

VIII CONGRESSO NAZIONALE GISCoR

WORKSHOP SCREENING CCR REGIONE LAZIO

GISCoR
Gruppo
Italiano
Screening
Colorettale

ROMA, 3 E 4 OTTOBRE 2013

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Clinicopathological Features and Management of Diminutive and Small Colorectal Lesions: Japanese Perspective

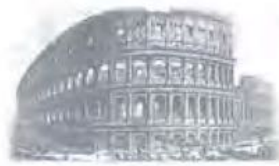


Takahisa Matsuda M.D, Ph.D

National Cancer Center Hospital, Tokyo

Endoscopy Division





Background

In Japan, treatment strategy of diminutive polyps
(≤ 5 mm) is controversial

- ✓ Leave behind
- ✓ Take a biopsy
- ✓ Remove → Pathology

“Resect & discard” strategy was advocated
for savings in time and cost

- ✓ Remove ✕ Pathology

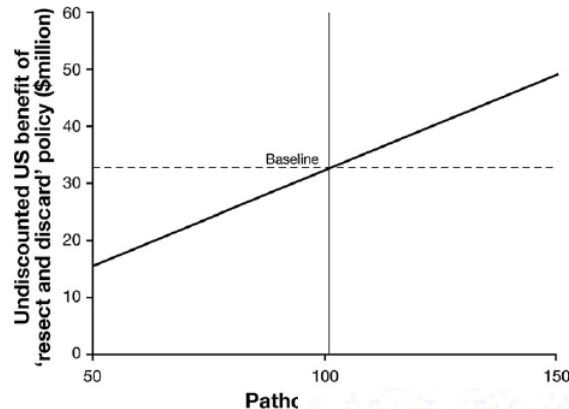
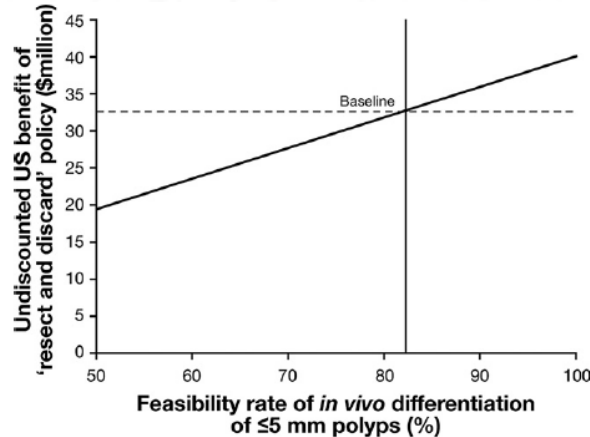


Background (cont'd)

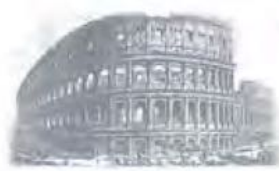
A Resect and Discard Strategy Would Improve Cost-Effectiveness of Colorectal Cancer Screening

CESARE HASSAN,* PERRY J. PICKHARDT,^{†,§} and DOUGLAS K. REX^{||}

*Digestive Endoscopy Unit, "Nuovo Regina Margherita" Hospital, Rome, Italy; [†]Department of Radiology, University of Wisconsin School of Medicine and Public Health, Madison, Wisconsin; [§]Department of Radiology, Uniformed Services University of the Health Sciences, Bethesda, Maryland; and ^{||}Division of Gastroenterology/Hepatology, Indiana University Medical Center, Indianapolis, Indiana



“Resect and discard strategy may save money”



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Background (cont'd)

Surveillance interval after screening colonoscopy and polypectomy is determined according to the number and size of polyps, and histology.

If we accept “Resect & Discard Policy” ... We have to judge ...

- **Number**
- **Size** of neoplastic polyps
- **Histology**

without pathological diagnosis



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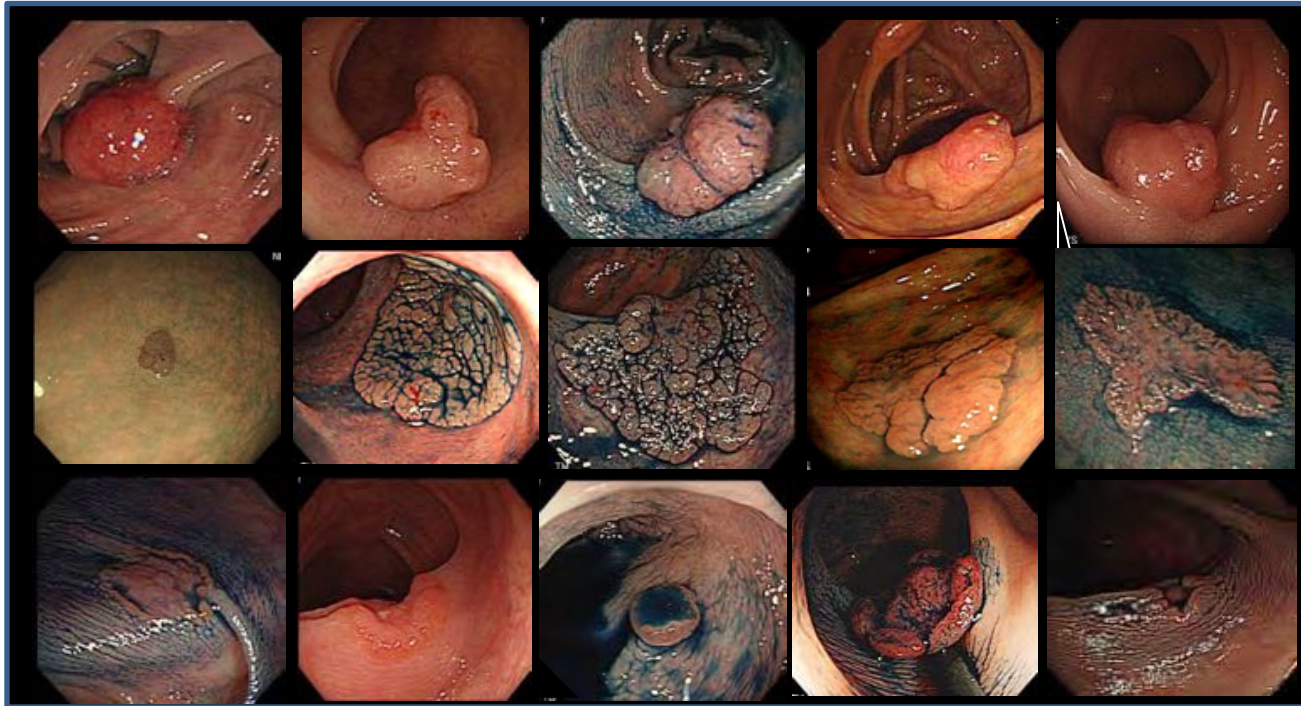
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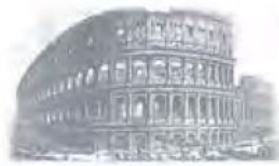
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Screening Colonoscopy



Pedunculated
Sessile
Flat/ Depressed

Large (≥ 10 mm)
Small (6-9 mm)
Diminutive (≤ 5 mm)



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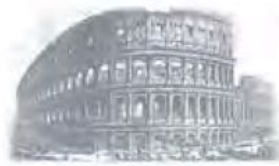
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Colonoscopic miss rate- Review

Subjects: 465 Pts (6 Studies)

Overall miss rate: 22%

- **26% \leq 5 mm, adenoma**
 - **13% 6-9 mm, adenoma**
 - **2.1% \geq 10 mm, adenoma**
-



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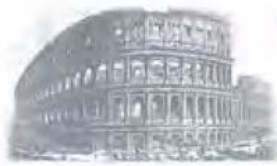
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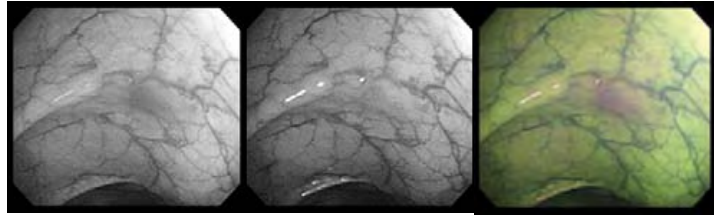
Colonoscopic miss rate- Review

***“High-quality” screening
colonoscopy should
decrease miss rate.***



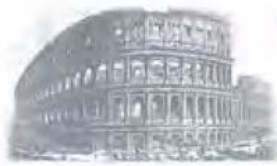
Autofluorescence Imaging (AFI)

How to decrease “miss rate”?



