

The Incidence and Clinicopathological Characteristics of Newly Detected Neoplastic Lesions One-year after Complete Colonoscopy: Results from the Japan Polyp Study

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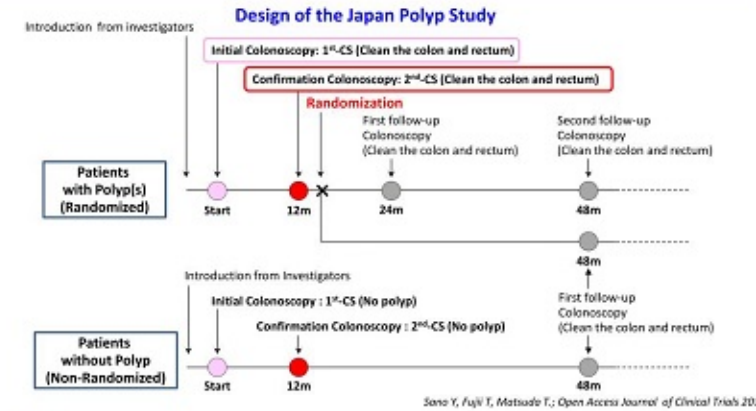
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Background

- The identification and endoscopic removal of adenomas and post-polypectomy surveillance are considered important to reduce colorectal cancer incidence.
- However, a systematic review of tandem colonoscopy showed that 15% to 32% of colorectal neoplasms were possibly missed by colonoscopy.

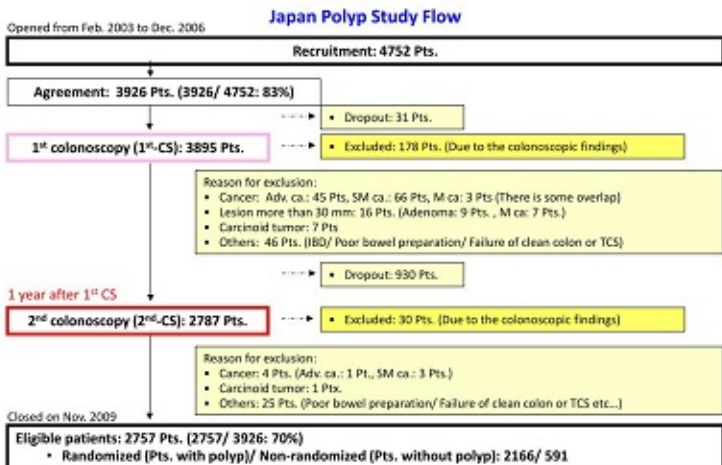
Aim

- To clarify the incidence and clinicopathological characteristics of newly detected colorectal neoplasms one-year after colonoscopy from the large-scale prospective study.



Methods

- The Japan Polyp Study (JPS) is a multicenter randomized control trial conducted at 11 participating centers to evaluate follow-up surveillance interval after polypectomy using high-definition colonoscopy.
- In this study, patients were eligible if they have had two complete colonoscopies (1st- and 2nd-CS; interval: 1 year) with removal of all neoplastic lesions to assess the incidence of newly detected lesions after single colonoscopy.
- Index lesions (ILs) were defined as any low-grade dysplasia (LGD) ≥ 10 mm, high-grade dysplasia (HGD) or invasive cancer.



Results

- 4752 patients with no history of FAP, HNPCC, IBD or personal history of polypectomy with unknown histology, no history of colectomy were referred for colonoscopy. Among them, 3926 patients consented to participate in the JPS.
- A total of 2787 patients mean age 57.9 years (40-69), 1721 (62%) males, who had 1st- and 2nd-CS, with removal of all adenomatous polyps were enrolled in present study.
- Of these 1785 patients (64%) had colorectal neoplasms, 308 patients (11%) had HGD and removed completely during the 1st-CS.
- Although we attempted to remove all neoplasms, 1552 neoplastic lesions [in 982 patients; 35.2%, ≤ 5 mm: 1248 (80.4%), 6-9mm: 265 (17.1%), ≥ 10 mm: 39 (2.5%)] were detected at the 2nd-CS.
- There were 920 (59.3%) nonpolypoid neoplasms (NP-CRNs), and 632 (40.7%) polypoid ones. The incidence of invasive cancer, HGD and ILs was 0.14%, 1.5% and 2.5%, respectively.
- Among all ILs, there were 27 LGD ≥ 10 mm, 42 HGD and 4 invasive cancers (mean size of all ILs, polypoid ILs and non-polypoid ILs were 9.7mm, 8.3mm and 11.5mm, respectively) and right-sided colonic ILs were dominant (60.3%, 44/73).
- Morphologically, there were 41 polypoid (56%) and 32 NP-CRNs (44%). Most of NP-CRNs were classified into laterally spreading tumor non-granular (LST-NG) type; (47%, 15/32) and located in the right-sided colon (78%, 25/32).

