Colonoscopy overuse in colorectal cancer screening in Argentina

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What?

International guidelines overall agree on starting colorectal cancer screening at age 50 for both women and men.

If colonoscopy is the preferred method, inter-screening interval, when no lesions or hyperplastic polyps are found, is 10 years.

In Argentina, the USPSTF and the American Cancer Society (ACS) guidelines are the most disseminated among general practitioners and gastroenterologists.

Why?

Growing concern about the overuse of colonoscopy.

Over-screening exposes patients to the unnecessary risks of repeating a CC, which in turn limits accessibility and increases waiting times for those who have a relevant indication. Furthermore, it dilapidates both economic and human resources.

However, as of the date of this study, we did not find studies that had explored this problem in Argentina.

Where?

The study was developed at the Hospital Italiano de Buenos Aires (HIBA), a high complexity university hospital.

It has a private health insurance (Health Plan; HP-HIBA) that provides services to more than 150,000 members whose medical history can be tracked longitudinally through the hospital's electronic medical records system.

The current rate of CRC screening in HP-HIBA affiliates 50 years old or older is 56%.

Aims?

To assess, in a cohort of adults with a complete baseline CC in 2005 without reported lesions or with hyperplastic polyps:

1) The incidence rate and cumulative probability of having a potentially inadequate CC (PI-CC).

2) The association between the report of a hyperplastic polyp in the baseline CC report and the probability of having a PI-CC.

How?

Retrospective cohort based on secondary data,

extracted from the electronic medical record of the hospital.

Who?

Inclusion criteria:

Adults, 50 years old or older, members of the HP-HIBA, who had a complete CC performed between January 1st and December 31st 2005 at the HIBA and without lesions or with hyperplastic polyps reported in the pathology report.

Exclusion criteria:

History of CRC , familial adenomatous polyposis, inflammatory bowel disease or intestinal ischemia.

Outcome?

Time to a Potentially Inadequate Colonoscopy

CC performed with an interval of less than 10 years from the baseline CC with an indication of screening (according to what was recorded by the requesting physician), or without the existence of an acute reason justifying it, in the six months prior to the date it was performed.

Follow up

The follow-up started on the date of the baseline CC in 2005.

Each patient was followed for a maximum of 10 years.

Loss of follow-up, disenrollment from HP-HIBA, death or end of study was defined as censorship.

Analysis

The probability of receiving a PI-CC was estimated using the Kaplan-Meier method.

The Cox model of proportional hazards was used for multivariate adjustment.

We adjusted for the finding of a polyp in the baseline CC, sex, age at baseline CC, motive for CC indication, documentation of anemia before the baseline CC, the Elixhauser Comorbidity Index score and a previous history of weight loss.