	Auto fluorescence	Green reflectance	AFI image
Normal mucosa	Green bar	Red and Blue bars	Yellow-green bar
Tumor	Small green bar	Red and Blue bars	Purple bar
Vessel or inflammation (Hb)	Green bar	Red and Blue bars	Green bar





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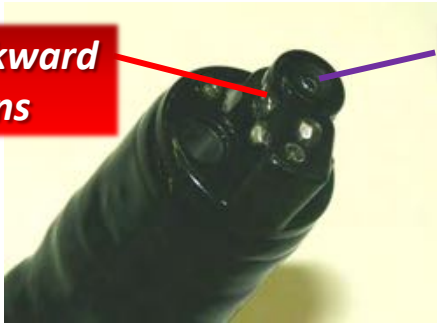
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Extra-wide-angle-view colonoscope

Uraoka T, Matsuda T, et al, GIE, 2013

**Lateral-backward
View Lens**



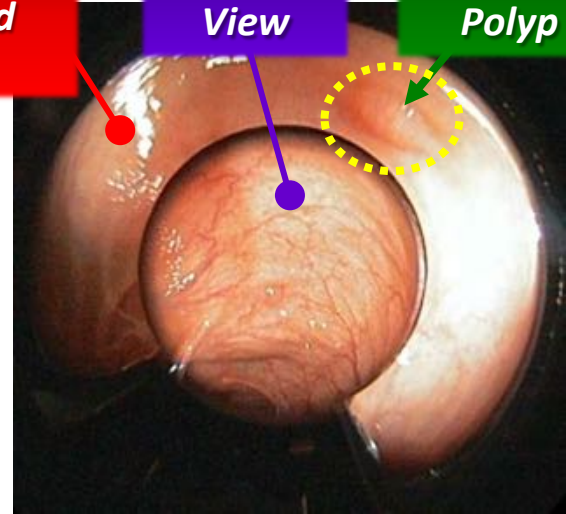
Forward View Lens

(Olympus Co., Tokyo, Japan)

**Lateral-
backward
view**

**Forward
View**

**Detected
Polyp**



**144°-to-232°-angle lateral-backward view lens
+ standard 140°-angle forward view lens**



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Extra-wide-angle-view colonoscope

Uraoka T, Matsuda T, et al, GIE, 2013

***Extra-wide-angle-view colonoscope
may represent an advancement
in colorectal polyp detection.***



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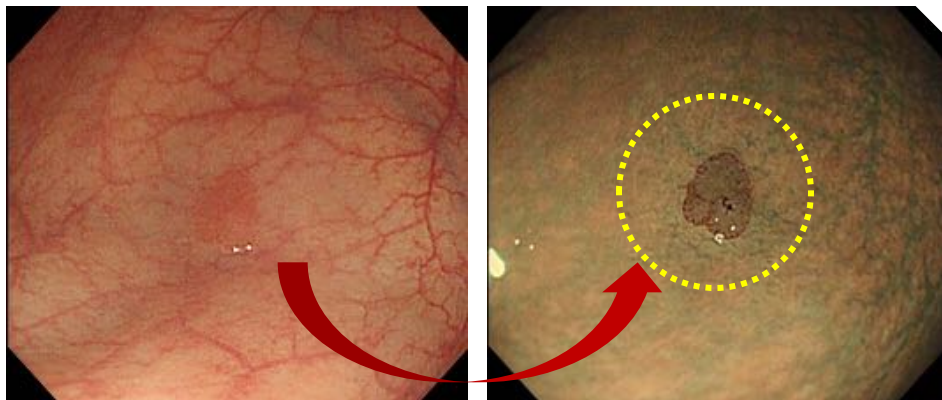
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Differential diagnosis

Improvement of Visibility



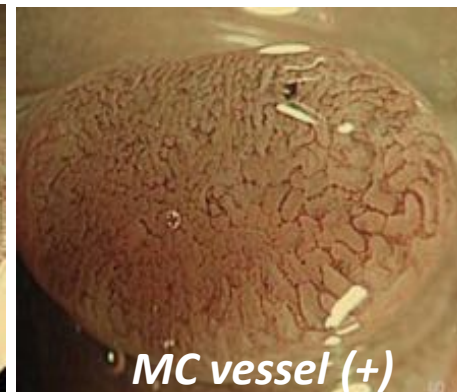
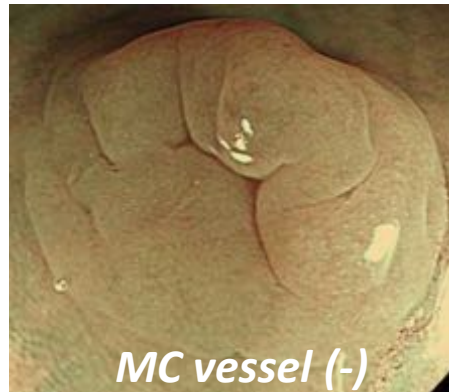
Meshed brown capillary (MC) vessel

Sano Y, Muto M, et al,
Digestive Endoscopy 2005

+ Magnification

Hyperplastic polyp

Adenomatous polyp





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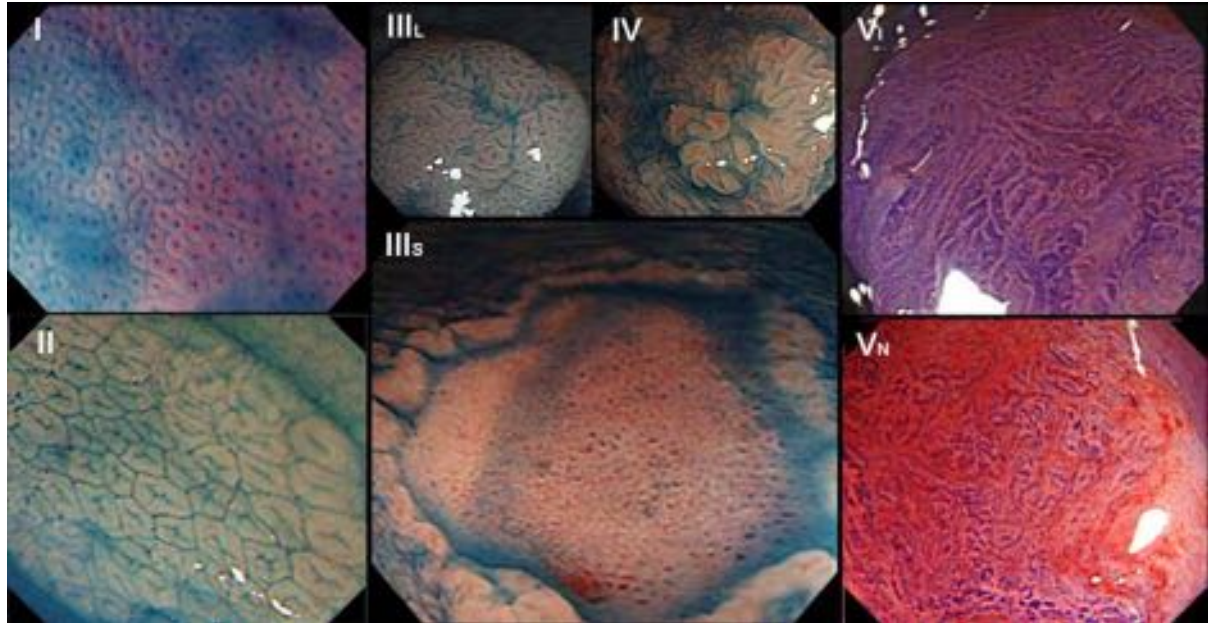
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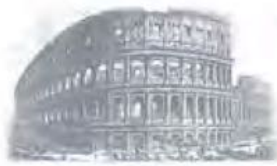
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Pit pattern diagnosis: Kudo's Classification



