45° CURSO DE AVANCES EN GASTROENTEROLOGÍA

"BUENAS PRÁCTICAS EN GASTROENTEROLOGÍA"

23-25 de Julio 2025

HOTEL
INTERCONTINENTAL SANTIAGO
AV. VITACURA 2885, LAS CONDES

SOCIEDAD INTERAMERICANA DE ENDOSCOPIA DIGESTIVA
SIED
Uniendo la Endoscopía de las Américas

SOU+
SANTA CASA DE CARIDADE DE BAGÉ

IMAGEN AVANZADA EN LESIONES COLORRECTALES

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Director del Comité de IA de la SIED
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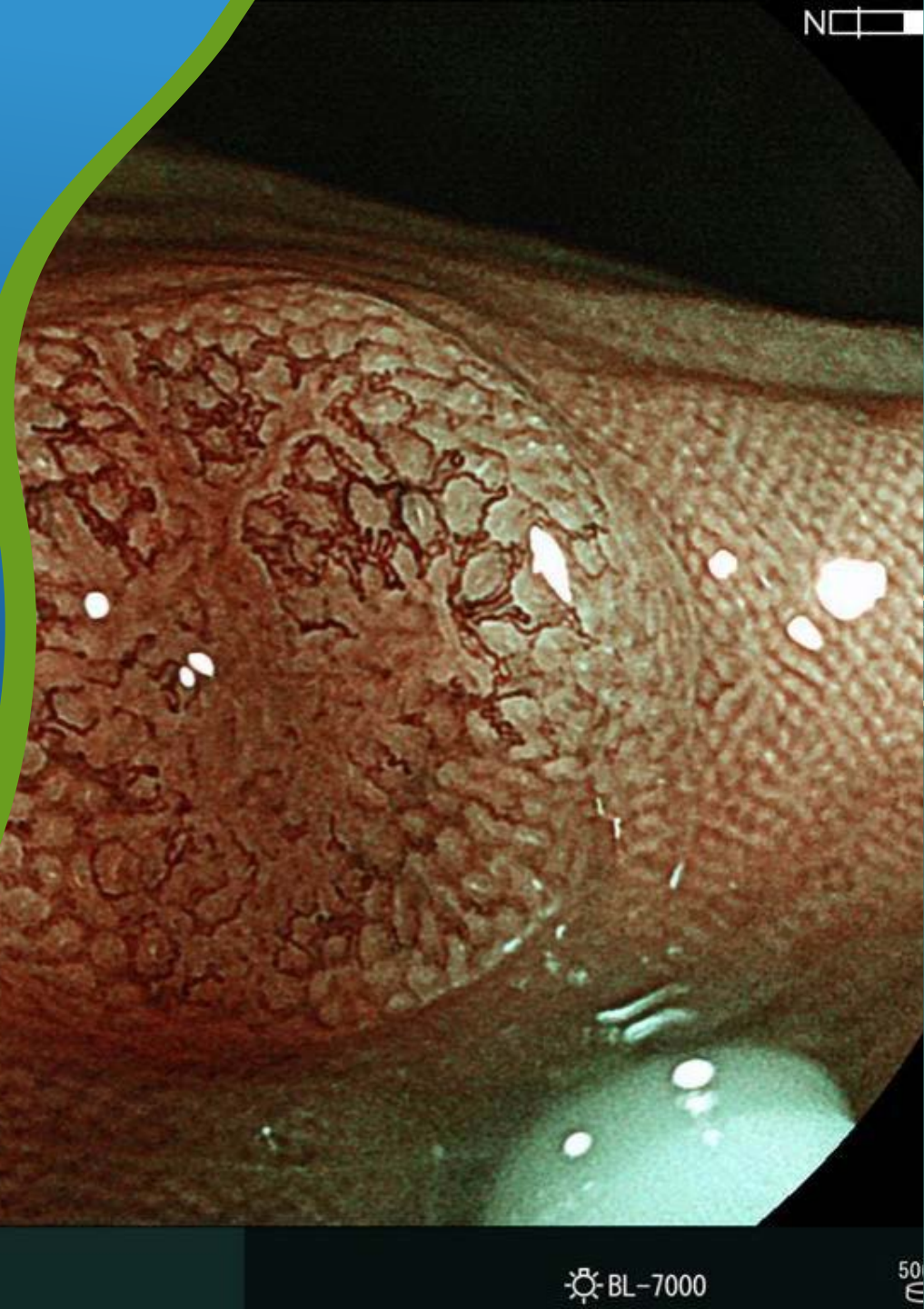
Santa Casa de Bagé, Brasil



Speaker y consultor de la Fujifilm Co

IMAGEN AVANZADA

- Fácil y rápida
- Simple toque el botón del colonoscopio
- Sin la necesidad de colorantes
- Elaborada para la microvasculatura capilar
- Puede evaluar el patrón de superficie (pit-like structure)

Advanced endoscopic imaging: European Society of Gastrointestinal Endoscopy (ESGE) Technology Review

Authors
James E. East[1], Jasper L. Vleugels[2], Philip Roelandt[3], Pradeep Bhandari[4], Raf Bisschops[5], Evelien Dekker[2], Cesare Hassan[3], Gareth Horgan[6], Ralf Kiesslich[7], Gaius Longcroft-Wheaton[4], Ana Wilson[8], Jean-Marc Dumonceau[9]

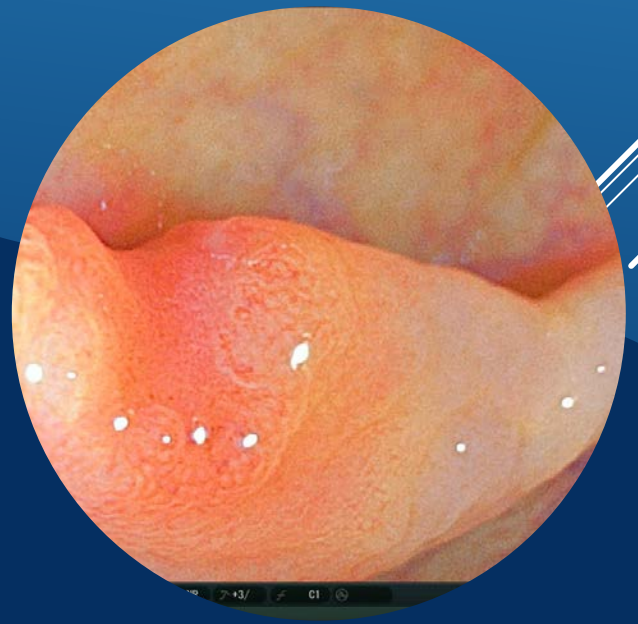
Advanced imaging for detection and differentiation of colorectal neoplasia: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2019

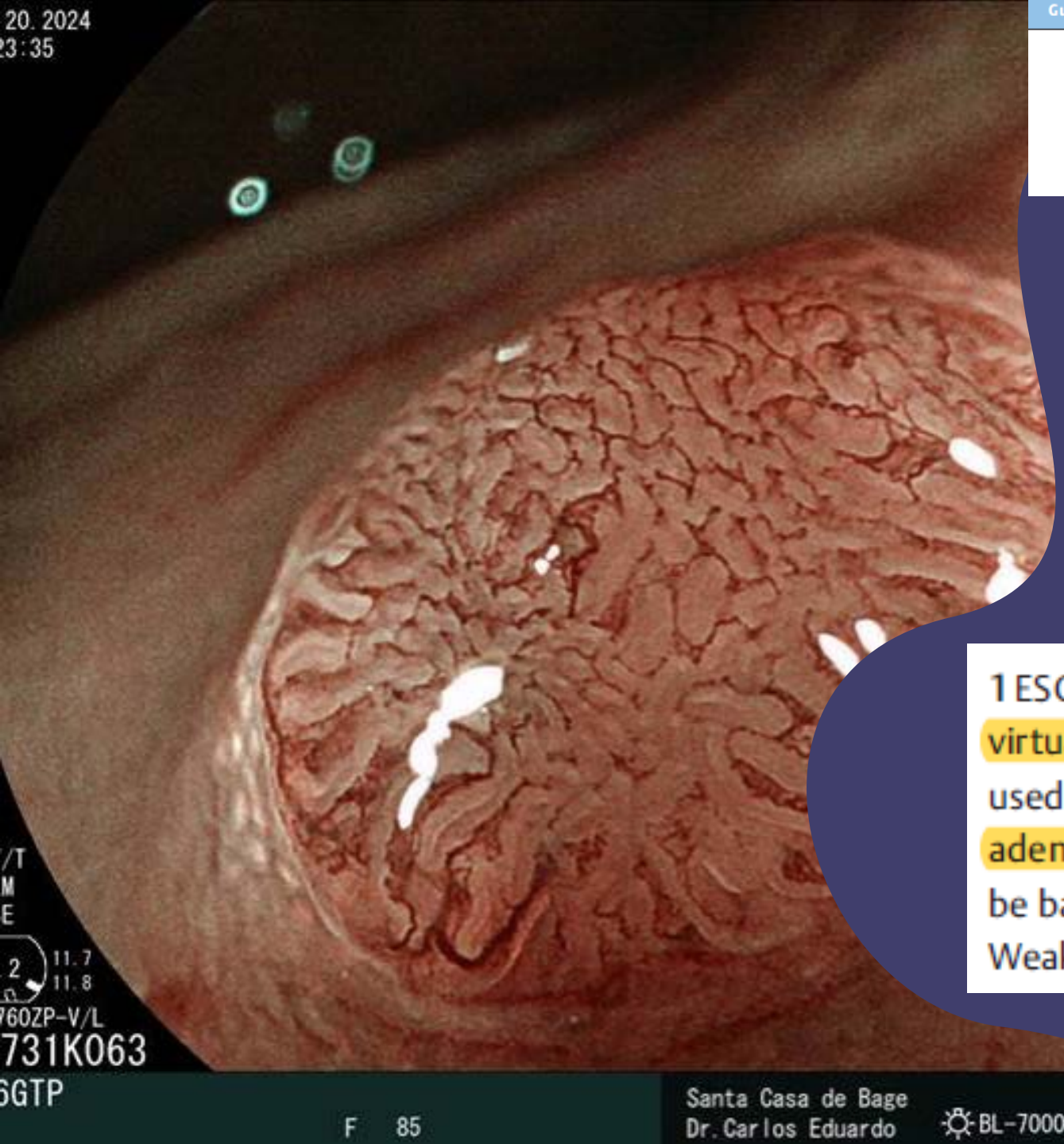
Authors
Raf Bisschops[1], James E. East[2,3], Cesare Hassan[4], Yark Hazewinkel[5], Michał F. Kamiński[6,7,8], Helmut Neumann[9], Maria Pellisé[10,11], Giulio Antonelli[12], Marco Bustamante Balen[13,14], Emmanuel Coron[15], Georges Cortas[16], Marietta Iacucci[17], Mori Yuichi[18], Gaius Longcroft-Wheaton[19], Serguei Mouzyka[24], Nastazja Pilonis[20,21], Ignasi Puig[22,23], Jeanin E. van Hooft[5], Evelien Dekker[5]

Table 1 Advanced endoscopic imaging: equipment and manufacturers.