RESULTS

Patient flowchart

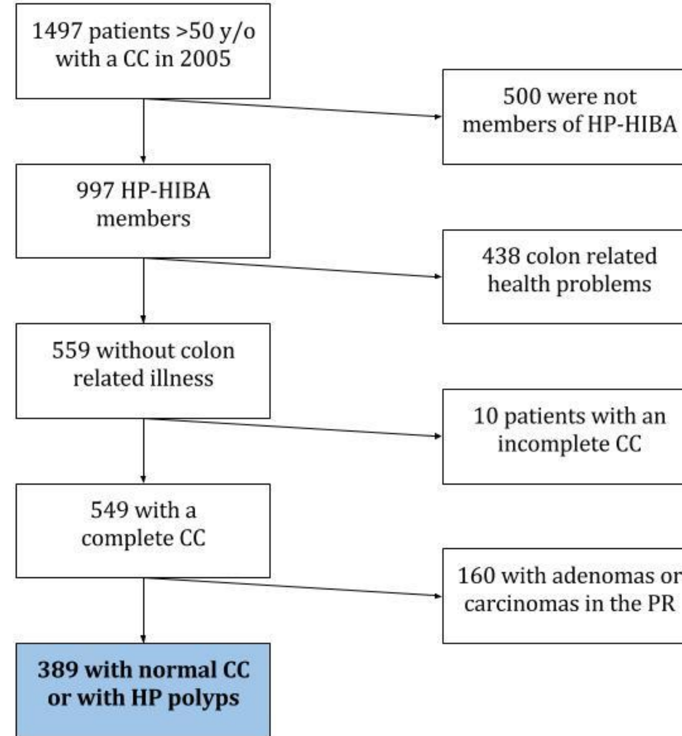
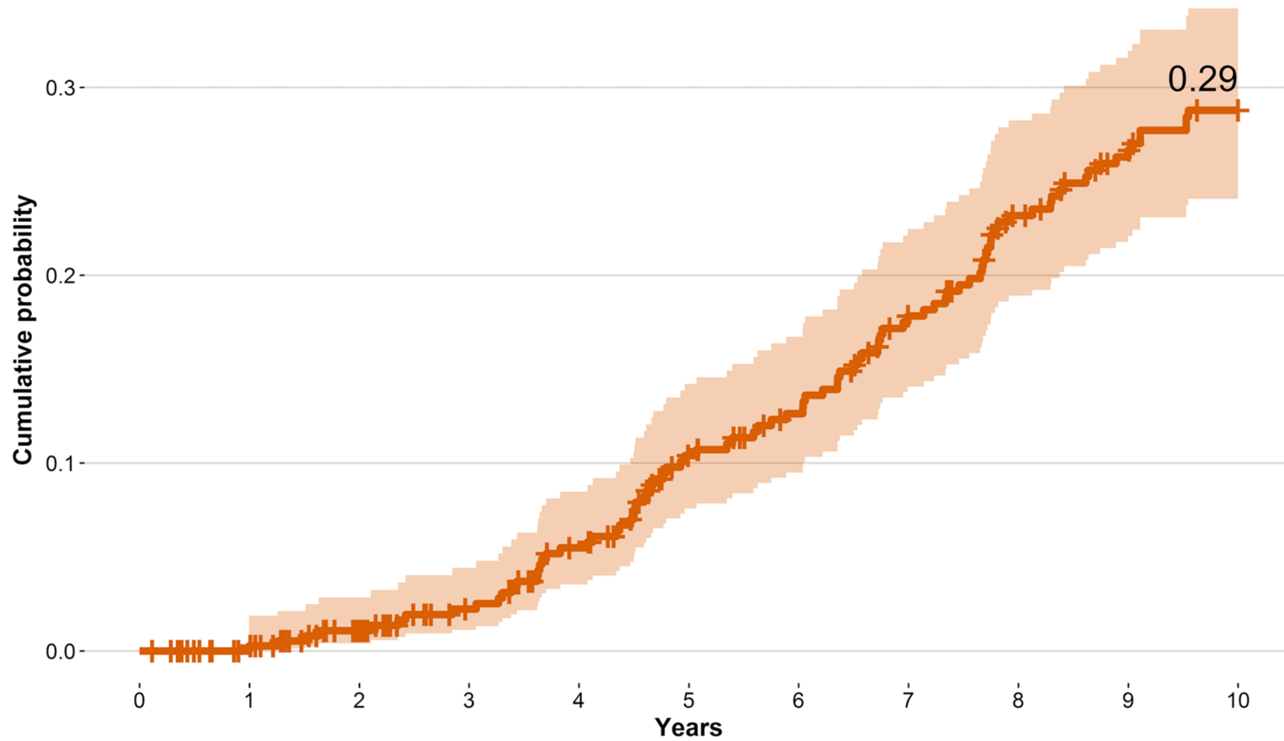


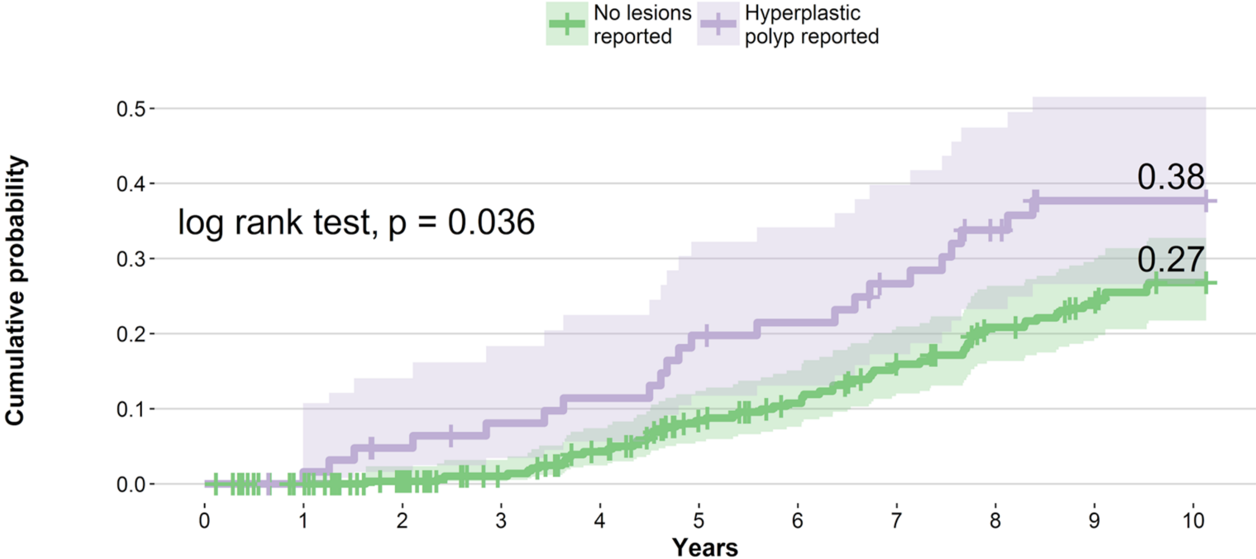
Table 1

	No PI-CC	PI-CC	p
N (total = 389)	299	90	
Age (median [IQR])	63.00 [58.00, 70.00]	62.00 [58.25, 65.00]	0.06
Age categories (%)			0.002
50-54	33 (11.0)	11 (12.2)	
55-59	71 (23.7)	19 (21.1)	
60-64	62 (20.7)	33 (36.7)	
65-69	56 (18.7)	19 (21.1)	
70-74	77 (25.8)	8 (8.9)	
Female (%)	200 (66.9)	53 (58.9)	0.2
No. comorbidities (%)			0.87
0	83 (27.8)	28 (31.1)	
1	100 (33.4)	27 (30.0)	
2	51 (17.1)	18 (20)	
3	40 (13.4)	11 (12.2)	
>3	25 (8.4)	6 (6.4)	
Baseline motive for Colonoscopy: Screening (%)	71 (23.7)	26 (28.9)	0.39