Normal- Hyperplastic

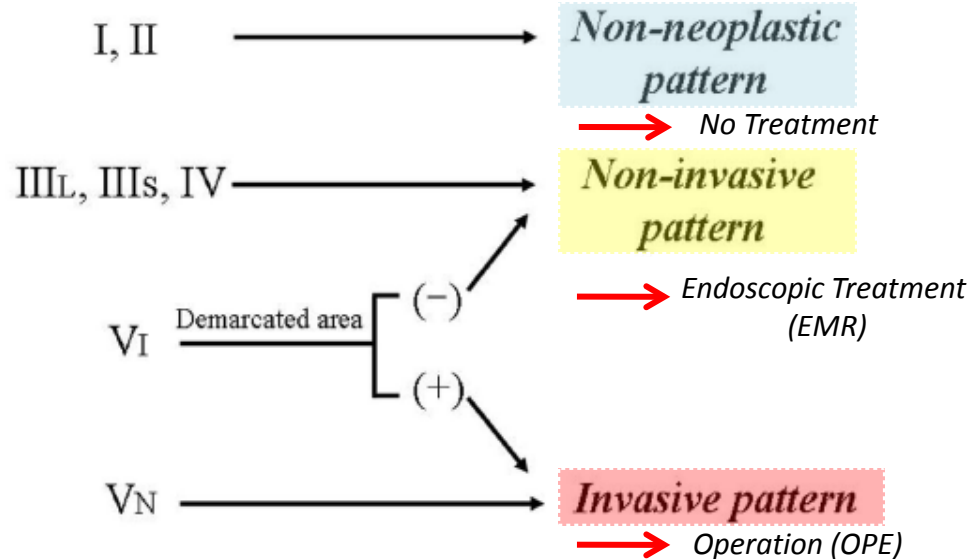
Adenoma (LGD)- HGD- Invasive Cancer



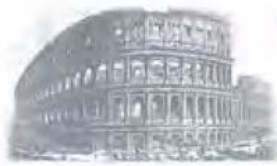
Depth diagnosis

Kudo's Classification

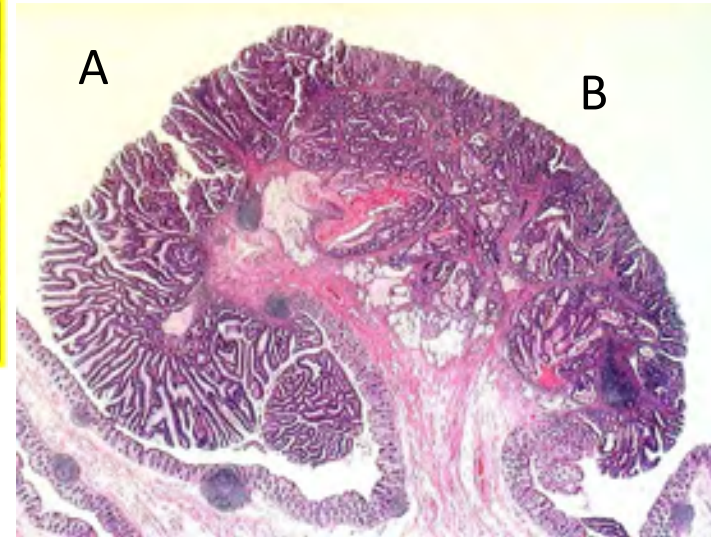
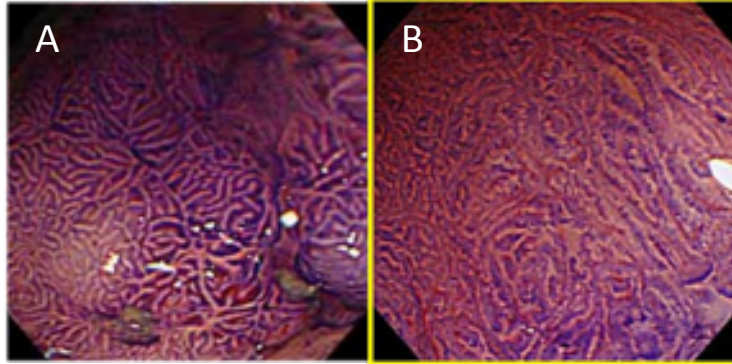
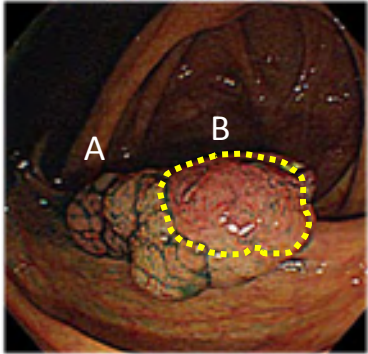
Clinical Classification



Matsuda T, Fujii T, et al,
Am J Gastroenterol, 2008



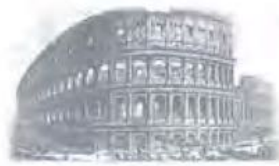
Depth diagnosis



*Early invasive cancer
(W/D adenocarcinoma)
Depth of invasion; SM-deep, LNM (-)*



“There is a strong relationship between this pattern and invasive cancer”



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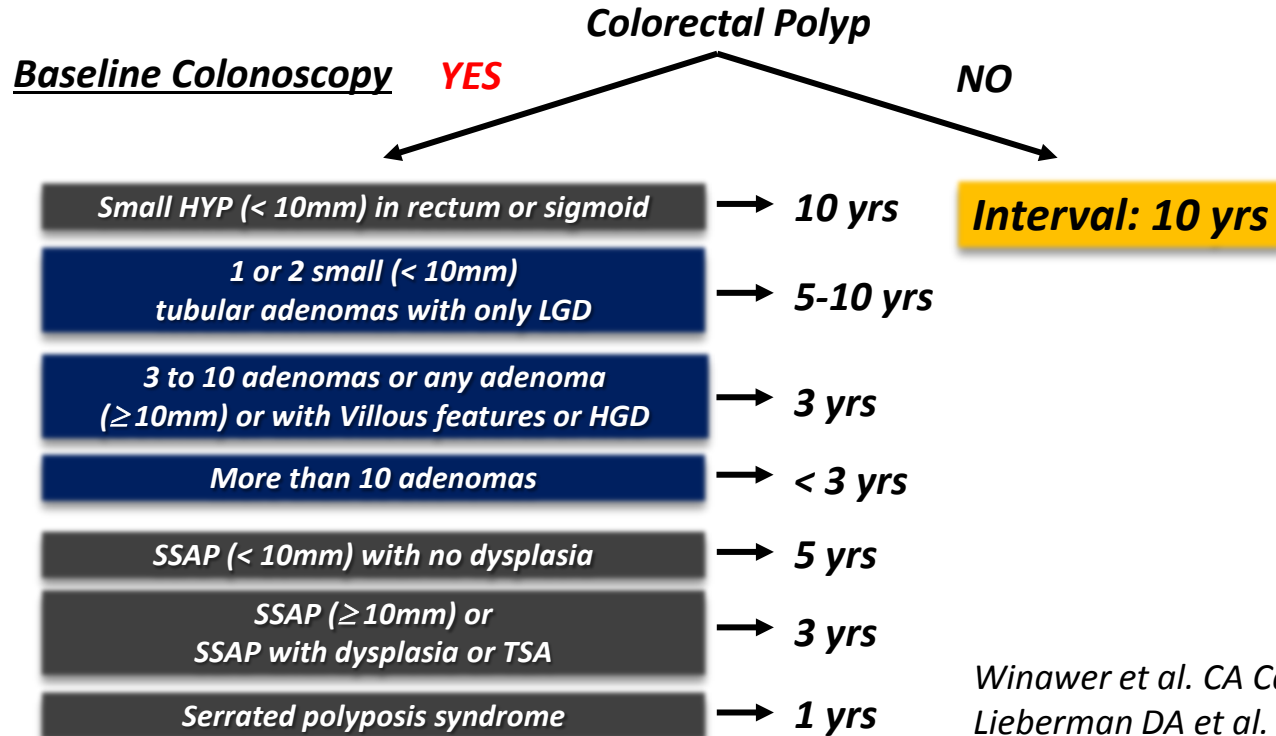
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Japan Polyp Study (JPS) *- Since 2000*

Multicenter Randomized Control Trial
(conducted at 11 Participating Centers)



Guidelines for Colonoscopy Surveillance after Screening and Polypectomy





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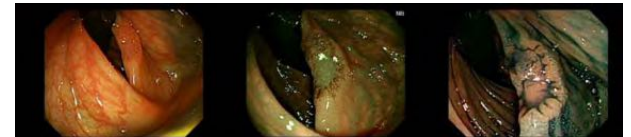
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Japan Polyp Study (JPS)

- ✓ **No established recommendations for post-polypectomy surveillance in Japan**
- ✓ **Depressed lesions, including some with advanced histology, have been demonstrated in recent studies from several Western countries and Japan**
- ✓ **Japanese endoscopists believe that its clinical impact and importance for a long time**





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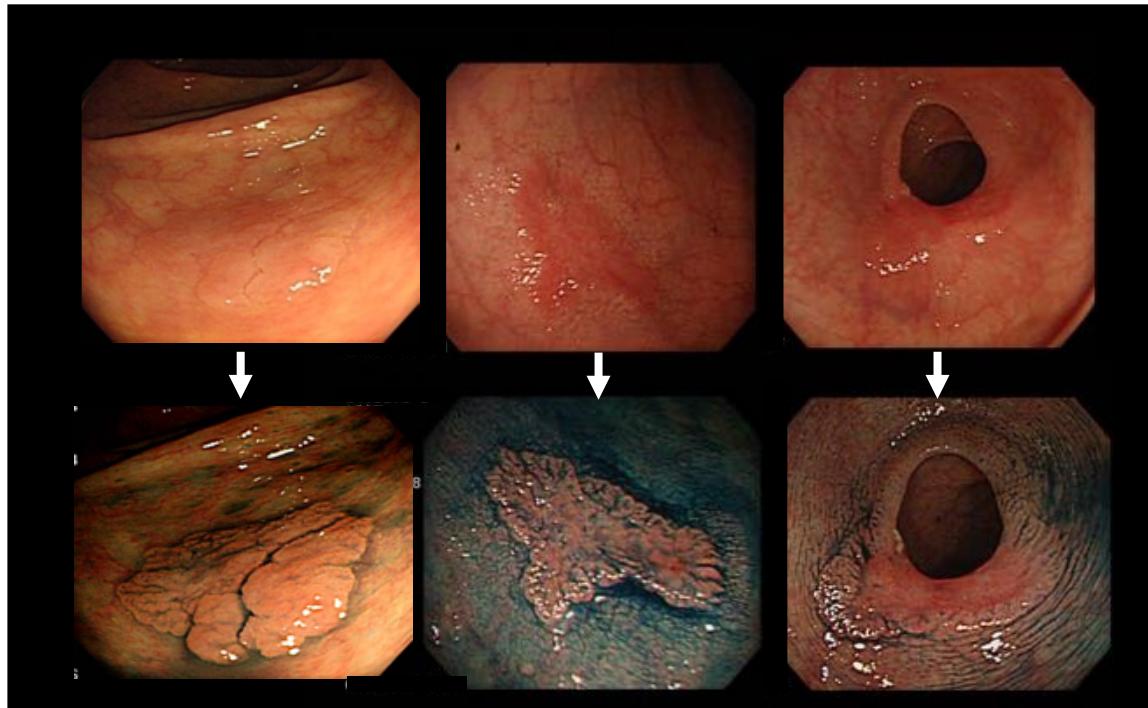
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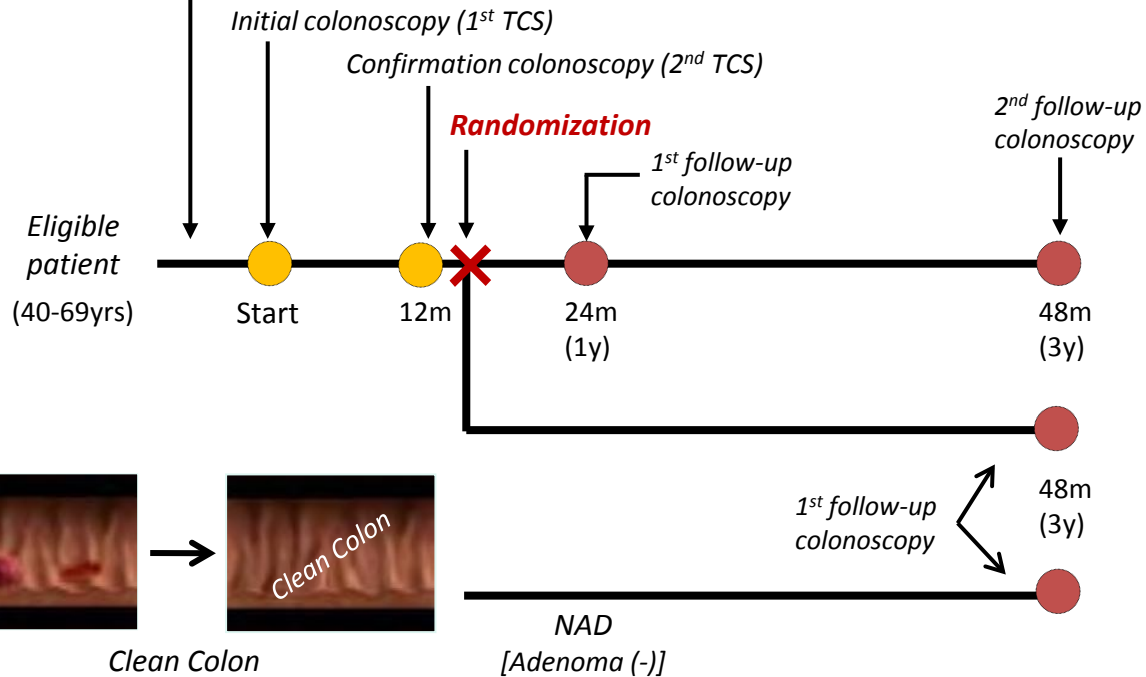
The JPS focuses on “Flat & Depressed” lesions