Technique	Company	Name	Geographic distribution	Components
Narrow band imaging (NBI)	Olympus	Lucera Spectrum/ Lucera Elite	Japan, UK	Video System Center (CV-260SL; Spectrum) (CV-290; Elite)
		Exera II/ Exera III	Rest of the world	Video system center, CV 180 (Exera II); CV190 (Exera III)
Flexible spectral imaging color enhancement (FICE) (also Fujinon Intelligent Chromo Endoscopy)	Fujifilm	EPX-4400 system	Worldwide	XL-4400 light source; VP-4400 HD processor
i-Scan digital contrast (I-SCAN)	Pentax	EPK-i	Worldwide	Combined processor and light source in: EPK-i7000 HD processor (high end, fully adjustable interface) EPK-i5000 HD processor (I-SCAN presets, not custom-adjustable)
Blue laser imaging (BLI)	Fujifilm	Lasereo	Japan, China, South America, Asian-Pacific	Processor VP-4450HD, Laser Light Source LL-4450 and L590 series endoscopes
Autofluorescence imaging (AFI)	Olympus	Lucera Spectrum	Japan, UK	Video System Center (CV-260SL), CFH260 colonoscope AZL
Confocal laser endoscopy (CLE)	Pentax		Worldwide	Pentax ISC-1000 endomicroscopy system; EC3870K endoscope
	Mauna Kea	Cellvizio	Worldwide	Cellvizio 100 series system; GastroFlex and ColoFlex UHD probes

i-SCAN digital contrast (I-SCAN), flexible spectral imaging color enhancement (FICE), blue light imaging (BLI), and linked color imaging (LCI)





Thieme

Advanced imaging for detection and differentiation of colorectal neoplasia: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2019

1 ESGE suggests that high definition endoscopy, and dye or virtual chromoendoscopy, as well as add-on devices, can be used in average risk patients to increase the endoscopist's adenoma detection rate. However, their routine use must be balanced against costs and practical considerations. Weak recommendation, high quality evidence.

Advanced imaging for detection and differentiation of colorectal neoplasia: European Society of Gastrointestinal Endoscopy (ESGE) Guideline – Update 2019

19:52 ✓

[181] dos Santos C, Perez H, Mönkemüller K et al. Observer agreement for diagnosis of colorectal lesions with analysis of the vascular pattern by image-enhanced endoscopy. Endosc Int Open 2015; 3: E240–245 Epub 2015 Apr 14

19:53 ✓

[186] Dos Santos CEO, Malaman D, Yoshida N et al. Blue laser imaging: a new image-enhanced endoscopy for the diagnosis of colorectal lesions. Eur J Gastroenterol Hepatol 2018; 30: 1514–1520

19:53 ✓

[167] Dos Santos CEO, Lima JCP, Lopes CV et al. Computerized virtual chromoendoscopy versus indigo carmine chromoendoscopy combined with magnification for diagnosis of small colorectal lesions: A randomized and prospective study. Eur J Gastroenterol Hepatol 2010; 11: 1364–1371

19:53 ✓

[169] dos Santos CEO, Malaman D, Lopes CV et al. Digital chromoendoscopy for diagnosis of diminutive colorectal lesions. Diagn Ther Endosc 2012; 2012: 279521 Epub 2012 Oct 3

19:53 ✓

IMAGEN AVANZADA

1. DETECCIÓN
2. CARACTERIZACIÓN

QUALITY INDICATORS FOR GI ENDOSCOPIC PROCEDURES

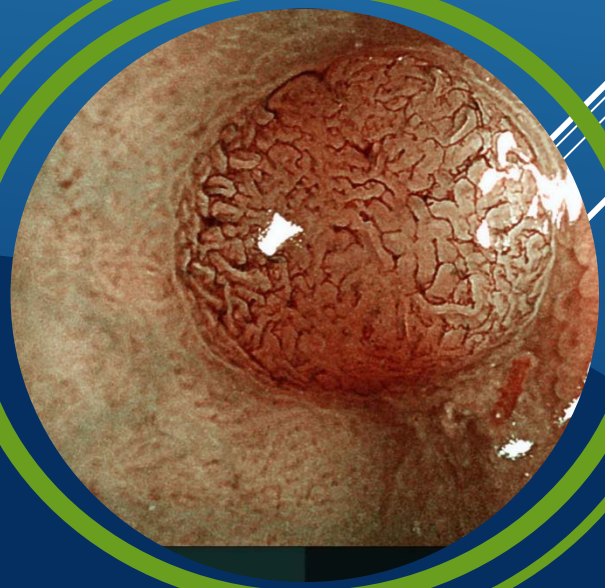
ASGE
American Society for Gastrointestinal Endoscopy

Quality indicators for colonoscopy

Adenoma detection rate (priority indicator).

4. *Percentage of patients aged ≥45 years undergoing colonoscopy for screening, surveillance, or diagnostic indications other than positive noncolonoscopy screening tests (eg, fecal tests or CT colonography) who have 1 or more conventional adenomas detected and verified by pathology. Patients with positive noncolonoscopy screening tests, genetic cancer syndromes (eg, polyposis), IBD, or undergoing colonoscopy for therapy of known neoplasms are excluded from the calculation.*

Strength of recommendation: 1C+
Performance target: ≥35%
Measure type: outcome



QUALITY INDICATORS FOR GI ENDOSCOPIC PROCEDURES

ASGE American Society for Gastrointestinal Endoscopy

Quality indicators for colonoscopy

Check for updates

TABLE 2. Priority quality indicators for colonoscopy

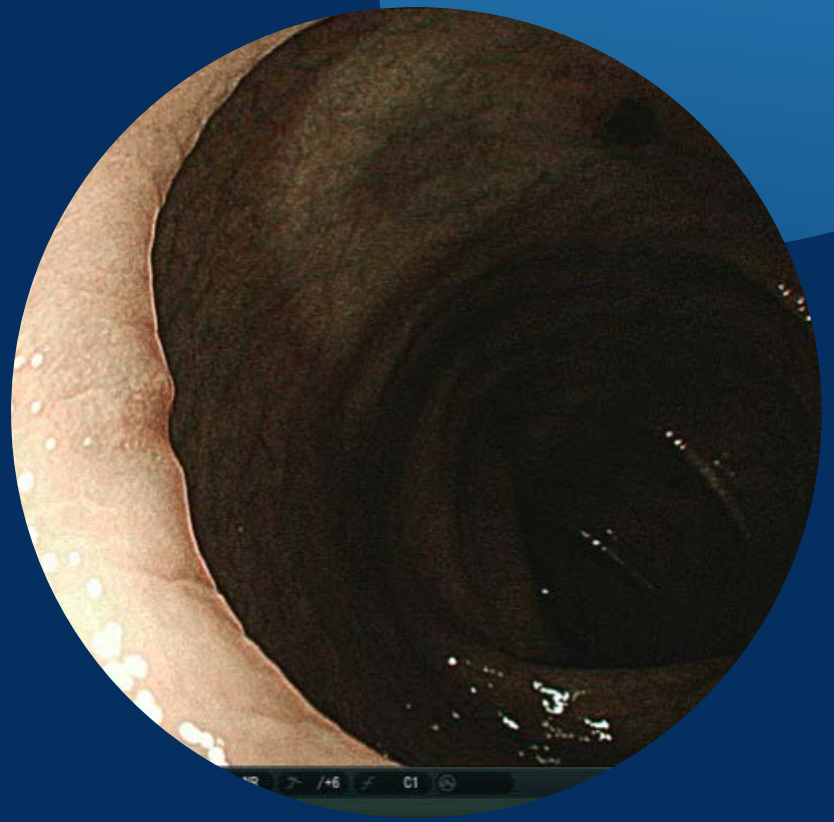
- Adenoma detection rate
- Sessile serrated lesion detection rate*
- Rate of using recommended screening and surveillance intervals
- Bowel preparation adequacy rate*
- Cecal intubation rate†

*Designates a new priority indicator.

Strength of recommendation: 2C
Performance target: ≥6%
Measure type: outcome

Magnitude, Risk Factors, and Factors Associated With Adenoma Miss Rate of Tandem Colonoscopy: A Systematic Review and Meta-analysis

Shengbing Zhao,[1,4,5,*] **Shuling Wang**,[1,*] **Peng Pan**,[1,*] **Tian Xia**,[1,4,*] Xin Chang,[1] Xia Yang,[1,3] Liliangzi Guo,[2] Qianqian Meng,[1,4,6] Fan Yang,[1] Wei Qian,[1] Zhichao Xu,[1] Yuanqiong Wang,[1] Zhijie Wang,[1] Lun Gu,[1] Rundong Wang,[1] Fangzhou Jia,[1] Jun Yao,[2] Zhaoshen Li,[1,4,5,6] and Yu Bai[1,4,5]



pathologies, morphologies, and populations. **RESULTS:** In a meta-analysis of 43 publications and more than 15,000 tandem colonoscopies, we calculated miss rates of 26% for adenomas (95% confidence interval [CI] 0.23%–0.30%), 9% for advanced adenomas (95% CI 0.04%–0.16%), and 27% for serrated polyps (95% CI 0.16%–0.40%). Miss rates were high for proximal advanced adenomas (14%; 95% CI 0.05%–0.26%), serrated polyps (27%; 95% CI 0.16%–0.40%), flat adenomas (34%; 95% CI 0.24%–0.45%), and in patients at high risk for colorectal cancer (33%; 95% CI 0.26%–0.41%). Miss rates could be decreased by adequate bowel preparation and auxiliary techniques (P = .06; P = .04, and P = .01, respectively).

