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Clinical Features, Tumor Characteristics, and Outcomes of Post-Colonoscopy Colorectal Cancer in a Large Integrated Health Care Center

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Background

- WEO standardized the nomenclature for PCCRC
- PCCRC rate reflects quality of colonoscopy service
- Prevalence $\sim 8.2\%$
- Less is known about outcomes



Aim

To compare patient clinical features, tumor characteristics,
and CRC-specific mortality for PCCRCs vs dCRCs



Methods

- Retrospective cohort study conducted at Kaiser Permanente Northern California
- CRCs diagnosed by colonoscopy between 2009-2016
- PCCRC and dCRC defined as per WEO guidance
- Descriptive statistics: clinical features and tumor characteristics
- Cox proportional hazards regression model: time to death from diagnosis



Patient Characteristics

	PCCRC N (%)	dCRC N (%)	P-value
Total	475	7,231	-
Age, mean	68.2 (11.3)	67.4 (13.2)	0.140
Sex			0.771
Female	234 (49.3)	3612 (50)	
Race & ethnicity			0.009
Asian or Pacific Islander	46 (9.7)	1,020 (14.1)	
Black	29 (6.1)	627 (8.7)	
Hispanic	61 (12.8)	891 (12.3)	
Non-Hispanic White	338 (71.2)	4,661 (64.5)	
Ever smoker	276 (58.1)	3,851 (53.3)	<0.001
Family history of CRC	38 (8.0)	409 (5.7)	0.034
Colectomy	79 (16.6)	273 (3.8)	<0.001
Diverticulitis	216 (45.5)	3122 (43.2)	0.327
IBD	47 (9.9)	102 (1.4)	<0.001
Adenoma	192 (40.4)	1019 (14.1)	<0.001



Endoscopist Adenoma Detection Rate

	PCCRC N (%)	dCRC N (%)	P-value
ADR (% prior year)			<0.001
<19	136 (28.6)	1,381 (19.1)	
19-24.9	82 (17.3)	1,383 (19.1)	
25-31.9	116 (24.4)	1,672 (23.1)	
32-61	98 (20.6)	1,824 (25.2)	

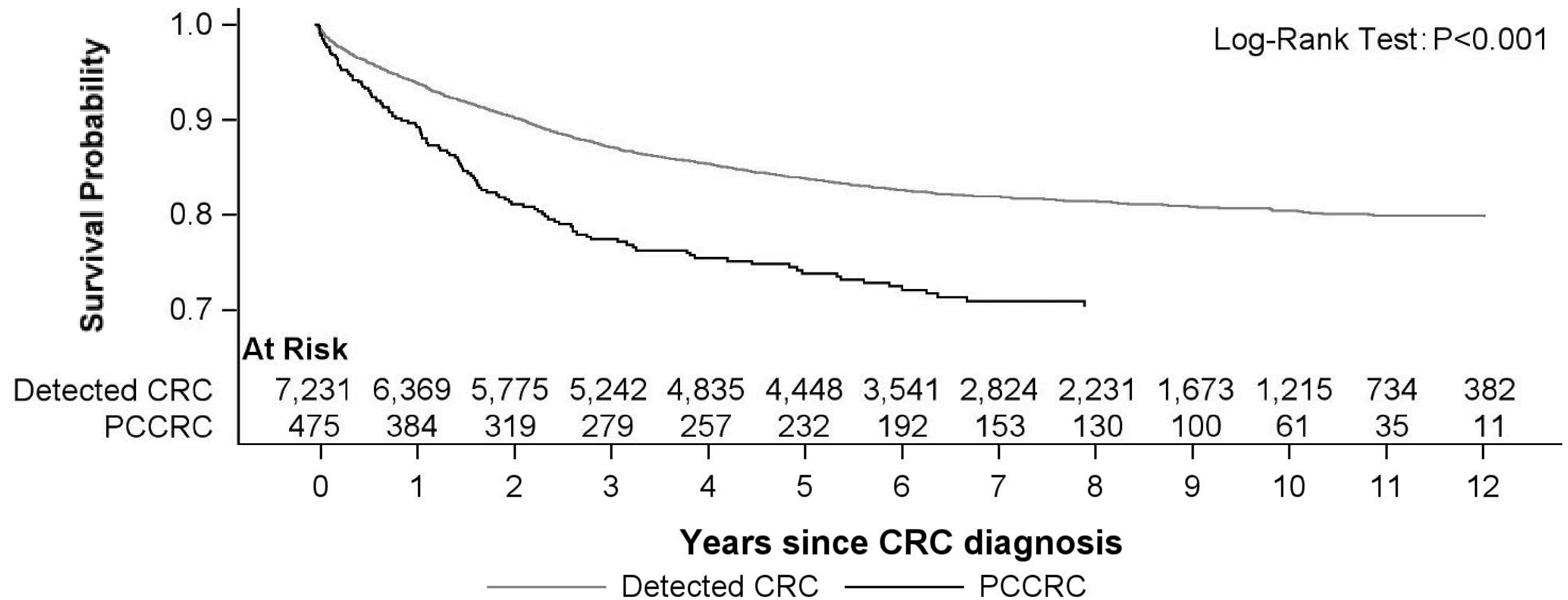


Tumor Characteristics

	PCCRC N (%)	dCRC N (%)	P-value
Tumor location			<0.001
Right colon	254 (53.5)	3,322 (45.9)	
Left colon	90 (18.9)	2,003 (27.7)	
Rectum	109 (22.9)	1,833 (25.3)	
Stage at diagnosis			<0.001
Stage 1	135 (28.4)	2,314 (32.0)	
Stage 2	128 (26.9)	1,884 (26.1)	
Stage 3	115 (24.2)	2,035 (28.1)	
Stage 4	85 (17.9)	801 (11.1)	
Differentiation grade			0.01
Well	32 (6.7)	555 (7.7)	
Moderate	305 (64.2)	5,190 (71.8)	
Poor	83 (17.5)	888 (12.3)	