Study Design

Introduction and informed consent sought by investigators





Recruitment: 4752 Pts (Feb 2003- Dec 2006)



Agreement: 3926 Pts (83%)

Dropout:
31 Pts

Male: 2440, Female: 1486
Mean age: 57.3 (40-69)

Reasons for Referral to the Japan Polyp Study

- ✓ + FOBT: 1460 (37%)
- ✓ + Symptoms (bloody stool/constipation etc): 665 (17%)
 - ✓ Surveillance after polypectomy: 567 (14%)
 - ✓ Screening (no symptoms): 552 (14%)
 - ✓ Referred for endoscopic treatment: 493 (13%)
 - ✓ Others: 189 (5%)

1st colonoscopy: 3895 Pts

Exclusion: 132 Pts

(Due to the Colonoscopic findings)



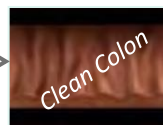
1 year

- ✓ Carcinoma: 112 (Advanced ca: 45, SM ca: 66, M ca: 3) *There is some overlap*
 - ✓ Lesions more than 30mm: 16
 - ✓ Carcinoid Tumor: 7
 - ✓ Others: 971 (Poor bowel prep/ Failure of clean colon or TCS/ Refusal , etc)

2nd colonoscopy: 2787 Pts

Exclusion: 5 Pts

(Due to the Colonoscopic findings)

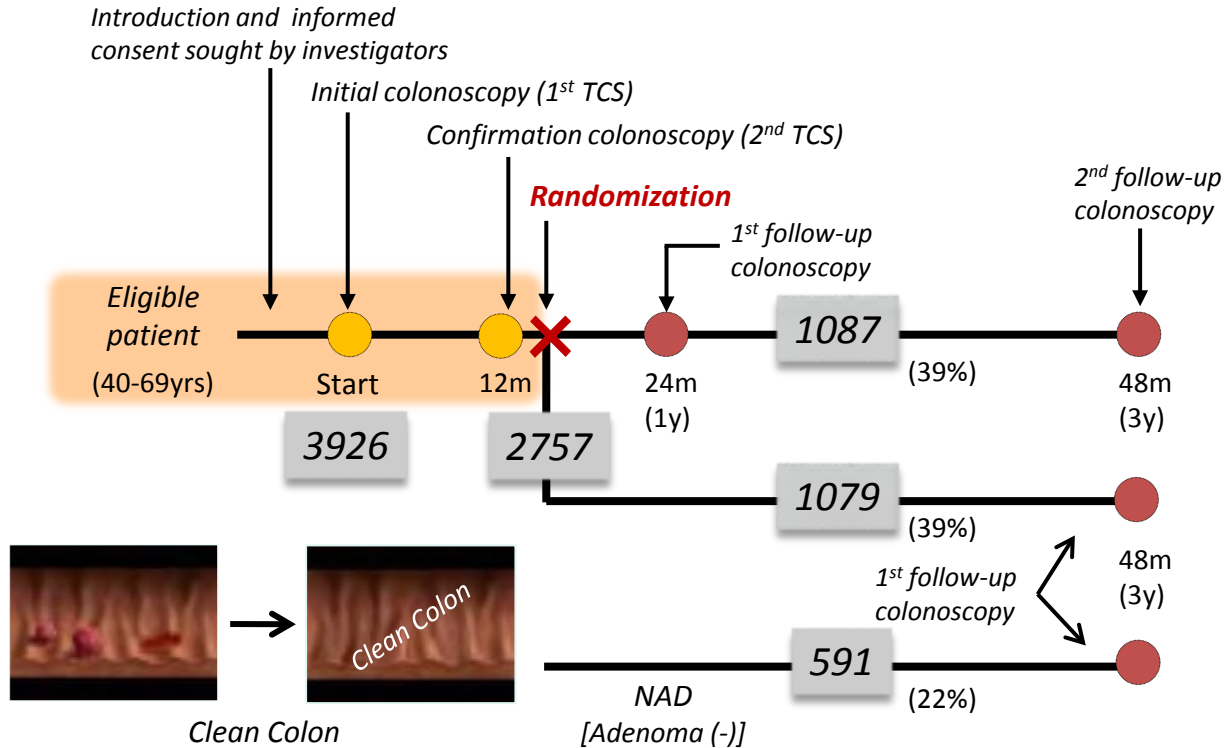


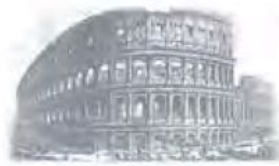
- ✓ Carcinoma: 4 (Advanced ca: 1, SM ca: 3)
 - ✓ Carcinoid Tumor: 1
 - ✓ Others: 25 (Poor bowel prep/ Failure of TCS/ Refusal , etc)

Eligible Patients: 2757 Pts (70%)



Current Status of Japan Polyp Study



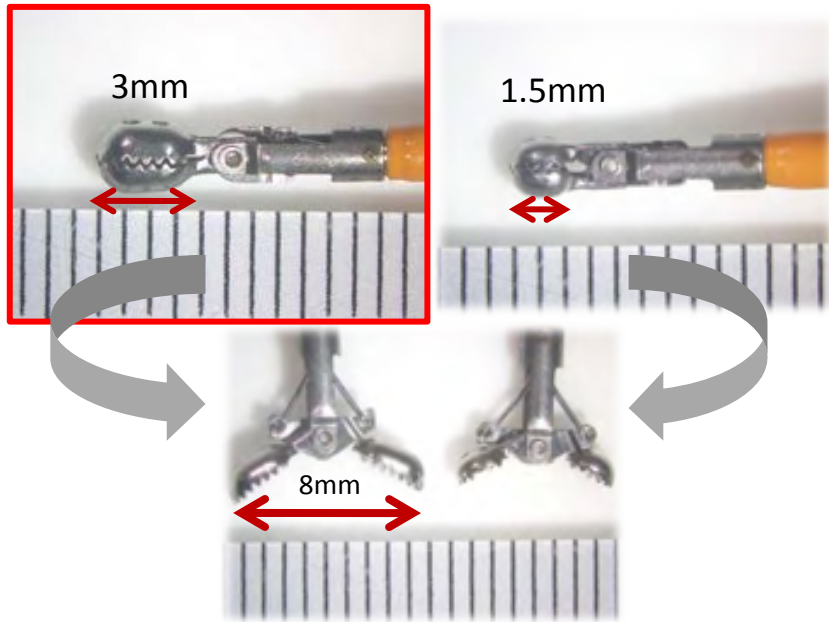


Pathological Diagnosis of All Polyps (1st & 2nd TCS)

Size	Adenoma		HGD	Invasive cancer	Adv. histology	Others	Total
	LGD	Villous(+)					
≤ 5 mm	5061 (83.9)	21 (0.3)	11 (0.2)	1 (0.02)	33 (0.5)	957 (15.9)	6030 (67.8)
6-9 mm	1559 (86.9)	44 (2.5)	41 (2.3)	6 (0.3)	91 (5.1)	189 (10.5)	1795 (20.2)
≥ 10 mm	672 (62.7)	110 (10.3)	191 (17.8)	109 (10.2)	410 (38.2)	100 (9.3)	1072 (12.0)
Total	7292	175	243	116	534	1246	8897

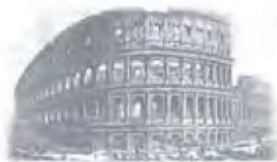


Cold Biopsy Forceps Polypectomy using **Jumbo Biopsy Forceps**



(Boston Scientific)