Magnitude, Risk Factors, and Factors Associated With Adenoma Miss Rate of Tandem Colonoscopy: A Systematic Review and Meta-analysis

Shengbing Zhao,[1,4,5,*] **Shuling Wang**,[1,*] **Peng Pan**,[1,*] **Tian Xia**,[1,4,*] Xin Chang,[1] Xia Yang,[1,3] Liliangzi Guo,[2] Qianqian Meng,[1,4,6] Fan Yang,[1] Wei Qian,[1] Zhichao Xu,[1] Yuanqiong Wang,[1] Zhijie Wang,[1] Lun Gu,[1] Rundong Wang,[1] Fangzhou Jia,[1] Jun Yao,[2] Zhaoshen Li,[1,4,5,6] and Yu Bai[1,4,5]

- Falha no reconhecimento das lesões
- Exposição inadequada da mucosa
- Má-técnica na retirada do colonoscópio

ORIGINAL ARTICLE

Postcolonoscopy colorectal cancers are preventable: a population-based study

Chantal M C le Clercq,[1,2] Mariëlle W E Bouwens,[1,3] Eveline J A Rondagh,[1,3] C Minke Bakker,[4] Eric T P Keulen,[5] Rogier J de Ridder,[1,3] Bjorn Winkens,[6,7] Ad A M Masclee,[1,3] Silvia Sanduleanu[1,2]

Table 4 Aetiology of postcolonoscopy colorectal cancers (PCCRCs) in relation to location and macroscopic appearance

	Proximal colon			Distal colon		
Aetiology of 147 PCCRCs	Total	Exophytic	Flat	Total	Exophytic	Flat
Inadequate examination/surveillance, 29 (20%)	21 (72%)	14 (67%)	7 (33%)	8 (28%)	4 (50%)	4 (50%)
Incomplete resection, 13 (9%)	3 (23%)	1 (33%)	2 (67%)	10 (77%)	8 (80%)	2 (20%)
Missed lesions*, 85 (58%)	52 (63%)	22 (43%)	29 (57%)	31 (37%)	17 (55%)	14 (45%)
Newly developed cancer, 20 (14%)	11 (55%)	6 (55%)	5 (45%)	9 (45%)	6 (67%)	3 (33%)

Gastroenterology 2017;153:98–105

Increased Rate of Adenoma Detection Associates With Reduced Risk of Colorectal Cancer and Death

Michal F. Kaminski,[1,2,3,4,*] Paulina Wieszczy,[1,2,4,*] Maciej Rupinski,[1,2] Urszula Wojciechowska,[5] Joanna Didkowska,[4] Ewa Kraszewska,[2] Jaroslaw Kobiela,[2,6] Robert Franczyk,[1,2] Maria Rupinska,[1,2] Bartlomiej Kocot,[2] Anna Chaber-Ciopinska,[1,2] Jacek Pachlewski,[1] Marcin Polkowski,[1,2] and Jaroslaw Regula[1,2]

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Adenoma Detection Rate and Risk of Colorectal Cancer and Death

Douglas A. Corley, M.D., Ph.D., Christopher D. Jensen, Ph.D., Amy R. Marks, M.P.H., Wei K. Zhao, M.P.H., Jeffrey K. Lee, M.D., Chyke A. Doubeni, M.D., M.P.H., Ann G. Zauber, Ph.D., Jolanda de Boer, M.B., Bruce H. Fireman, Ph.D., Joanne E. Schottinger, M.D., Virginia P. Quinn, Ph.D., Nirupa R. Ghai, Ph.D., Theodore R. Levin, M.D., and Charles P. Quesenberry, Ph.D.

- 146.860 colonoscopias (2004-2008)
- 219 endoscopistas
- > ADR anual se asoció con reducción del riesgo de CCR de intervalo (p=0.006) y de muerte por CCR (p=0.035)
- > 1% *ADR* puede resultar en una < 3% en el riesgo de cáncer de intervalo y < 5% en la mortalidad.

Improvement in the visibility of colorectal polyps by using blue laser imaging

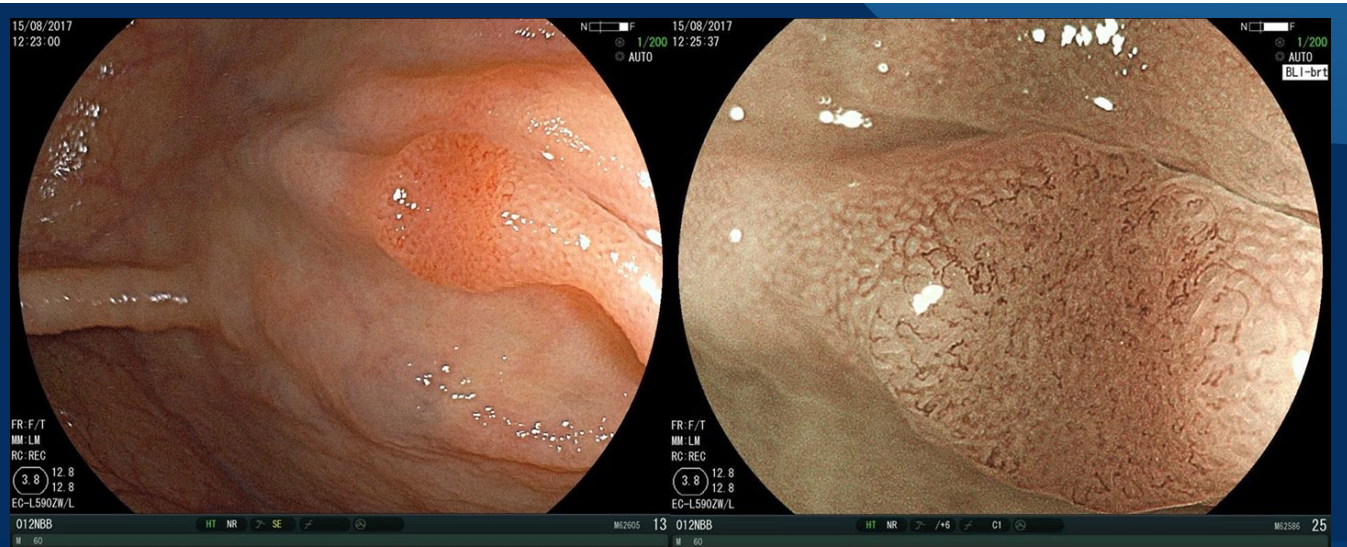
Naohisa Yoshida, MD, PhD,[1] Takashi Hisabe, MD, PhD,[2] Ryohei Hirose, MD,[1] Kiyoshi Ogiso, MD,[1] Yutaka Inada, MD, PhD,[1] Hideyuki Konishi, MD, PhD,[1] Nobuaki Yagi, MD, PhD,[1] Yuji Naito, MD, PhD,[1] Yoshiaki Aomi, MD,[2] Kazeo Ninomiya, MD,[2] Go Ikezono, MD,[2] Masaaki Terasawa, MD,[2] Kenshi Yao, MD, PhD,[2] Toshiyuki Matsui, MD, PhD,[2] Akio Yanagisawa, MD, PhD,[3] Yoshito Itoh, MD, PhD[1]

Kyoto, Fukuoka, Japan

TABLE 2. Mean colorectal polyp visibility scores with WL, BLI bright mode, and BLI mode for experts and nonexperts

	WL	BLI bright mode	BLI	WL vs BLI bright mode, *P* value	WL vs BLI, *P* value
Expert	2.90 ± 1.09	3.10 ± 0.95	3.02 ± 1.03	.00013	NS
Nonexpert	2.78 ± 1.03	3.04 ± 0.94	2.94 ± 1.03	1.5×10^{-9}	.002

WL, White light; *BLI*, blue laser imaging; *NS*, not significant.

