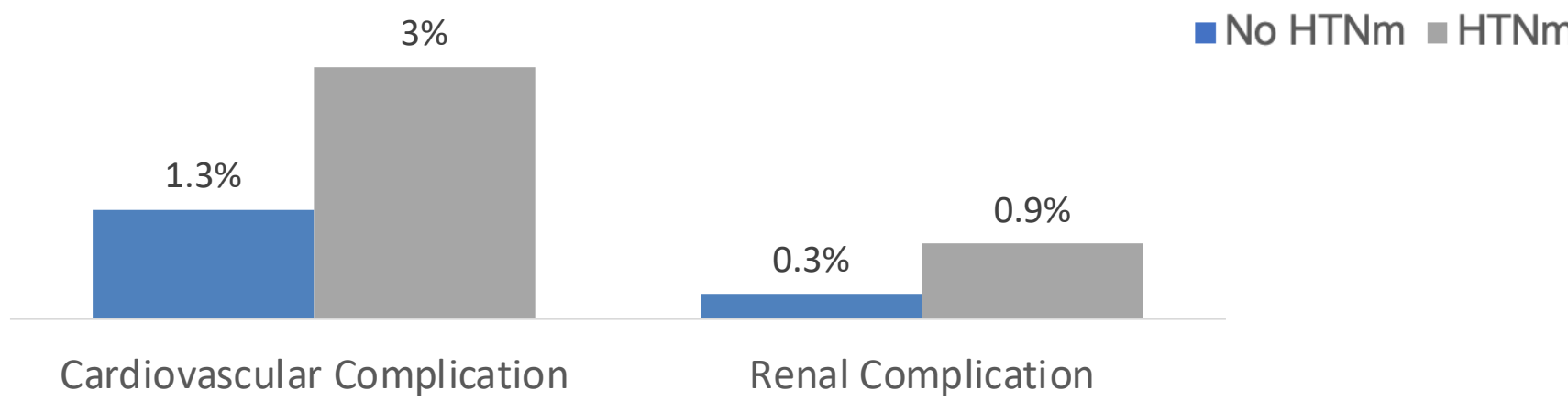
Table 1: Participant Characteristics

	No HTNm (N=7,081)	HTNm (N=7,725)	p
Patient Age (years)			<0.001
65-80	39%	57%	
>80	5.1%	11%	
Male Sex	49%	55%	<0.001
BMI >30 kg/m ²	20%	33%	<0.001
Diabetes	15%	36%	<0.001
COPD	2.5%	5.1%	<0.001
CHF	<0.1%	0.6%	<0.001
Bleeding Disorder	1.6%	3.1%	<0.001
Pancreatic Duct Size			<0.001
<3 mm	26%	23%	
3-6 mm	41%	43%	
>6 mm	12%	13%	
Pancreatic Gland Texture			0.03
Hard	30%	31%	
Intermediate	8.4%	9.4%	
Soft	37%	35%	

Table 2. Unadjusted outcomes after Whipple in patients with & without HTNm

	No HTNm (n=7,081)	HTNm (n=7,725)	P value
Significant Complications	2,298 (32%)	3,060 (40%)	<0.001
Any Complication	3,490 (49%)	4,373 (57%)	<0.001
Cardiovascular Complication	90 (1.3%)	230 (3.0%)	<0.001
Renal Complication	22 (0.3%)	68 (0.9%)	<0.001
Unplanned Readmission	1,047 (15%)	1,355 (18%)	<0.001
CR-POPF	618 (8.8%)	732 (9.6%)	0.10
Postoperative Length of Stay (Median (IQR))	7 (6, 10)	8 (6, 11)	<0.001

Figure 2. Renal and cardiovascular complications after Whipple with and without preoperative hypertension requiring medication



Multivariate models adjusted for: BMI, race/ethnicity, sex, age, diabetes, CHF, COPD, bleeding disorder, functional status, ASA classification, preoperative albumin and creatinine, preoperative chemotherapy, preoperative steroid use, pancreatic duct size, pancreatic gland texture, and pathological diagnosis.

ACKNOWLEDGEMENTS

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