Cumulative Probability and Incidence Density of a PI-CC



Association between the finding of a hyperplastic polyp in the baseline CC and a PI-CC



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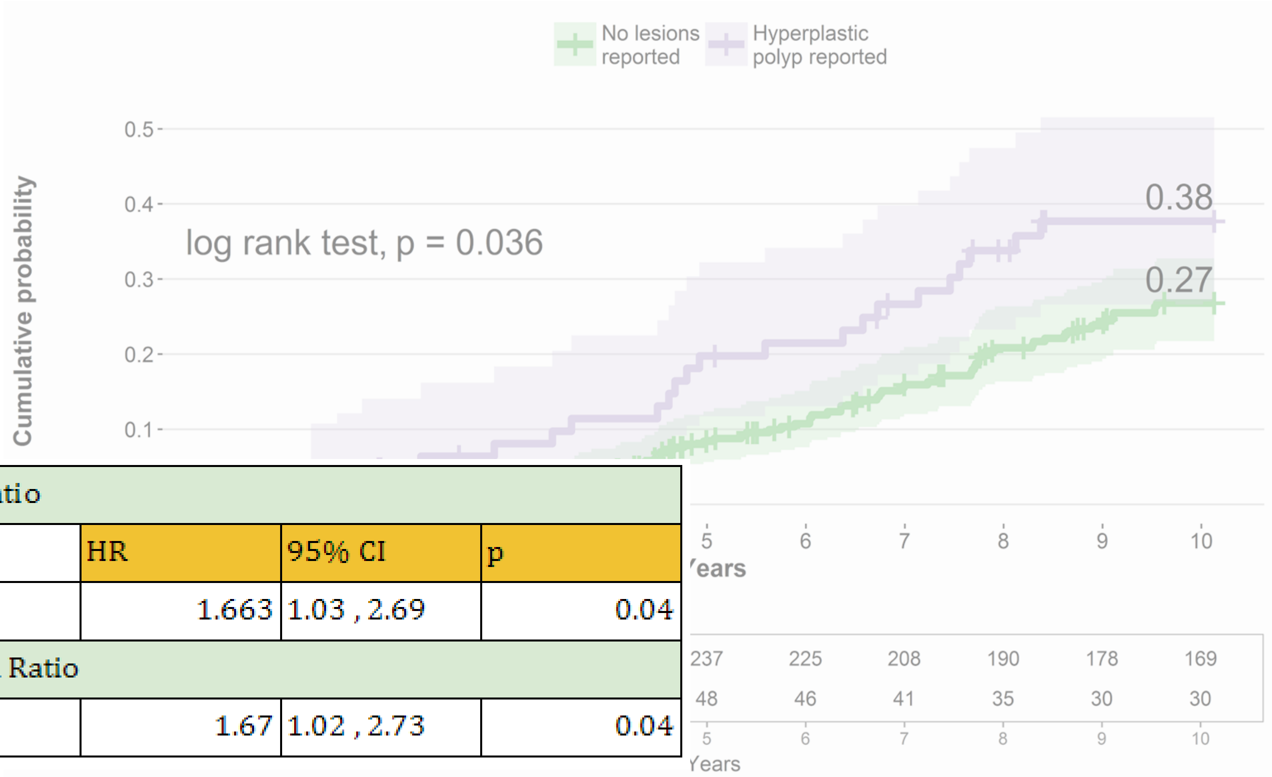

Crude Hazard Ratio			
	HR	95% CI	p
Polyp reported	1.663	1.03 , 2.69	0.04
Adjusted Hazard Ratio			
Polyp reported	1.67	1.02 , 2.73	0.04

Discussion

Coinciding with previous studies published we documented that:

17.8% and 29% of the patients in our cohort

had a PI-CC performed at 7 and 10 years after the baseline CC, respectively.

Discussion

We also found that ***the presence of hyperplastic polyps in the baseline CC report was associated with a higher probability of receiving a PI-CC.***

We propose a possible causal determinant for the anticipated indication of a surveillance CC, as is the presence of hyperplastic polyps.

However, many of the causal factors that determine the anticipated CC probably exceed the model proposed in our study.

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Conclusion

One every three patients treated in our health system receive a PI-CC

during the first ten consecutive years after a normal complete CC.

This could be in part attributed to the presence of a hyperplastic polyp in the baseline CC.

What´s next?

The results obtained in the study were important as a starting point for the conformation of a team consisting of gastroenterologists, family physicians and internists, currently working on the development of various interventions implemented through the electronic health record, aimed at reducing colonoscopy overuse.

Thank you!

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