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10:38:15
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1/60
AUTO
BLI-brt
FR:F/T
MM:LM
RC:REC
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12.8
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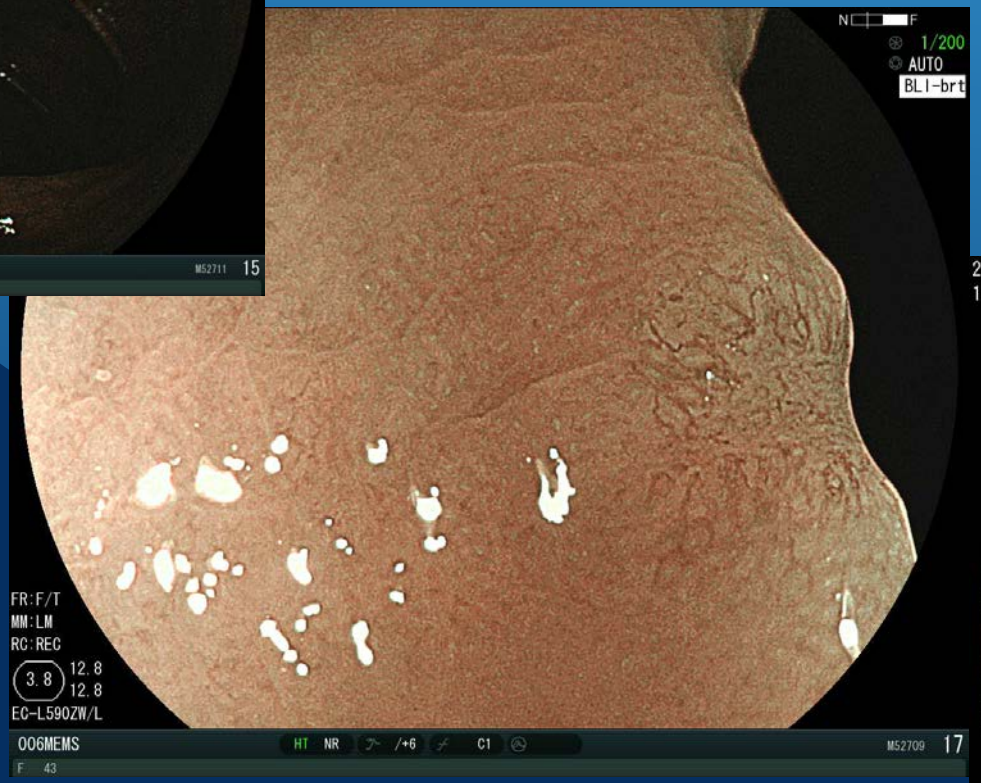
EC-L590ZW/L
006MEMS
HT NR /+6 C1
M52711
15
F 43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EC-L590ZW/L
006MEMS
HT NR /+6 C1
M52709
17
F 43


27/06/2018
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BLI-brt
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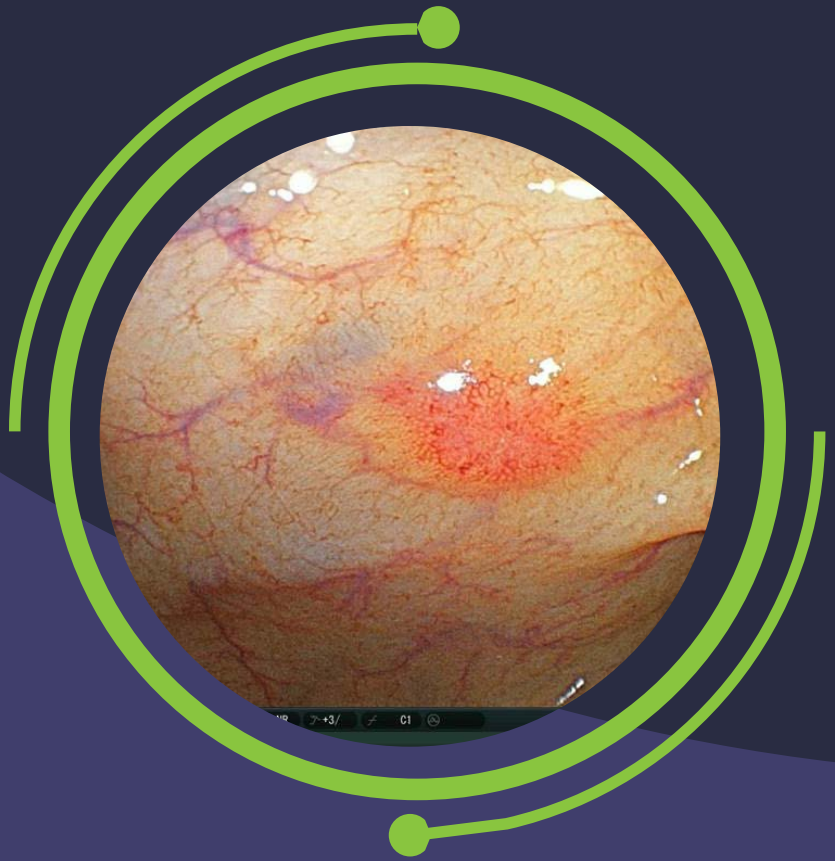


Int J Colorectal Dis
DOI 10.1007/s00384-017-2855-z

ORIGINAL ARTICLE

Linked color imaging improves the visibility of various featured colorectal polyps in an endoscopist's visibility and color difference value

Naohisa Yoshida[1] · Yuji Naito[1] · Ritsu Yasuda[1] · Takaaki Murakami[1] · Ryohei Hirose[1] · Kiyoshi Ogiso[1] · Yutaka Inada[1] · Osamu Dohi[1] · Kazuhiro Kamada[1] · Kazuhiko Uchiyama[1] · Osamu Handa[1] · Hideyuki Konishi[1] · Rafiz Abdul Rani[2] · Mitsuo Kishimoto[3] · Eiichi Konishi[3] · Yoshito Itoh[1]

> visibilidad de pólipos comparado con luz blanca, incluyendo ≤ 5mm, y una mayor diferencia de color (p<0.0001).

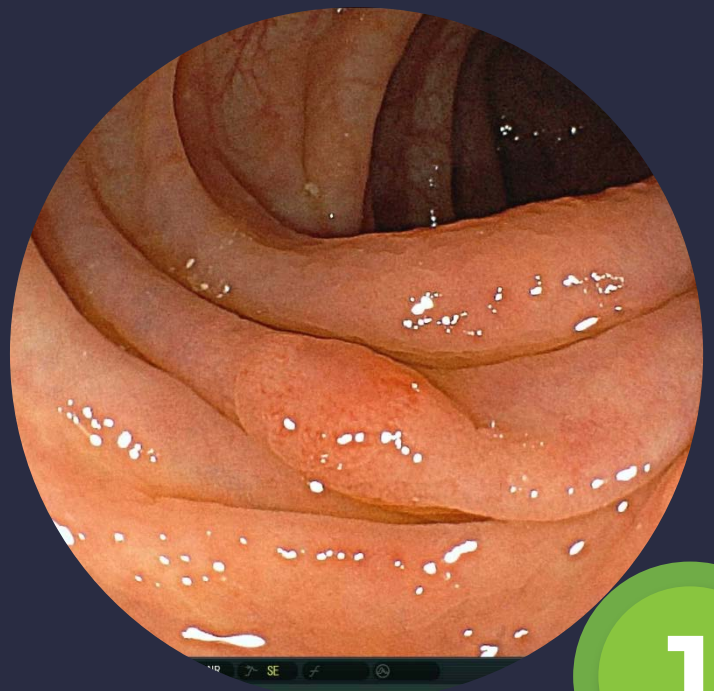
ORIGINAL ARTICLE: Clinical Endoscopy

Impact of linked-color imaging on colorectal adenoma detection

Carlos Eduardo Oliveira dos Santos, MD, MSc,[1] Daniele Malaman, MD,[1] Júlio Carlos Pereira-Lima, MD, PhD,[2] Fernanda de Quadros Onófrio, MD, MSc,[2] Jurandir Marcondes Ribas Filho, MD, PhD[3]

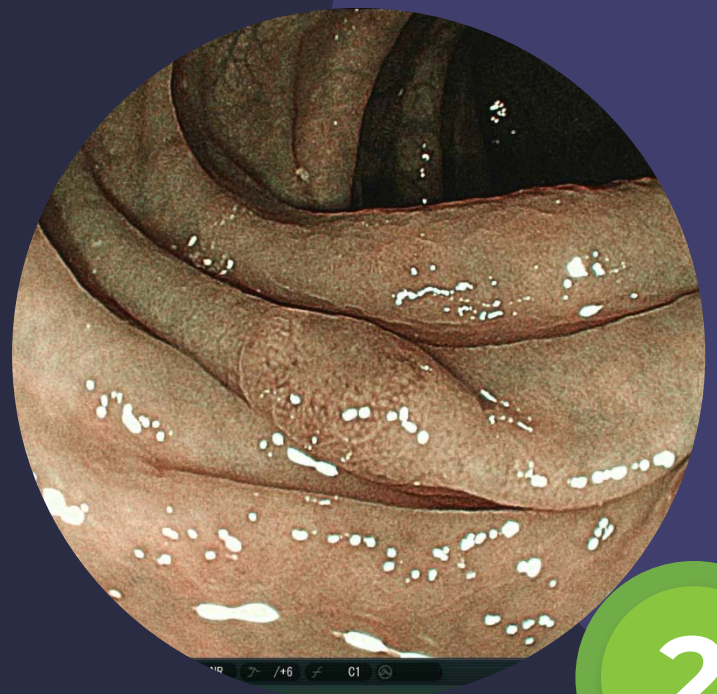
Bagé, Porto Alegre, Curitiba, Brazil

- 379 pacientes y 412 adenomas; ADR global: 51.5%



LUZ BLANCA

1



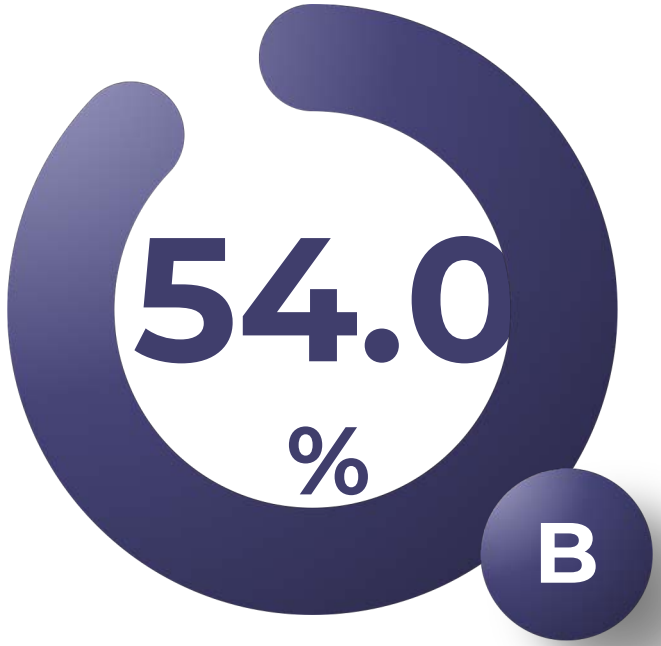
BLI

2

LCI

3

LUZ BLANCA



BLI

LCI

ADR: LB vs LCI, p=0.03

ORIGINAL ARTICLE: Clinical Endoscopy

Impact of linked-color imaging on colorectal adenoma detection

Carlos Eduardo Oliveira dos Santos, MD, MSc,[1] Daniele Malaman, MD,[1] Júlio Carlos Pereira-Lima, MD, PhD,[2] Fernanda de Quadros Onófrio, MD, MSc,[2] Jurandir Marcondes Ribas Filho, MD, PhD[3]

Bagé, Porto Alegre, Curitiba, Brazil

Gastrointest Endosc 2019;90:826-34.

