Prophylaxis Prior to Colonoscopy with Biopsy Does Not Decrease Risk of Prosthetic Joint Infection

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INTRODUCTION:

Prosthetic joint infection (PJI) may be exacerbated in patients undergoing colonoscopy with biopsy (CB), an invasive diagnostic procedure. However, the decision to administer antibiotic prophylaxis to mitigate potential infection in this patient population lacks clinical guidance. We examined the incidence of PJI in three cohorts of patients who had preexisting total knee arthroplasties (TKA): 1) CB with antibiotic prophylaxis; 2) CB without antibiotic prophylaxis; and 3) a control of no prior CB.

METHODS: We queried a national, all-payer database to identify all primary TKA procedures without prior history of PJI between January 2010 and October 2020 (n=1.9 million). To account for infections related to the index TKA, all patients who had PJI diagnoses between the TKA and one year after were excluded. Three cohorts were then identified: CB with antibiotic prophylaxis; CB without antibiotic prophylaxis; and a control of no prior CB. Both CB cohorts were slightly younger and had higher Charleson Comorbidity Indices than the control. PJI diagnoses were then identified at the following time intervals from the one-year mark after TKA: 90-days, 6 months, 9 months, and 1 year. Chi-square analyses with odds ratios (ORs) and 95% confidence intervals (CI) were conducted for PJI rates between groups at all timepoints.

RESULTS: Among all cohorts, no significant differences in PJI rates were found at 90-days (p=0.459), 6 months (p=0.608), 9 months (p=0.598), and 1 year (p=0.330). Similarly, direct comparison of CB with and without antibiotic prophylaxis demonstrated no PJI rate differences at 90 day (p=0.540), 6 months (p=0.812), 9 months (p=0.958), and 1 year (p=0.207). Ranges of ORs between the CB cohorts were 1.07 to 1.43.

DISCUSSION AND CONCLUSION: CB does not increase the risk of PJI in patients with pre-existing knee implants. Furthermore, antibiotic prophylaxis may not be warranted in patients undergoing CB.

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Table 1. Demographics and baseline characteristics				Table 2. Birariate analysis of post operative outcomes for TKA							analysis of nost-constative outcomes for TKA				Table 4. Bivariate analysis of post-operative outcomes for TKA									
		Colonnocopy with	Colonnocopy with			w.,	Colonomy with	Coleasoopy with		1106.3.100						Calenescare	v with binney.	0	denescopy with		Table 6 Discourses		t-operative outcomes f	- 777 h
	Na calamesenpy ar 20.000 (%)	000 (%) autibiotics 10-23,000 (%)	hispey with autilisatics a=3,755 (%)	p-value		1-30,000 (%)	autibiotics ar20,000 (%)	biopro with autilities a=3,155 (%)	p-value		Colonescopy with biopsy without antibietics	Colonoccepy with biopry with antibiotics	p-value			without antibiotics		Nop	ry with antibiotics		TION 5. Devictor			E IKA
																OR	95% CI	OR	95% CI		Colonoscopy with			
Age (SD)	66 (8.3)	61(7.9)	64(83)	<0.001	99-Eury Complication						m=23,000 (%)	ari3,555 (%)			99-Day Complications							biopsy-	rith antibiotics	
Sex				<0.004	7.5	31-(0.18)	26(0.13)	•	E-459	90-Day Complications												08	95% CI	
Female	12,534 (82.67)	12,602 (63.01)	2,585 (88.84)		6-Months Complice	56-02,201	46-00.200		0.608	PI	26 (8.13)		0.540		601	0.74	0.45-1.23	1.0	2 0.47-2.40				Join Ci	
Male	7,456 (37.33)	7,198 (36.99)	1,120 (31.14)		P-Months Complice	2020-203	40(020)		1.008	6-Meaths Complication					6-Meeth Complication	th Complications					90-Day Complications			
Alcohel Abuse	949 (4.75)	1,160 (5.90)	241 (6.42)	+0.000	Posterio Compara	77.00.791	#5-00.330	11(2.19)	0.598	PR	46(1.25)	•	0.812		PJI							140		
CCI>3	2,671 (13.36)	4,397 (21.99)	1,040 (27.70)	<0.000	1-Year Complication		10 10 10	171050	1.74	5 -Months Complication						0.52	0.56-1.21	0.9	5 0.48-1.87		P/I		0.62-3.31	
DM	9,222 (46.11)	10,620 (13.10)	2,196 (58.48)	<0.001	25	\$7.02.441	25.00.000	22 (2.51)	6.330	PR	65 (0.33)	15 (0.35)	0.958		9-Meeth Complications						6-Month Complications			
Obeily	10,290 (51.40)	11,989 (19.95)	2,376 (83.28)	<0.000						1-Year Complications					20	0.84	0.61-1.17	0.9	0.50-1.62					
Chronic Kidney	4.871 (20.36)				* Consored in	accordance with	the database confidentials (KA: total lower arthrophe-	ty agreement		PR	75 (0.38)	20 (0.53)	0.207		1-Year Complications	0.94	V01-117		/ 9.59-1.82		PH	1.16	0.58-2.30	
Disease	4,071 (20.36)	4,595 (22.98)	982 (25.62)	<0.001	At posters	c your admitted; 3	IKA: hold have attropts	8		* Censored in acc	ordance with the databa	se confidentiality agreemen			1-1 Mar Complexations						9-Month Complica	tions		
Address of the	1.371 (6.89)	1.653 (8.27)	390 (30.39)	<3.004						PA: presibets yet	st infection, TKA: total	knee arkeoplasty			PJI	0.86	0.63.1.17	1.2	0.75-2.00		, internet of the party			
Tabarro Ese	7,277 (36.39)	8,649 (43,25)	1.685 (46.87)	<3.004													100-110		2. 3.10km		PII	1.07	0.59-1.93	
Screening	00000000		() and () and ()												*referent group; no colo	neerow.					1-Year Complicati			
Coleposcery	19/0.101	155 (0.78)	49 (1.30)	+0.006											OR: edds ratio: 95% C2	95% confider	nce intervals:				1-Ivan Computati	A85		
Screening															PJI prosthetic joint info	tion TKA: to	otal knee arthro	obaty.			РЛ	1.42	0.87-2.33	
Endoscopy	22 (9.11)	199 (0.95)	37 (1.99)	<3.004																	*referent moury colo	drive washing	iopsy without antibiot	a.
Endoscopy with Bioney	91 (3.40)																				OR: odds ratio: 95%	C1-95% coef	dence intervals:	
	91 [2.46]	1,155 (5.78) vr.: year: SD: standard d	231 (6.15)	-1.004																	PЛ: prosthetic joint i			