Reasons for Referral at the 1st CS in Patients Received 2nd CS

Reason	Number of Participants
+ FOBT	1022 (37%)
Surveillance after polypectomy	456 (16%)
+ Symptoms	398 (14%)
Referred for endoscopic treatment	397 (14%)
Screening (no symptoms)	381 (14%)
Others	133 (5%)
Total	2787

Incidence of Newly Detected Colorectal Neoplasms One-year After Colonoscopy (2nd-CS)

	Low Grade Dysplasia	High Grade Dysplasia	Invasive Cancer	Total
All Neoplasms (pts.)	1506 (937)	42 (41)	4 (4)	1552 (982)
(pts.)/2787pts.	33.6%	1.5%	0.14%	35.2%
Index Lesions (pts.)	27 (27)	42 (41)	4 (4)	73 (71)
(pts.)/2787pts.	0.9%	1.5%	0.14%	2.5%

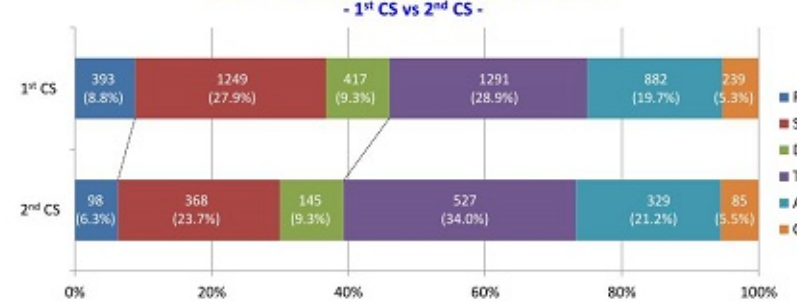
Clinicopathological Characteristics of Newly Detected Colorectal Neoplasms at the 2nd CS -1552 lesions (982 pts)-

Location	Rt-sided (%)	Lt-sided (%)	Rectum (%)	Total (%)
	941 (60.6)	513 (33.1)	98 (6.3)	1552 (100)
Macro-type	NP-CRNs	P-CRNs	Total (%)	Total (%)
	920 (59.3)	632 (40.7)	1552 (100)	1552 (100)
Size	≤ 5 mm	6-9mm	≥ 10 mm	Total (%)
	1248 (80.4)	265 (17.1)	39 (2.5)	1552 (100)

Clinicopathological Characteristics of Newly Detected Colorectal Neoplasms at the 2nd CS -73 Index Lesions (71 pts)-

	Rt-sided (%)	Lt-sided (%)	Rectum (%)	Total (%)
NP-CRNs	25 (78.1)	5 (15.6)	2 (6.3)	32 (100)
P-CRNs	19 (46.3)	18 (43.9)	4 (9.8)	41 (100)
Total	44 (60.3)	23 (31.5)	6 (8.2)	73 (100)
	NP-CRNs (%)	P-CRNs (%)	Total (%)	Total (%)
Mean size (mm)	32 (43.8)	41 (56.2)	73 (100)	9.7 (range: 3-40)
Macro-type	LST-NG: 15 (47%; 15/32)	Is: 19, LST-NG: 15, Ip: 14, Ila: 9, Ip: 8, LST-G: 5, Ilc: 1, Ila+Ilc: 1, Type2: 1		

Location of Newly Detected Colorectal Neoplasms - 1st CS vs 2nd CS -

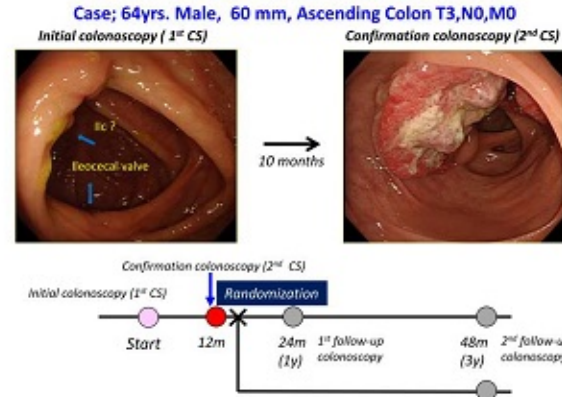


Macroscopic Type and Location of Newly Detected Colorectal Neoplasms at the 1st and 2nd CS