ORIGINAL ARTICLE

Effect of Linked-color Imaging on the Detection of Adenomas in Screening Colonoscopies

Carlos E.O. dos Santos, MD, PhD,† Daniele Malaman, MD,**
Ivan D. Arciniegas Sanmartin, MD, MSc,‡
Fernanda d.Q. Onófrio, MD, MSc,§ and Júlio C. Pereira-Lima, MD, PhD§

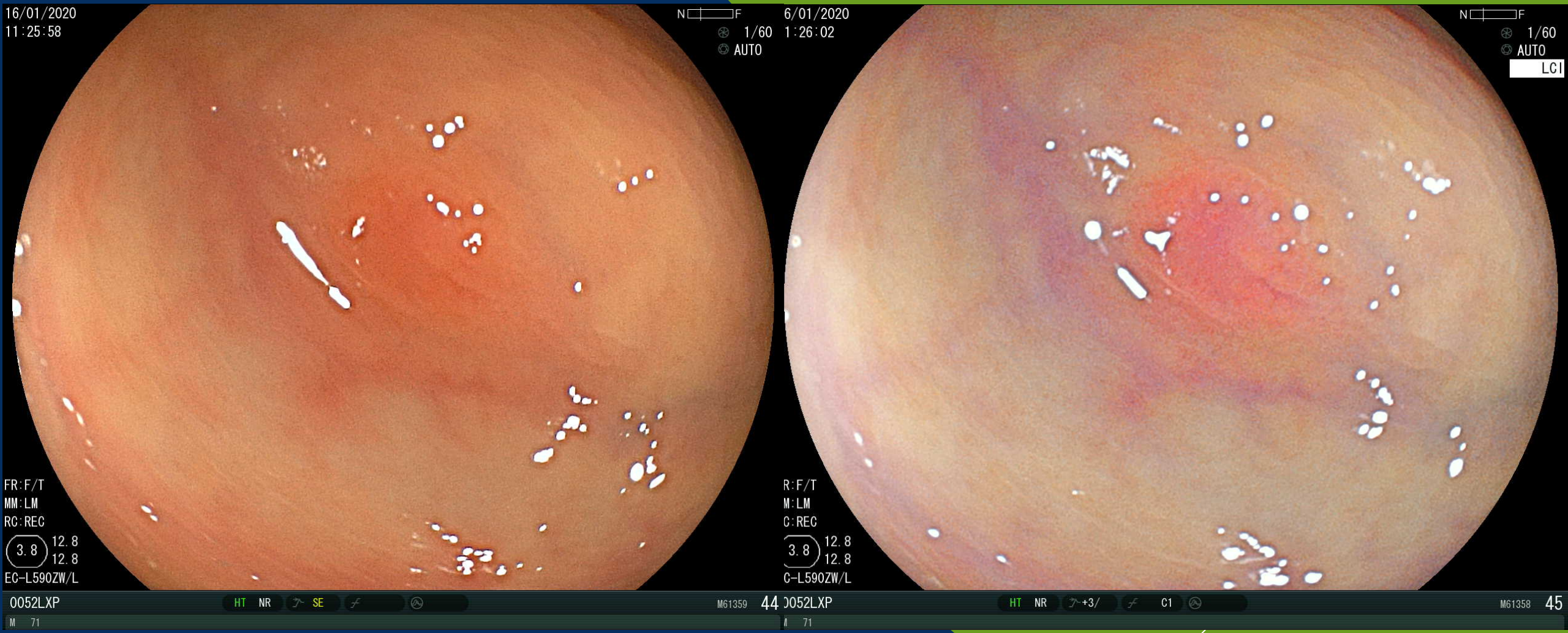
LUZ BLANCA

BLI

LCI

ADR: LB vs LCI, p=0.03

J Clin Gastroenterol. 2021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M 71
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LCI
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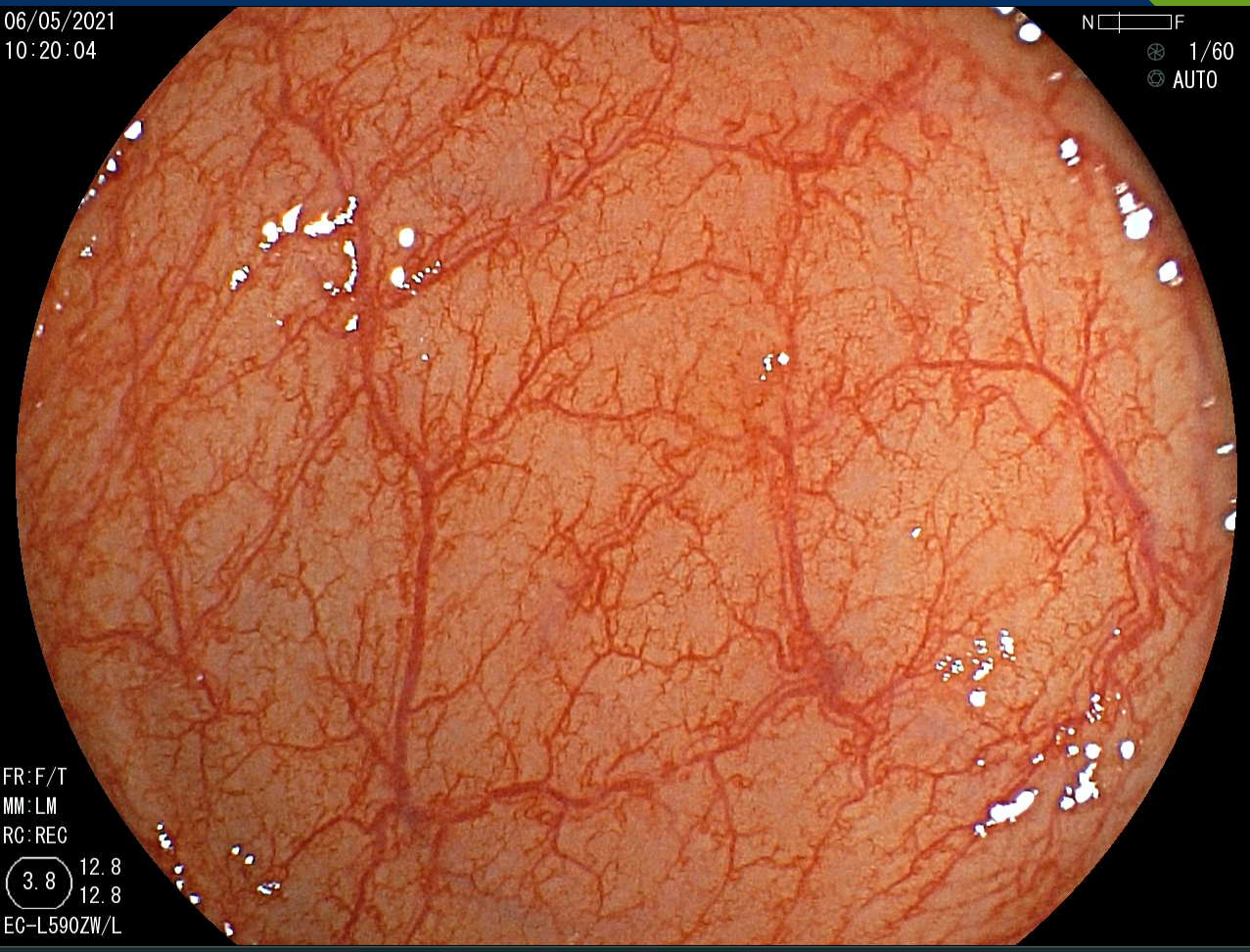
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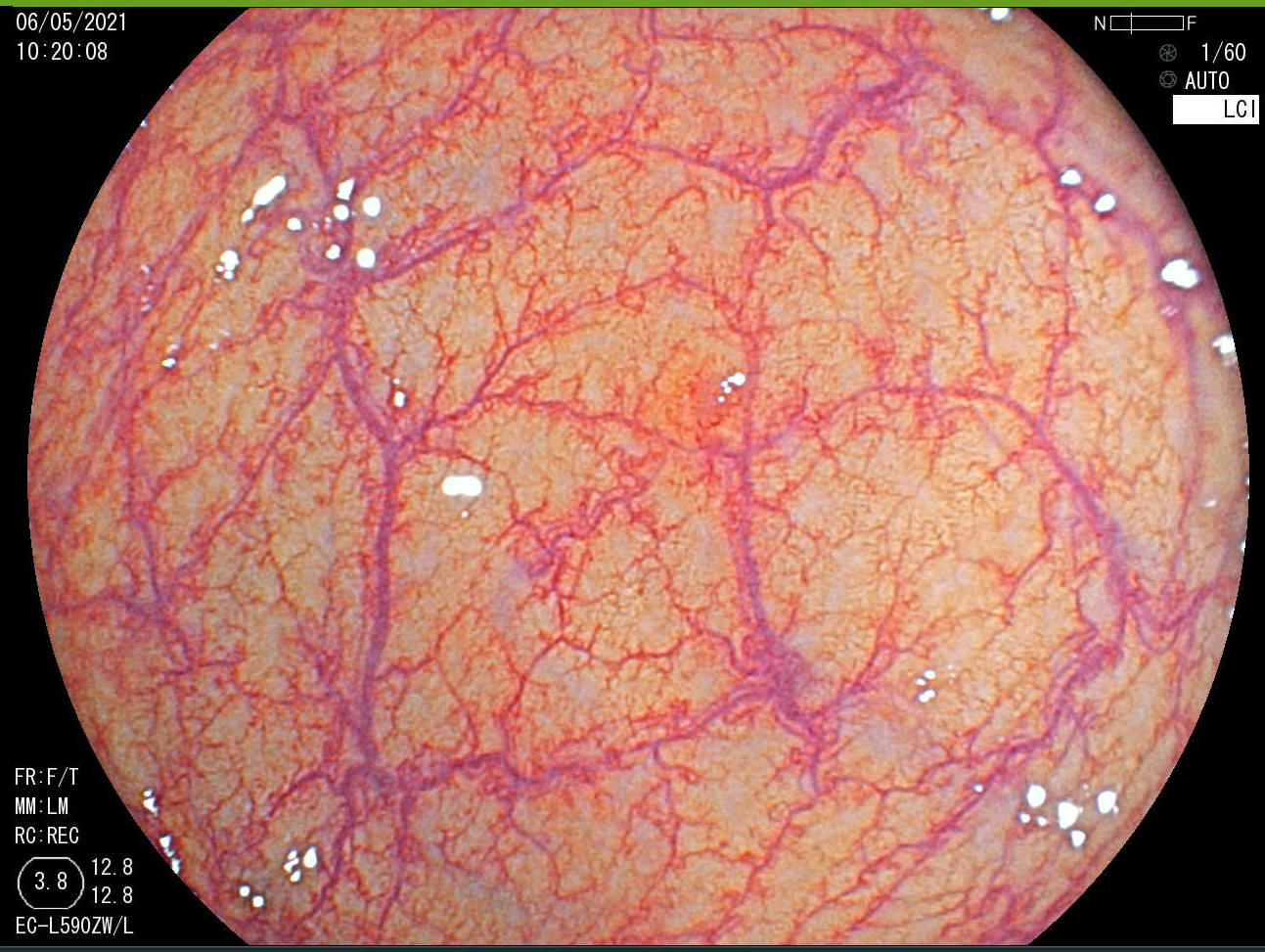
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06/05/2021