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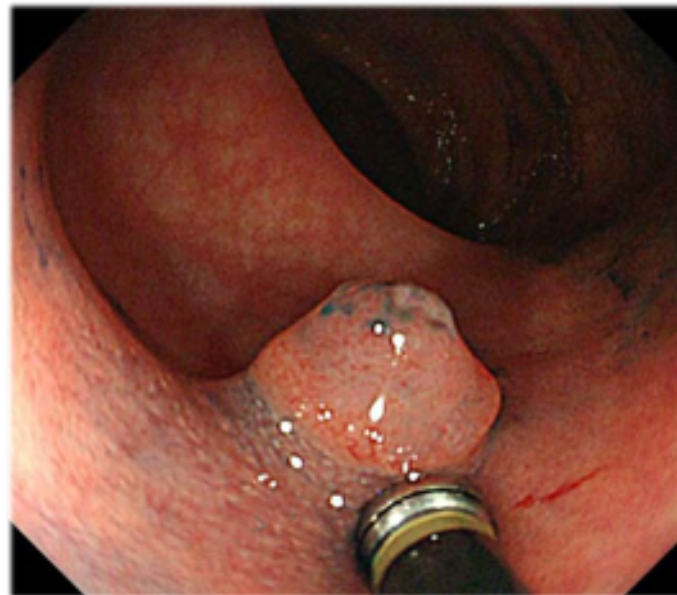
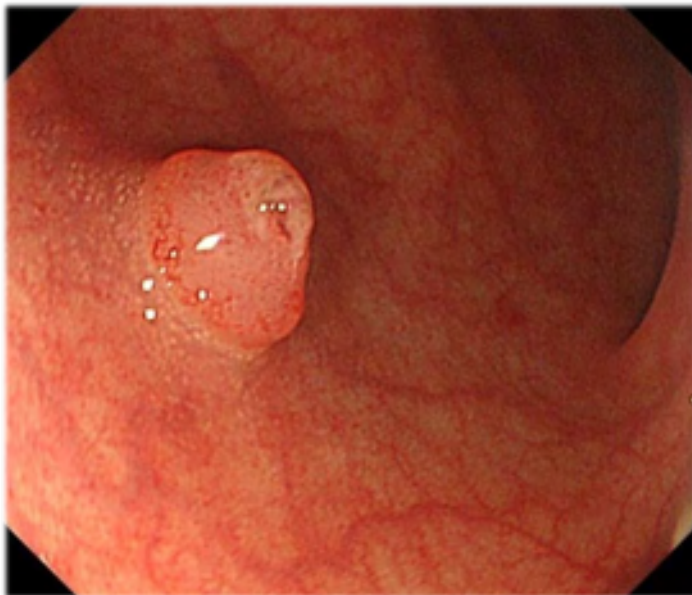
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60 y.o, Female

Location: Sigmoid colon, Size: 5 mm

Conventional White Light





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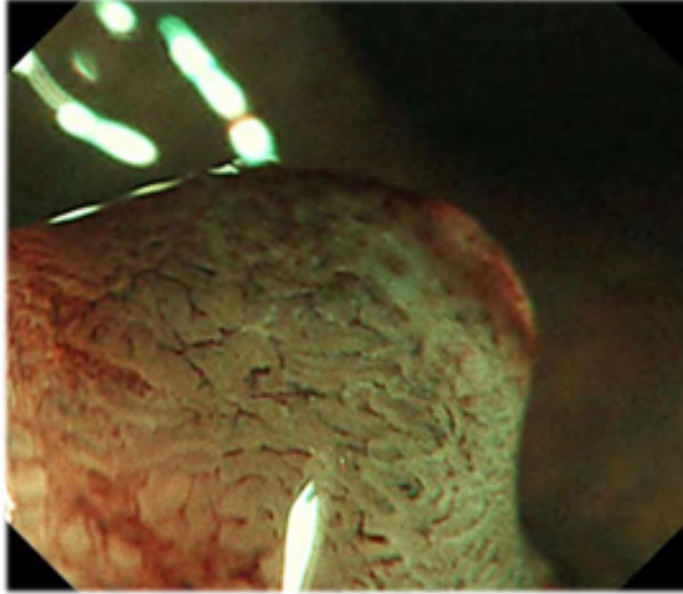
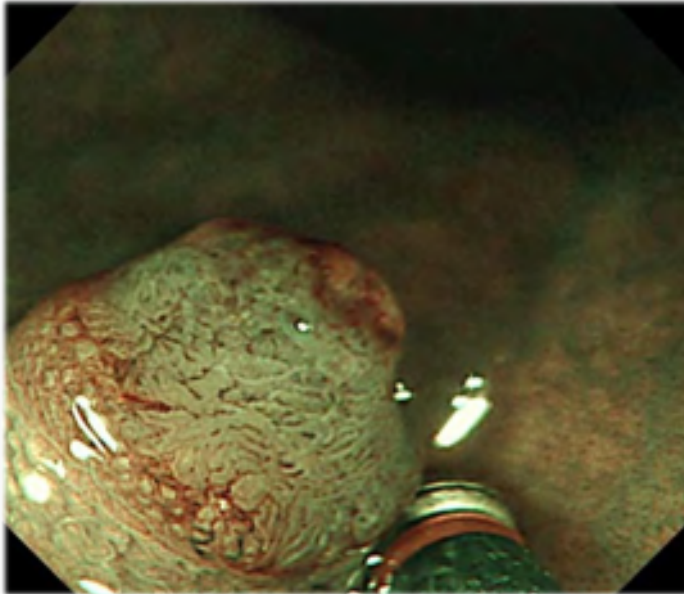
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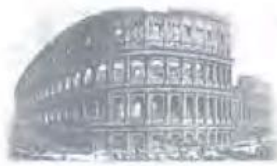
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60 y.o, Female

Narrow Band Imaging (NBI)





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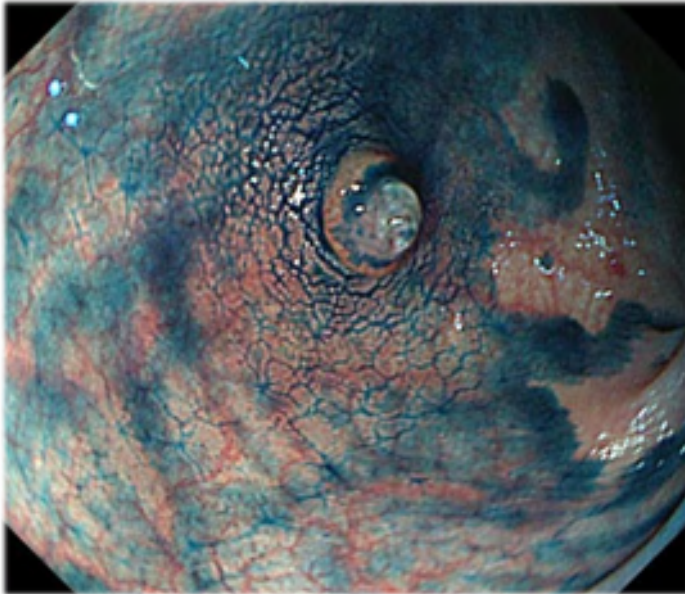
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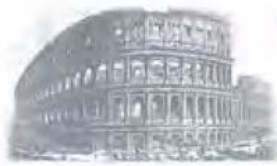
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60 y.o, Female Chromoendoscopy (Indigo carmine dye)





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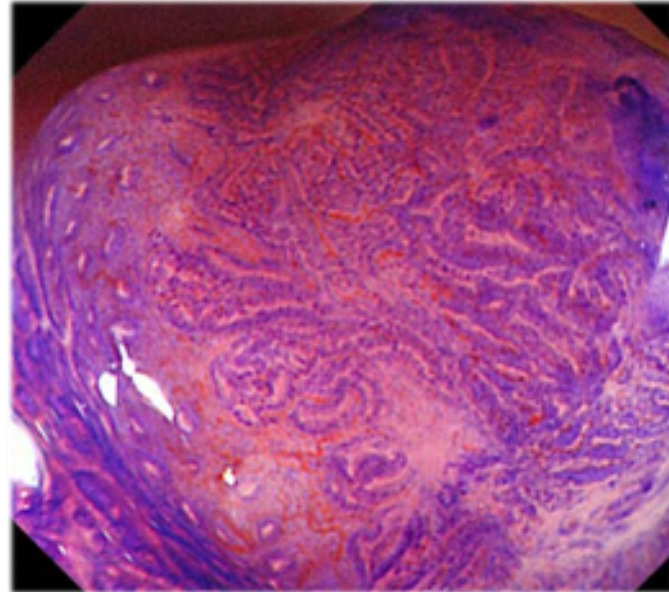
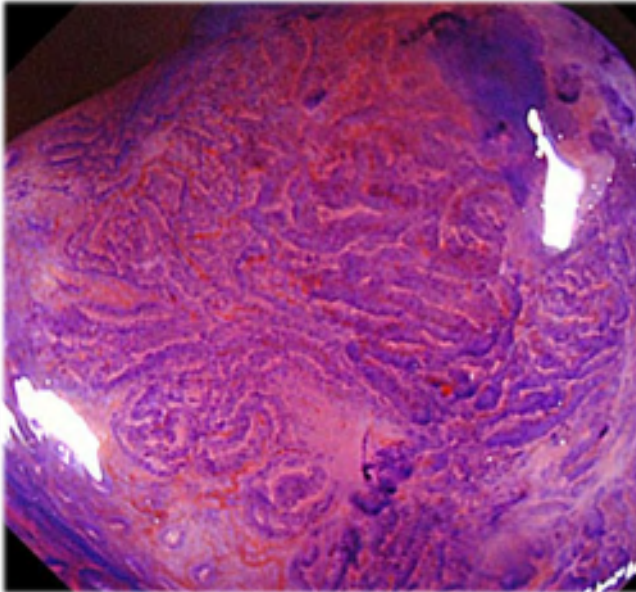
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60 y.o, Female Magnifying Chromoendoscopy (MCE)