CRC Mortality

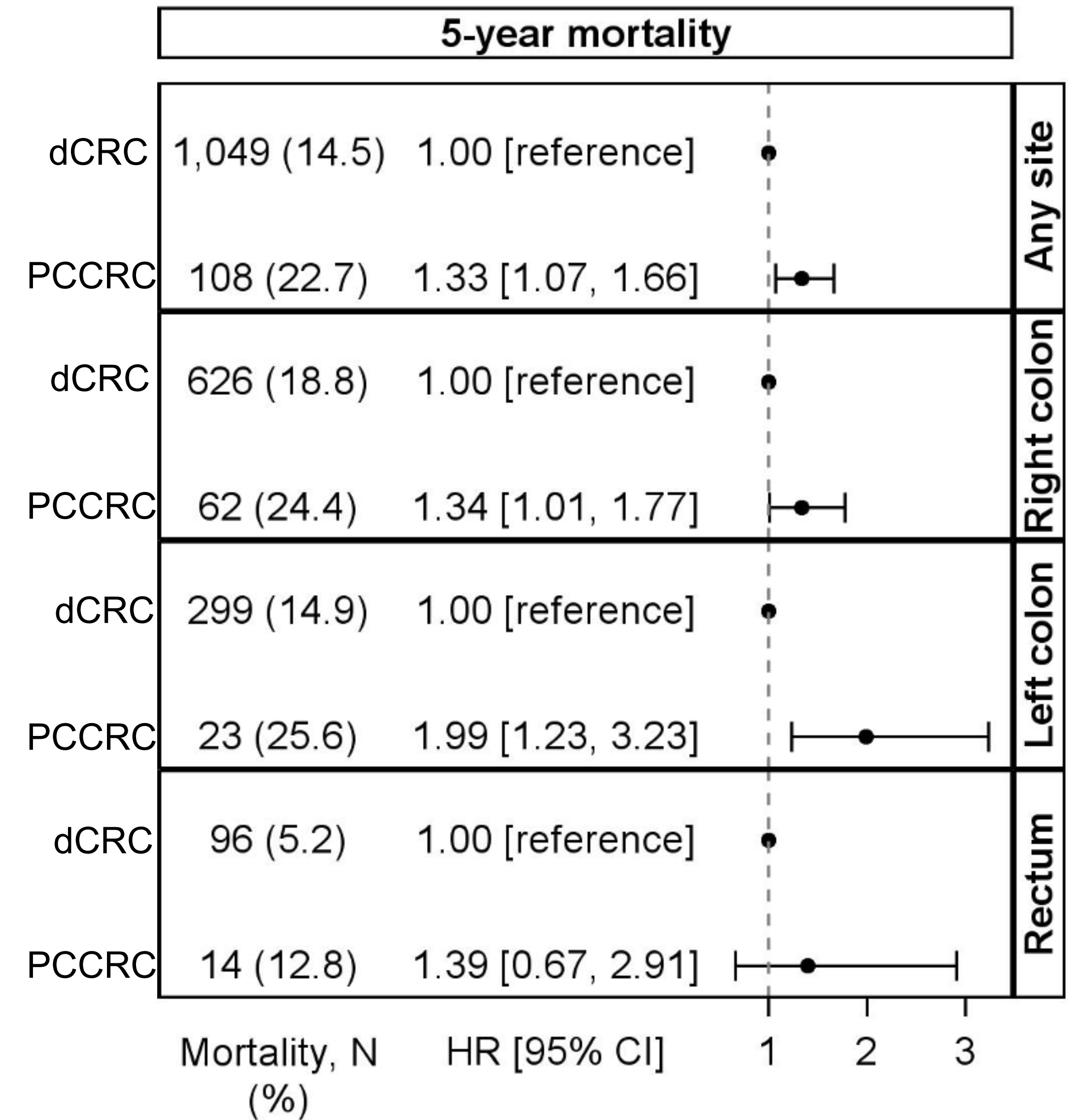


PCCRC Mortality: multivariate analyses

By Site

5-year mortality - PCCRC vs dCRC*:

- Higher: overall, right or left colon
- No difference: rectal cancer



*Cox proportional hazards models adjusted for year of diagnosis, patient age, sex, race & ethnicity, smoking status, body mass index, family history of CRC, genetic CRC syndromes, prior diverticular disease, prior IBD, prior CRC, prior adenoma and Charlson Comorbidity Index, synchronous tumors, tumor location, stage at diagnosis, lymphovascular invasion, differentiation grade, tumor size



Conclusion

- PCCRCs: higher proportion with smoking, FHx CRC, colectomy, IBD, adenoma
- PCCRCs: more proximal colon, more advanced stage, more poorly differentiated
- CRC-specific mortality was higher for PCCRCs
- Important marker of colonoscopy quality





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