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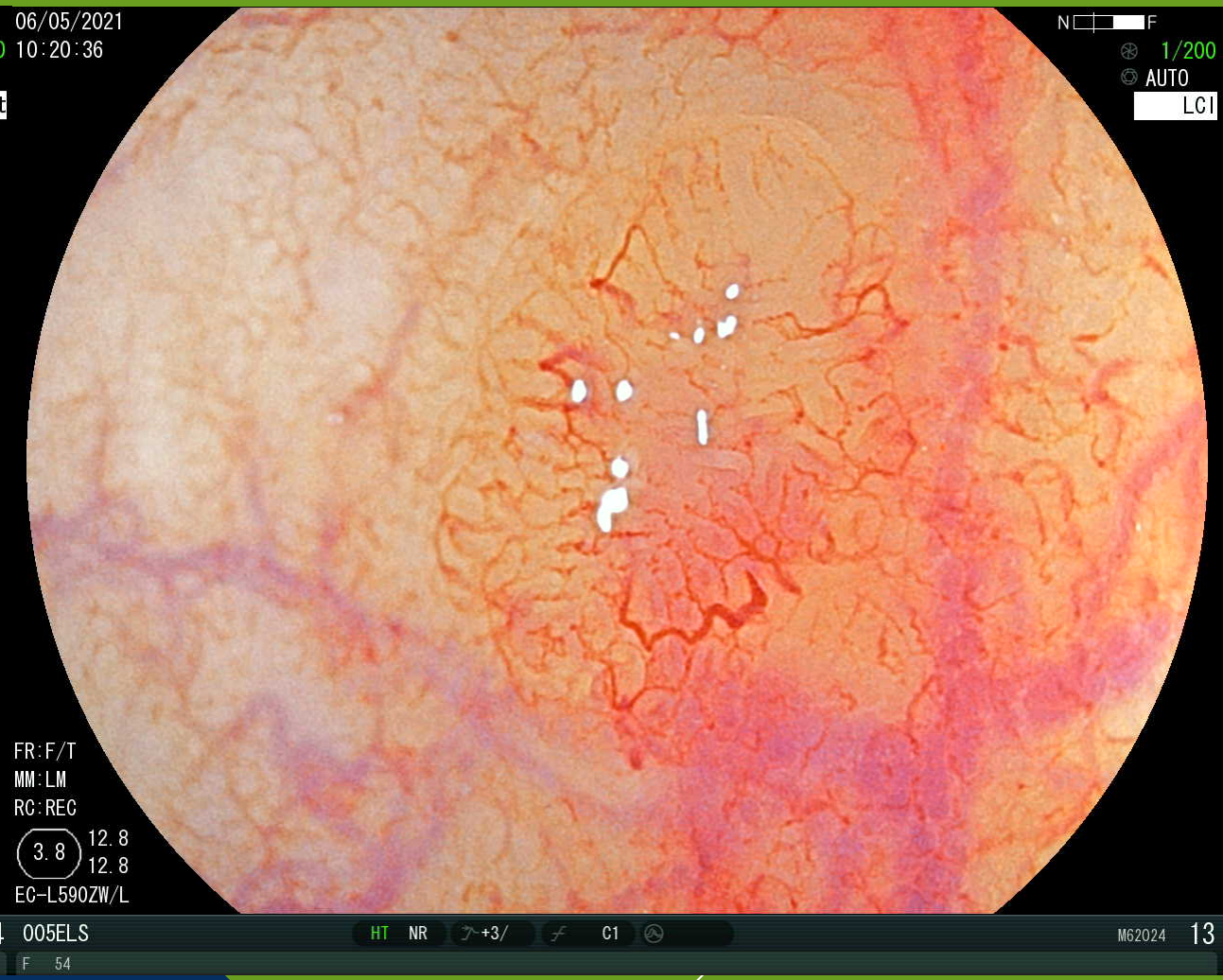
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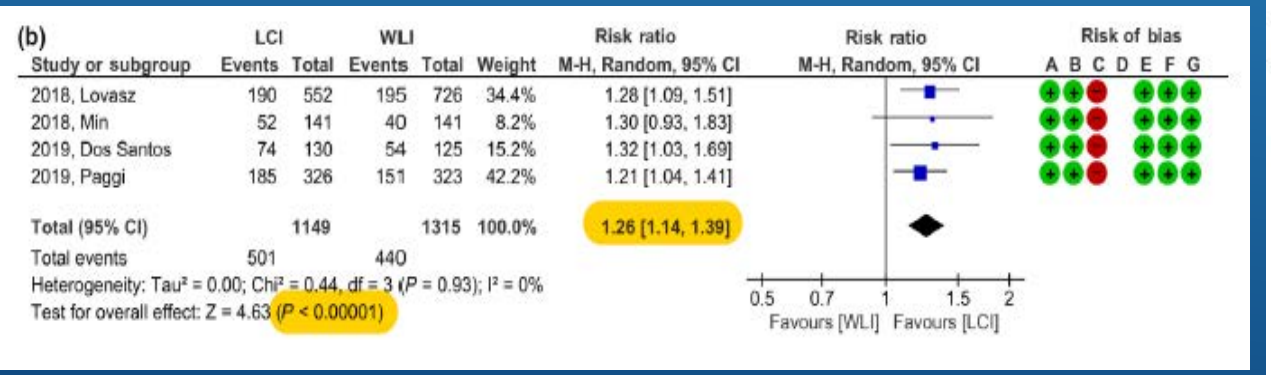
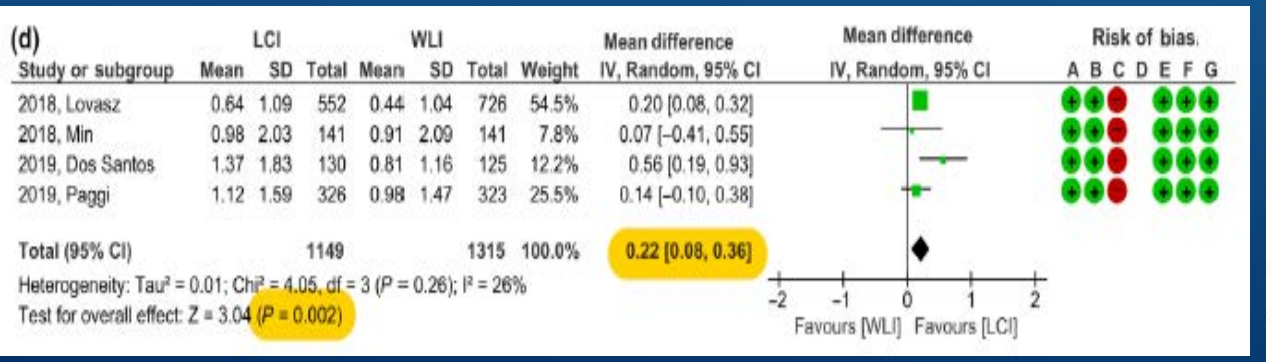
Digestive Endoscopy 2020; ••: ••–•• doi: 10.1111/den.13613

Review

Colon polyp detection using linked color imaging compared to white light imaging: Systematic review and meta-analysis

Satoshi Shinozaki,[1,2] Yasutoshi Kobayashi,[2] Yoshikazu Hayashi,[2] Hirotsugu Sakamoto,[2] Keijiro Sunada,[2] Alan Kawarai Lefor[3] and Hironori Yamamoto[2]





META-ANALYSIS

DOI: http://dx.doi.org/10.15403/jgld-4027

The Effect of Linked Color Imaging for Adenoma Detection. A Meta-analysis of Randomized Controlled Studies