0.05% Crystal Violet Staining



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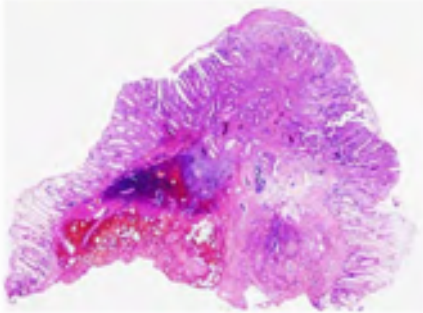
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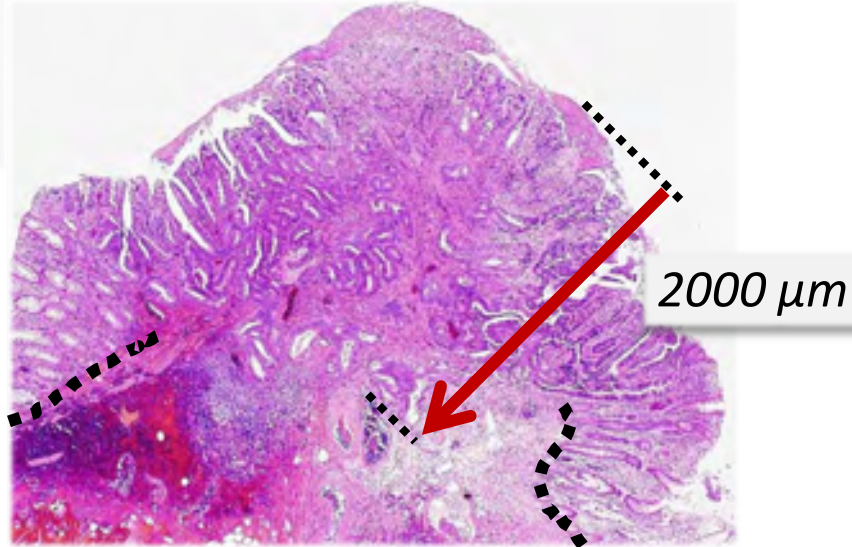
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60 y.o, Female

Histopathological Findings



*EMR: W/D and M/D adenocarcinoma,
SM-deep (2000 μ m), ly (-), v (-), Cut end (-)*





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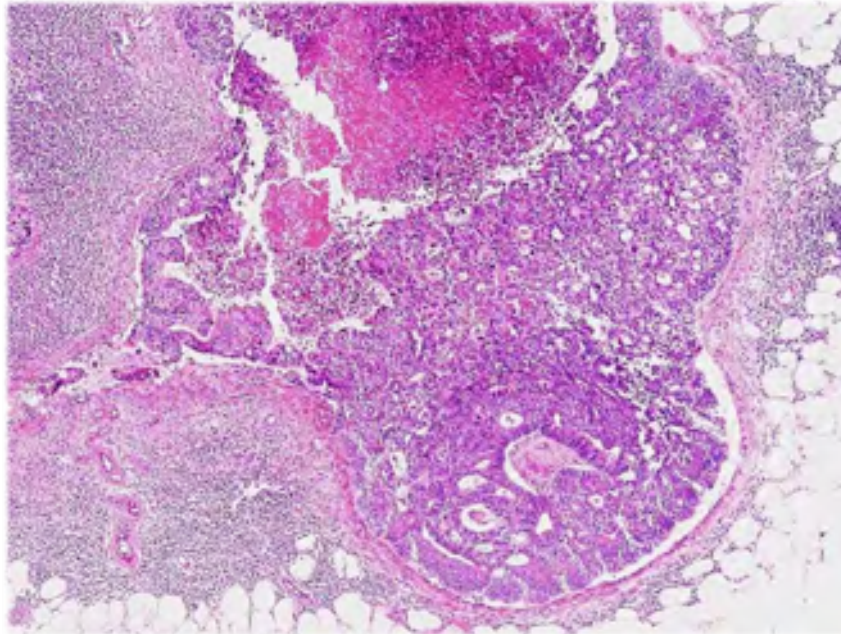
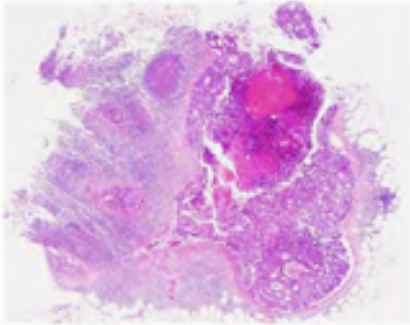
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Fondazione
Eugenio
Caldesola

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60 y.o, Female

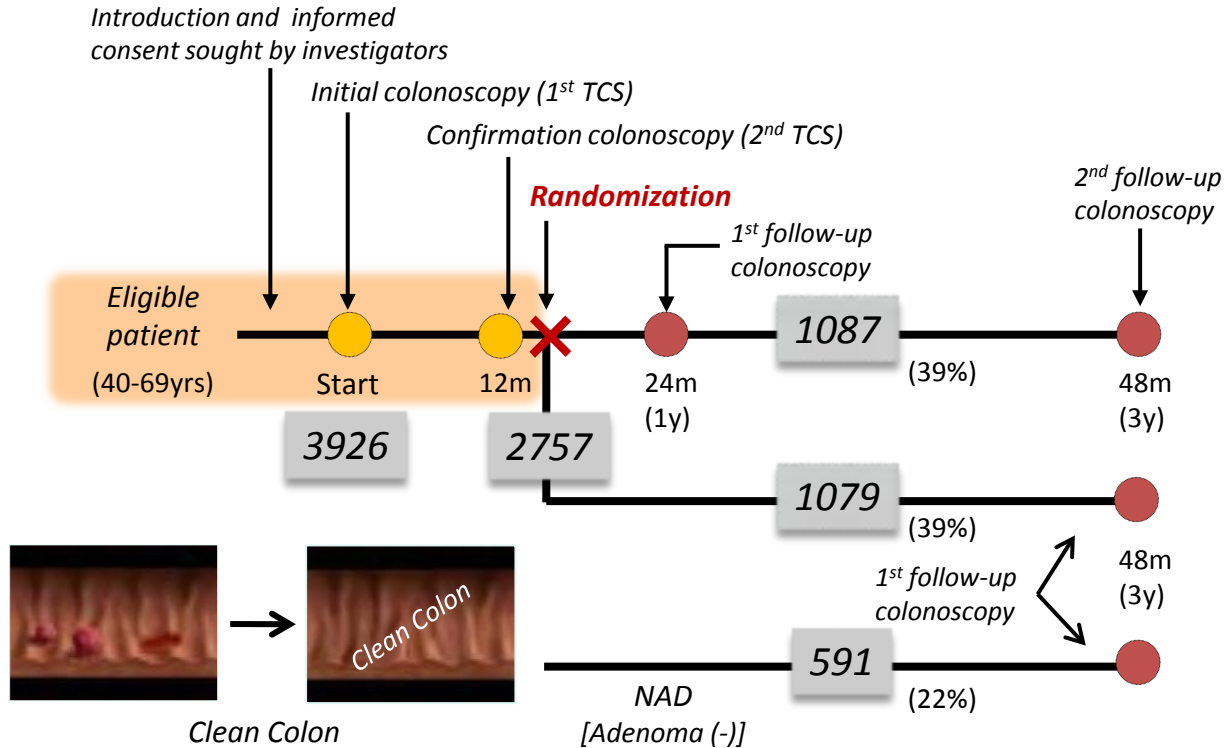
Early Invasive Cancer *with* LNM



*EMR+ additional
surgical operation*
No residual tumor, LNM (+)



Current Status of Japan Polyp Study





First Two Rounds (1st & 2nd-CS)

- Before randomization, we attempted to remove all neoplastic polyps
- We can evaluate the “miss rate” and risk for “**Index lesions (ILs)**” one year after initial “**clean colon**”



Index Lesion (IL)

Adenoma ≥ 10 mm
Intramucosal cancer (HGD)
Invasive cancer



Clinical Features of Identified Lesions

- 2nd Colonoscopy: **Histology** -

2nd colonoscopy: 2787 Pts



No. of detected **“Neoplastic”** lesions: **1551** (981 Pts)

Although, we attempted to remove all neoplastic lesions...