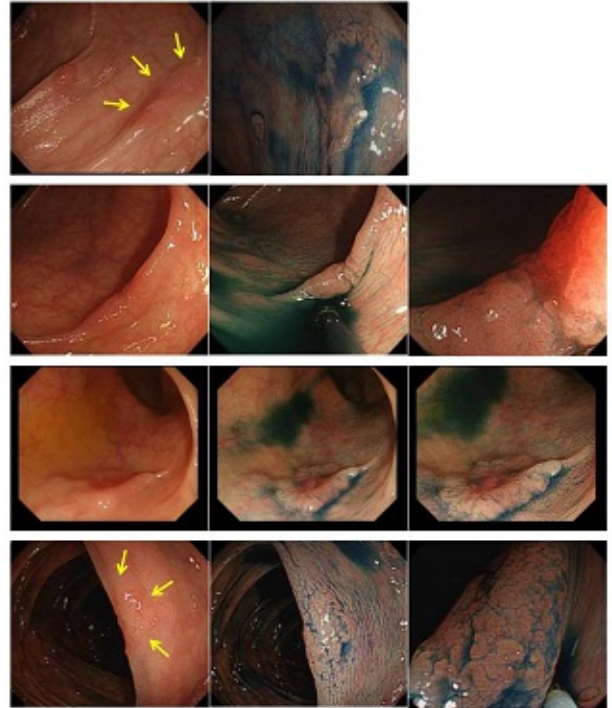
Location	CS	P-CRNs* (%)		NP-CRNs** (%)		Total
		1 st CS	2 nd CS	1 st CS	2 nd CS	
Rectum	1 st CS	318 (80.9)	75 (19.1)	393		393
	2 nd CS	54 (55.1)	44 (44.9)	98		98
Lt-sided (S, D)	1 st CS	995 (59.7)	671 (40.3)	1666		1666
	2 nd CS	223 (43.4)	290 (56.5)	513		513
Rt-sided (T, A, C)	1 st CS	1074 (44.5)	1338 (55.5)	2412		2412
	2 nd CS	355 (37.7)	586 (62.3)	941		941

* P-CRNs (Polypoid Colorectal Neoplasms); Ip, Is, Is, Is(LST-G) ** NP-CRNs (Non-polypoid Colorectal Neoplasms); Ila, Ila+Ilc, Ilc, Ilc, Ilc(LST-G), LST-NG
* p < 0.001 (Chi-square test)

"Missed Lesion" at the 1st CS?



Newly Detected LST-NG at the 2nd CS



Conclusions

- The incidence of newly detected colorectal neoplasms one-year after complete colonoscopy was still high.
- However, the prevalence of ILs decreased in less than 3%.
- Because the interval between 1st and 2nd-CS was just one year, most of ILs detected at the 2nd-CS were considered as "missing or rapid growing".
- To reduce the interval cancers, early detection of small polypoid lesions and especially right-sided LST-NGs is an important issue that needs to be improved.

There are no potential conflicts of interests related to this presentation.

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Background: The incidence and clinicopathological characteristics of neoplastic lesions detected one year after complete colonoscopy are not well understood. We conducted a multicenter, retrospective study to evaluate the incidence and clinicopathological characteristics of newly detected neoplastic lesions one year after complete colonoscopy.

Methods: The Japan Polyp Study (JPS) is a multicenter, retrospective study of patients who underwent complete colonoscopy in 2010. We analyzed the incidence and clinicopathological characteristics of newly detected neoplastic lesions one year after complete colonoscopy.

Results: A total of 1,000 patients were included in the study. The incidence of newly detected neoplastic lesions one year after complete colonoscopy was 15.0%. The most common type of lesion was adenoma (85.0%), followed by hyperplastic polyp (10.0%) and serrated polyp (5.0%). The average size of the lesions was 5.0 mm. The average age of the patients was 65.0 years.

Conclusion: The incidence of newly detected neoplastic lesions one year after complete colonoscopy is 15.0%. The most common type of lesion is adenoma. The average size of the lesions is 5.0 mm. The average age of the patients is 65.0 years.

Keywords: Colonoscopy, Neoplastic lesions, Incidence, Clinicopathological characteristics.

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