Jun Wang, Chuncui Ye, Kejian Wu, Sujuan Fei

J Gastrointestin Liver Dis, March 2022 Vol. 31 No 1: 67-73

Table II. Outcomes of meta-analysis comparing LCI and WLI

Outcomes	No.	LCI, %	WLI, %	RR (95% CI)	p	I^2, %
ADR	9	51.3 (43-59.6)	43.8 (34.5-53.1)	1.15 (1.07-1.23)	0.0001	34
Size						
≥10mm	2	13.4 (4.4-22.4)	12.1 (4.7-19.4)	1.12 (0.83,1.50)	0.45	0
< 10mm	2	48.8 (44.7-52.9)	42.5 (38.4-46.5)	1.14 (1.01,1.30)	0.04	0
Location						
RDR	3	29.8 (22.4-37.1)	27.4 (24.4-30.4)	1.08 (0.92-1.27)	0.33	14
LDR	2	33 (29.1-36.8)	30.5 (26.7-34.3)	1.08 (0.91-1.28)	0.37	0
PDR	6	67.1 (59.3-74.9)	57.8 (49.1-66.5)	1.15 (1.08-1.22)	<0.0001	23
AADR	4	15.7 (11.3-20.1)	15.3 (11.4-19.2)	1.03 (0.86-1.24)	0.74	0
SDR	3	4 (0.1-7.9)	3.4 (0.2-6.6)	1.21 (0.77-1.90)	0.41	0
AMR	3	12.2 (1.4-23)	24.4 (12.6-36.1)	0.55 (0.37,0.82)	0.004	39
SMR	2	12.3 (0-39.3)	32.9 (5.7-60.2)	0.38 (0.08,1.76)	0.22	43
Cecal intubation rate	3	96.3 (89.9-1)	95.6 (88-1)	1.23 (0.71-2.13)	0.47	0
				MD (95% CI)	p	I^2
MAP	5	-	-	0.18 (0.09-0.28)	0.0002	0

SYSTEMATIC REVIEW AND META-ANALYSIS

2024 October 24 [Epub ahead of print]
https://doi.org/10.5946/ce.2024.072
pISSN: 2234-2400 • eISSN: 2234-2443

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CLINICAL ENDOSCOPY

The impact of linked color imaging on adenoma detection rate in colonoscopy: a systematic review and meta-analysis

Bruna Haueisen Figueiredo Zwetkoff[1], Luiz Ronaldo Alberti[1], Fábio Gontijo Rodrigues[1], Nelson Carvas Junior[2], José Celso Ardengh[3], Otavio Micelli Neto[3], Fernando Rodrigues Guzman[3], Marcelo Morganti Ferreira Dias[3], Guilherme Camarotti de Oliveira Canejo[3], Carlos Eduardo Oliveira dos Santos[4]

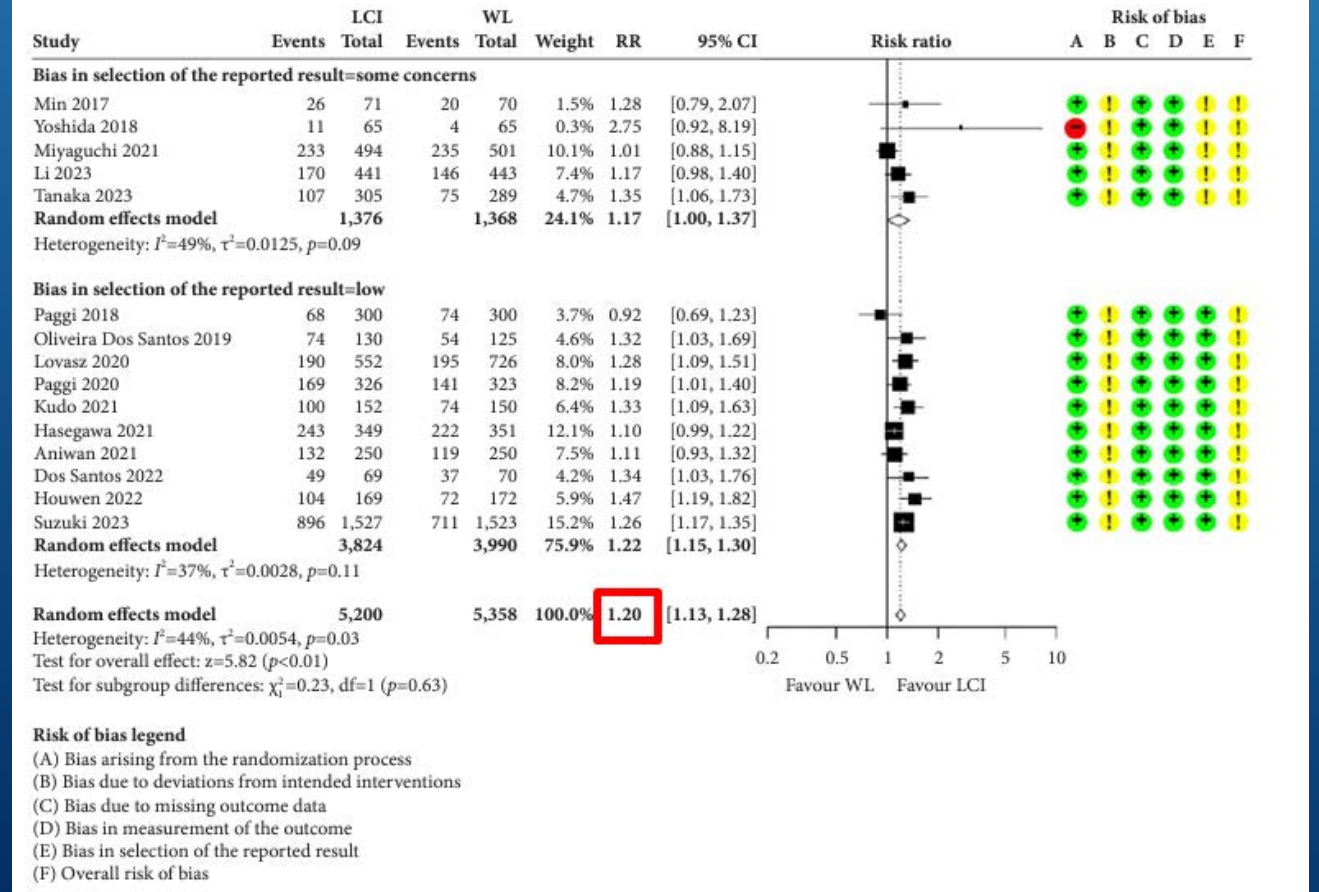


Fig. 2. Quantitative analysis of linked color imaging (LCI) versus white light (WL) for the primary outcome: adenoma detection rate. RR, risk ratio; CI, confidence interval.

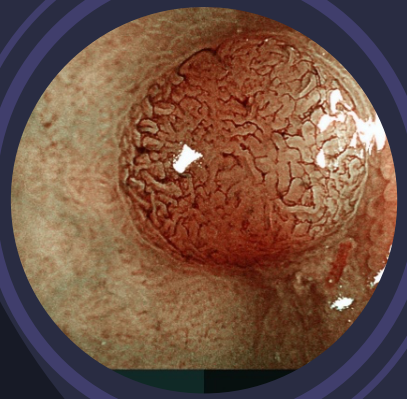
IMAGEN AVANZADA

1. DETECCIÓN

2. CARACTERIZACIÓN

Clasificaciones de imagen avanzada

- SANO
- TEIXEIRA
- SHOWA
- JIKEI
- HIROSHIMA
- BASIC
- NICE
- JNET



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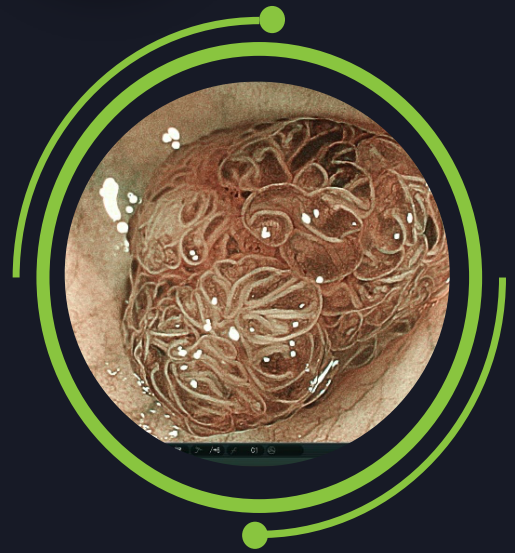
SANO



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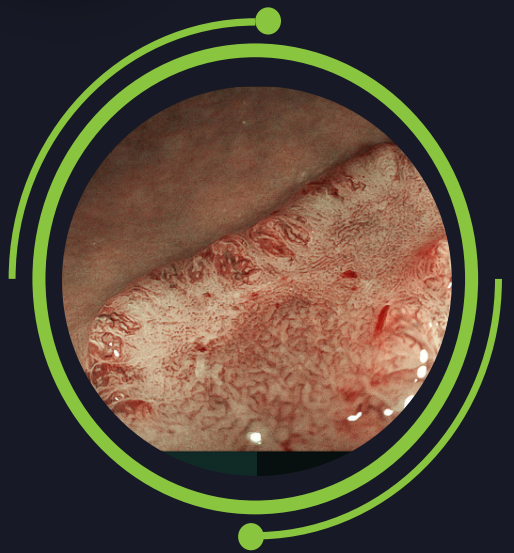
SHOWA

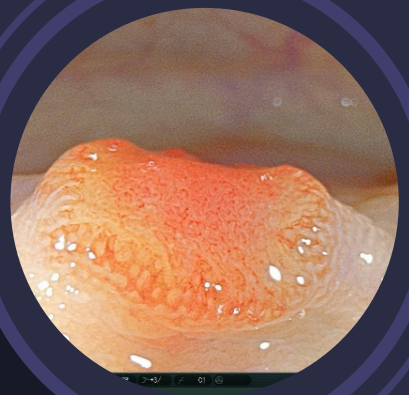
2009

TEIXEIRA



2009

HIROSHIMA



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JIKEI

2011

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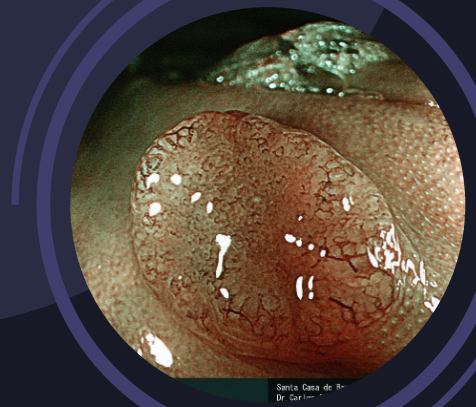