Pts with neoplastic lesions: **35%**

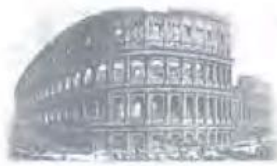


<i>Histology</i>	<i>Number (%)</i>
Adenoma (LGD)	1525 (98.3%)
Serrated adenoma	9 (0.6%)
Intramucosal cancer (HGD)	12 (0.8%)
Submucosal invasive cancer	3 (0.2%)
Advanced cancer	1 (0.06%)
Carcinoid tumor	1 (0.06%)

Pts with “Invasive cancer”



4/2787 (0.14%)



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CASE (JPS #3270)



Initial colonoscopy (1st CS)



10 months



Confirmation colonoscopy (2nd CS)


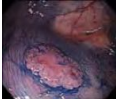
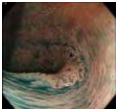


Clinical Features of Identified Lesions - 2nd Colonoscopy: **Size & Index lesions** -

2nd colonoscopy: 2787 Pts



No. of detected **"Neoplastic"** lesions: **1551** (981 Pts)

	Size (mm)	Number (%)
	≤ 5	1247 (80.4%)
	6-9	265 (17.1%)
	≥ 10	39 (2.5%)



Pts with neoplastic
lesions: **35%**



Pts with "Index lesions"

46/2787 (1.7%)

% Index lesions/All neoplasms

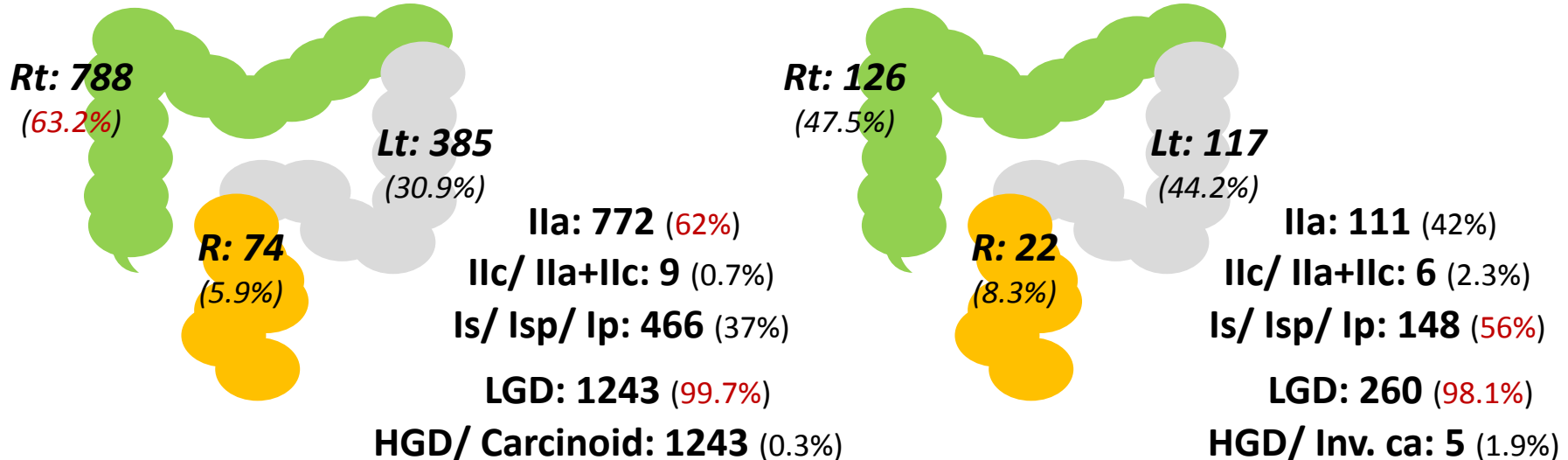
46/1551 (3.0%)

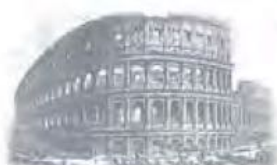


Characteristics of the “Diminutive / small lesions”

Diminutive lesion (≤ 5 mm): n=1247

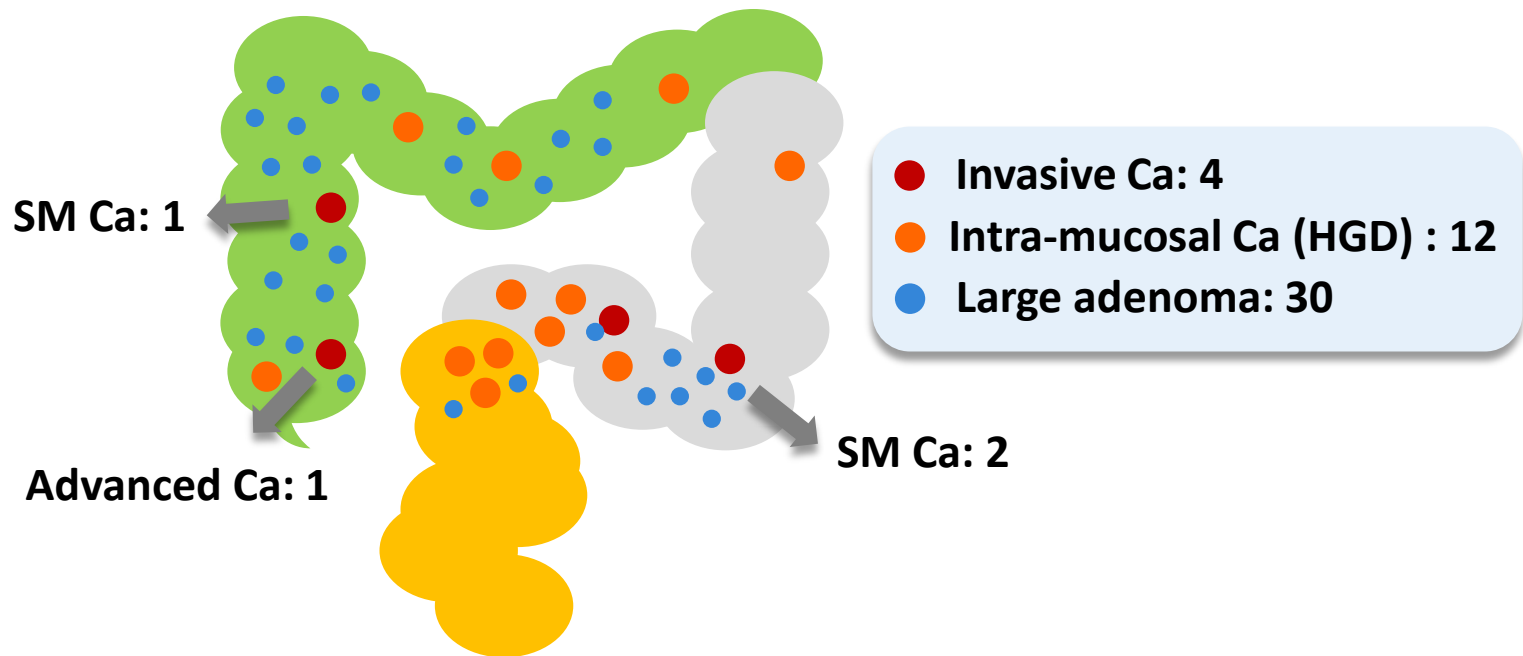
Small lesion (6-9 mm): n=265

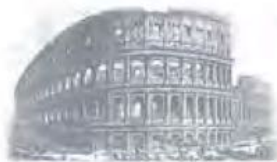




Characteristics of the “Index Lesions”

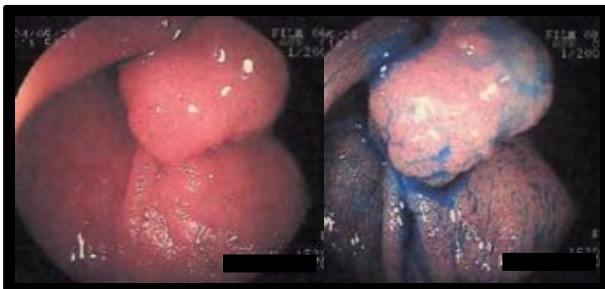
Pts with “Index lesions” after Clean Colon **46/2787 (1.7%)**



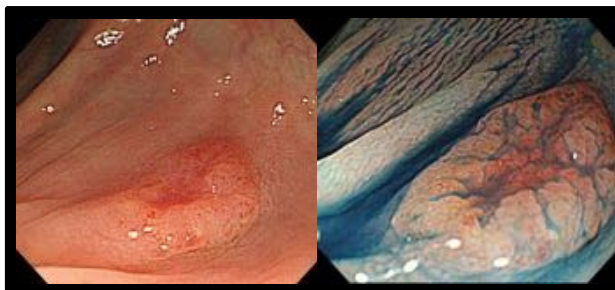


CASE (IL: SM Cancer)

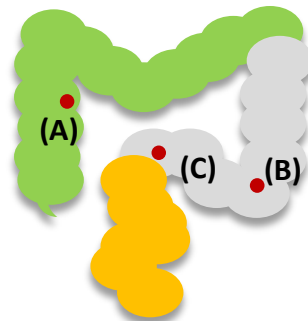
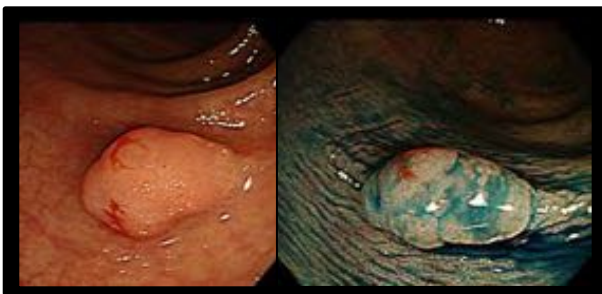
Lesion (A); A/C, 0-Is, 12 mm

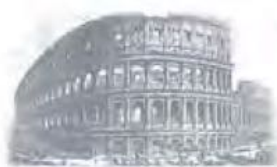


Lesion (B); D/C, 0-IIa+IIc, 8 mm

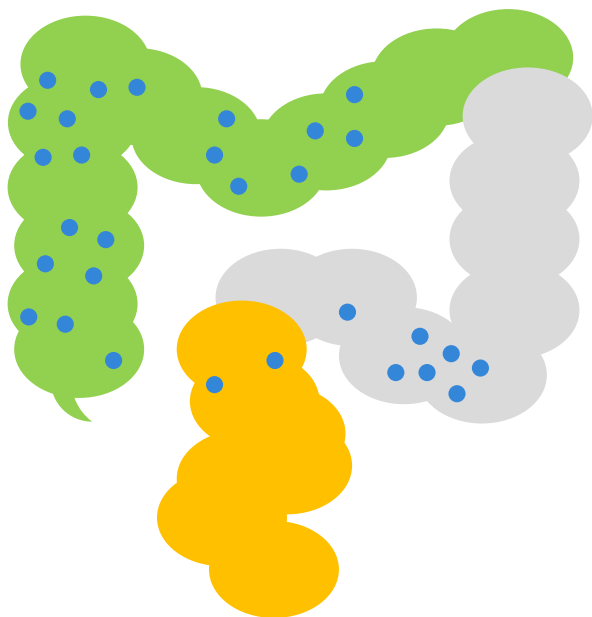


Lesion (C); S/C, 0-Is, 9 mm





Characteristics of the “Index Lesions”



- Large adenoma (>10 mm): 30

Rt-Colon: **21**

% Non-polypoid: 67% (14/21)

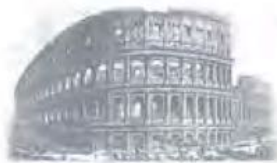
LST-NG*: 9, Is/ Ip: 7, LST-G: 5,

Lt-Colon/ RS: 9

% Non-polypoid: 11% (1/9)

Is/ Ip: 8, LST-NG*: 1

* LST: laterally spreading tumor, LST-NG: non-granular, LST-G: granular type



VIII CONGRESSO NAZIONALE GISCoR

WORKSHOP SCREENING CCR REGIONE LAZIO

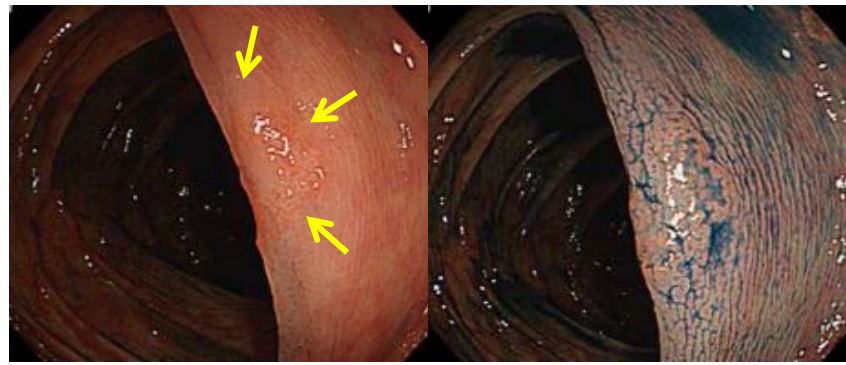
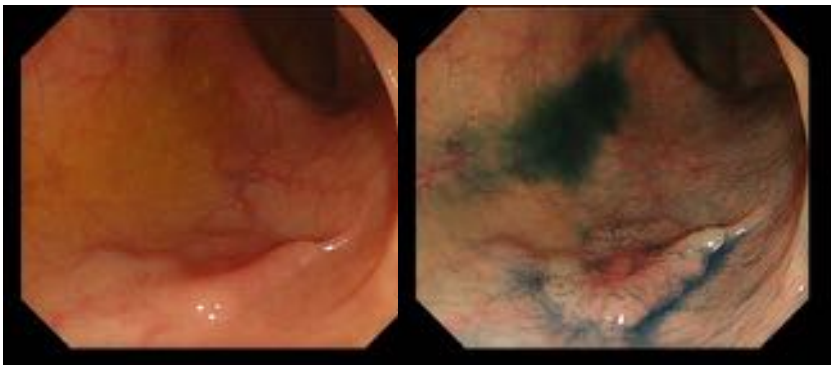
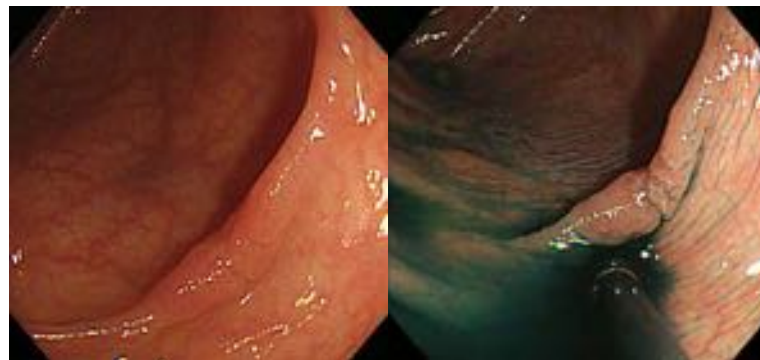
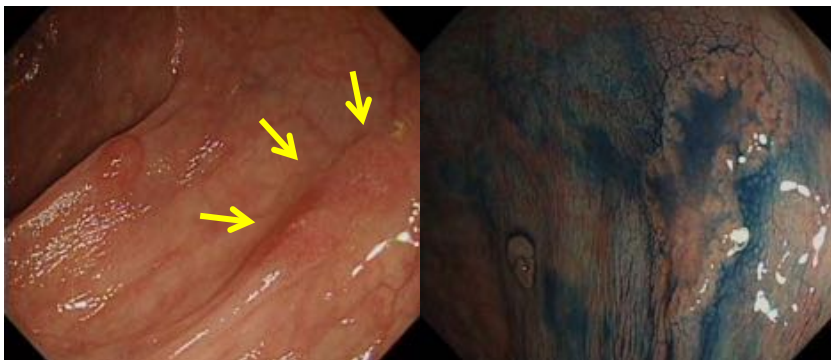
GISCoR
Gruppo
Fisiologia
Eziologia
Colorettale

ROMA, 3 E 4 OTTOBRE 2013

Auditorium Antonianum, Viale Manzoni 1



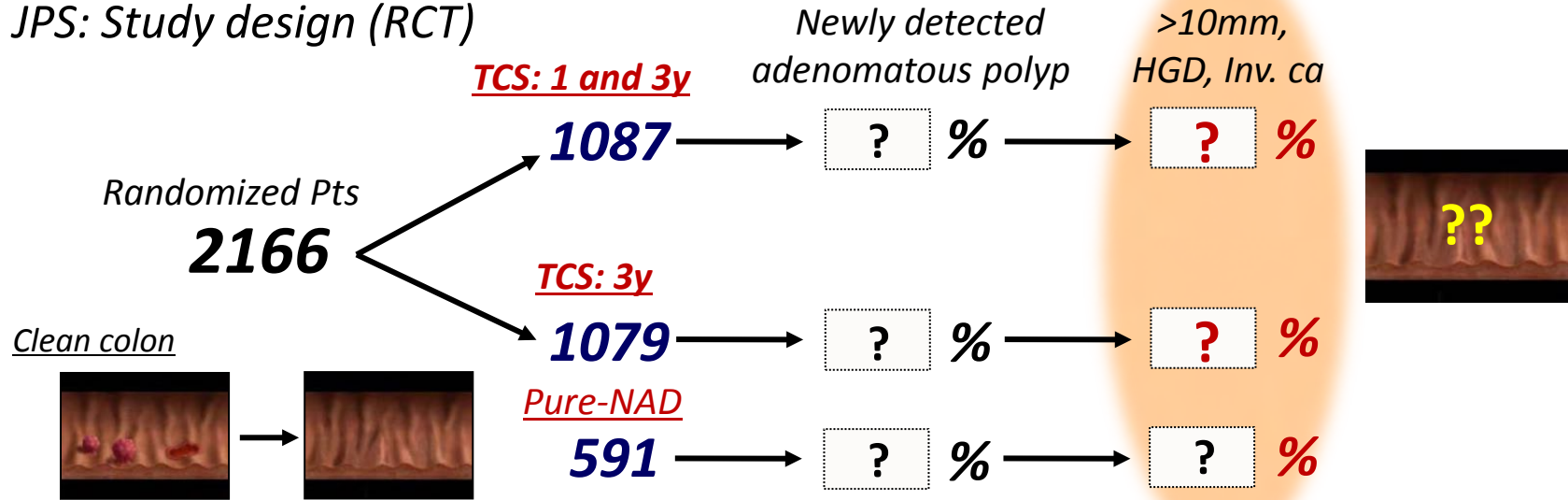
Cases: Flat lesions (LST-NG)





Japan Polyp Study (JPS)

JPS: Study design (RCT)





Summary

- ✓ *Incidence of all neoplastic lesions after clean colon (2nd-TCS) was still high (35%)*
- ✓ *Low rate of advanced histology*
- ✓ *To reduce the "interval cancers", early detection for the "**right-sided large flat lesions**" may hold an important role*
- ✓ ***Resect & discard strategy** might be acceptable as a treatment of each diminutive and small polyps, but it could lead to inadequate recommendation for colonoscopic surveillance after polypectomy unless "detailed and accurate" endoscopic diagnosis*



***Japan Polyp Study Workgroup
- Since 2000***

Group Meeting – Dec 3, 2010

Thank you for your kind attention!

*Japan Polyp Study Workgroup
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National Cancer Center Hospital
Endoscopy Division*