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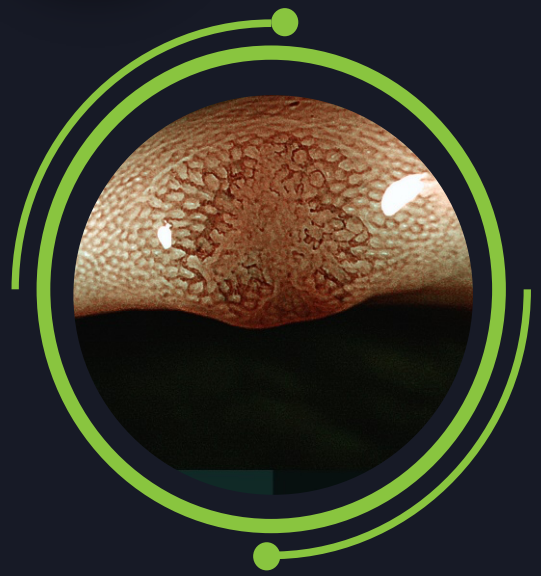
JNET



2018

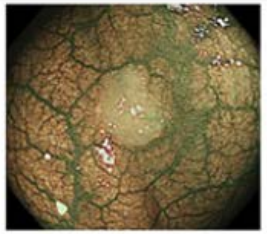
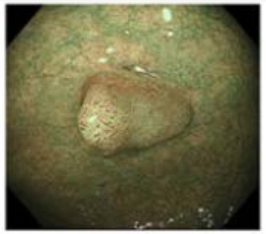
BASIC

Digestive Endoscopy (2011) **23** (Suppl. 1), 131–139 doi:10.1111/j.1443-1661.2011.01106.x

CURRENT STATUS AND THE CHALLENGES OF THE NBI DIAGNOSIS FOR COLORECTAL TUMOR

AIM TO UNIFY THE NARROW BAND IMAGING (NBI) MAGNIFYING CLASSIFICATION FOR COLORECTAL TUMORS: CURRENT STATUS IN JAPAN FROM A SUMMARY OF THE CONSENSUS SYMPOSIUM IN THE 79TH ANNUAL MEETING OF THE JAPAN GASTROENTEROLOGICAL ENDOSCOPY SOCIETY

SHINJI TANAKA[1] AND YASUSHI SANO[2]

	Type 1	Type 2	Type 3
Color	Same or lighter than background	Browner relative to background (verify color arises from vessels)	Brown to dark brown relative to background; sometimes patchy whiter areas
Vessels	None, or isolated lacy vessels may be present coursing across the lesion	Brown vessels surrounding white structures**	Has area(s) of disrupted or missing vessels
Surface pattern	Dark or white spots of uniform size, or homogeneous absence of pattern	Oval, tubular or branched white structures** surrounded by brown vessels	Amorphous or absent surface pattern
Most likely pathology	**Hyperplastic & sessile serrated polyp (SSP) *** **	**Adenoma**** **	**Deep submucosal invasive cancer**
Endoscopic image			

* Can be applied using colonoscopes with/ without optical (zoom) magnification

** These structures (regular or irregular) may represent the pits and the epithelium of the crypt opening.

*** In the WHO classification, sessile serrated polyp and sessile serrated adenoma are synonymous.

**** Type 2 consists of Vienna classification types 3, 4 and superficial 5 (all adenomas with either low or high grade dysplasia, or with superficial submucosal carcinoma). The presence of high grade dysplasia or superficial submucosal carcinoma may be suggested by an irregular vessel or surface pattern, and is often associated with atypical morphology (e.g., depressed area).

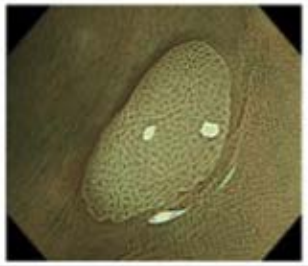
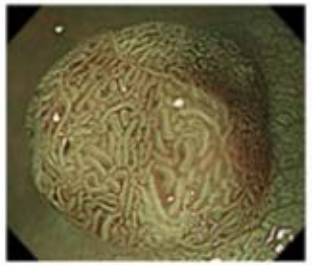
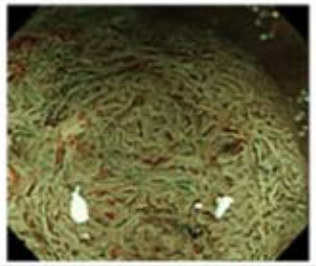
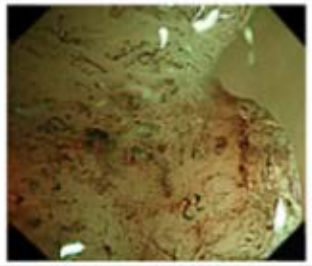
Digestive Endoscopy 2016; ••: ••–••

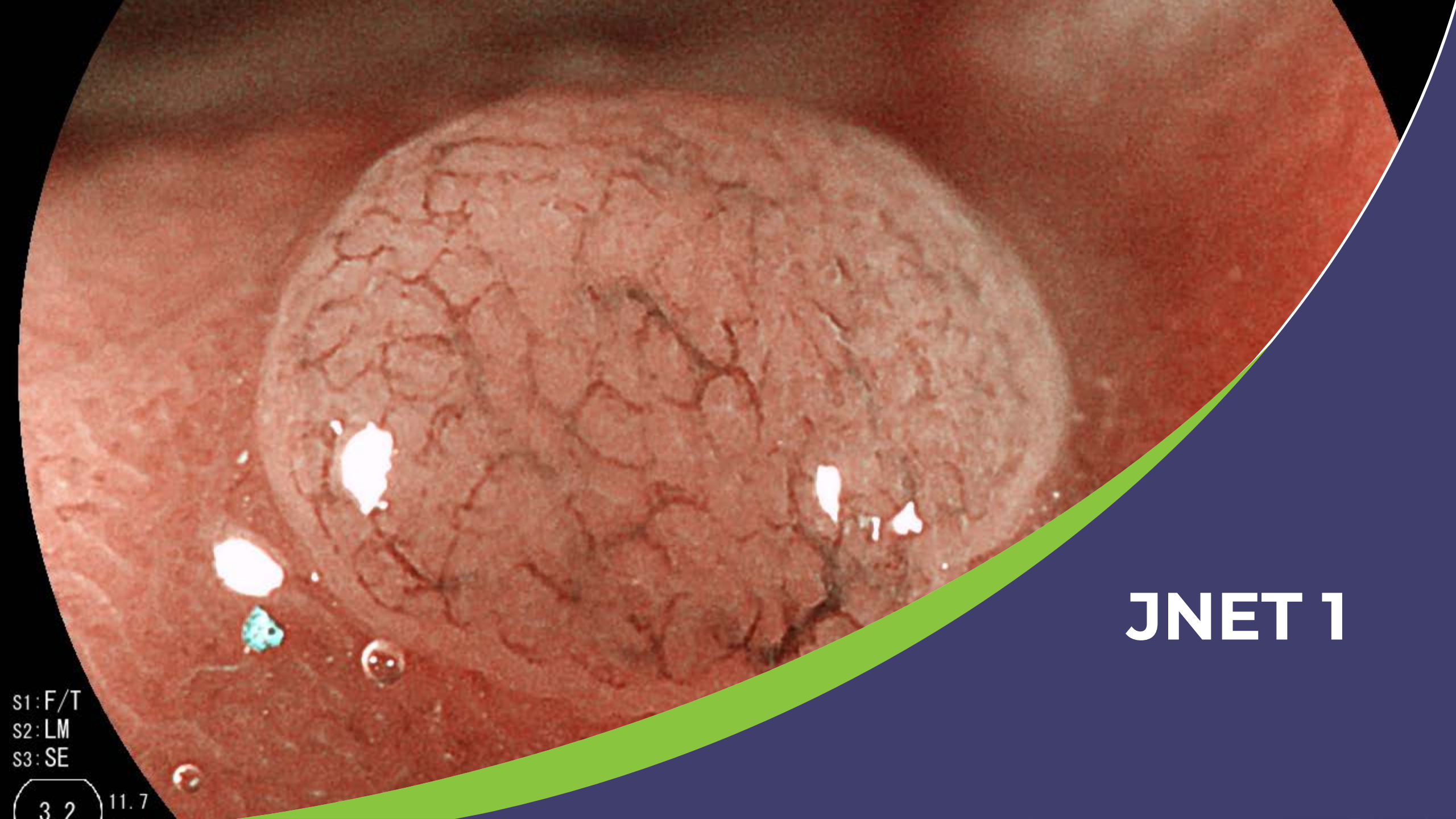
doi: 10.1111/den.12644

Review

Narrow-band imaging (NBI) magnifying endoscopic classification of colorectal tumors proposed by the Japan NBI Expert Team

Yasushi Sano,[1] Shinji Tanaka,[2] Shin-ei Kudo,[3] Shoichi Saito,[4] Takahisa Matsuda,[5]

	Type 1	Type 2A	Type 2B	Type 3
Vessel pattern	· Invisible *1	· Regular caliber · Regular distribution (meshed/spiral pattern) *2	· Variable caliber · Irregular distribution	· Loose vessel areas · Interruption of thick vessels
Surface pattern	· Regular dark or white spots · Similar to surrounding normal mucosa	· Regular (tubular/branched/papillary)	· Irregular or obscure	· Amorphous areas
Most likely histology	Hyperplastic polyp/ Sessile serrated polyp	Low grade intramucosal neoplasia	High grade intramucosal neoplasia/ Shallow submucosal invasive cancer *3	Deep submucosal invasive cancer
Endoscopic image				



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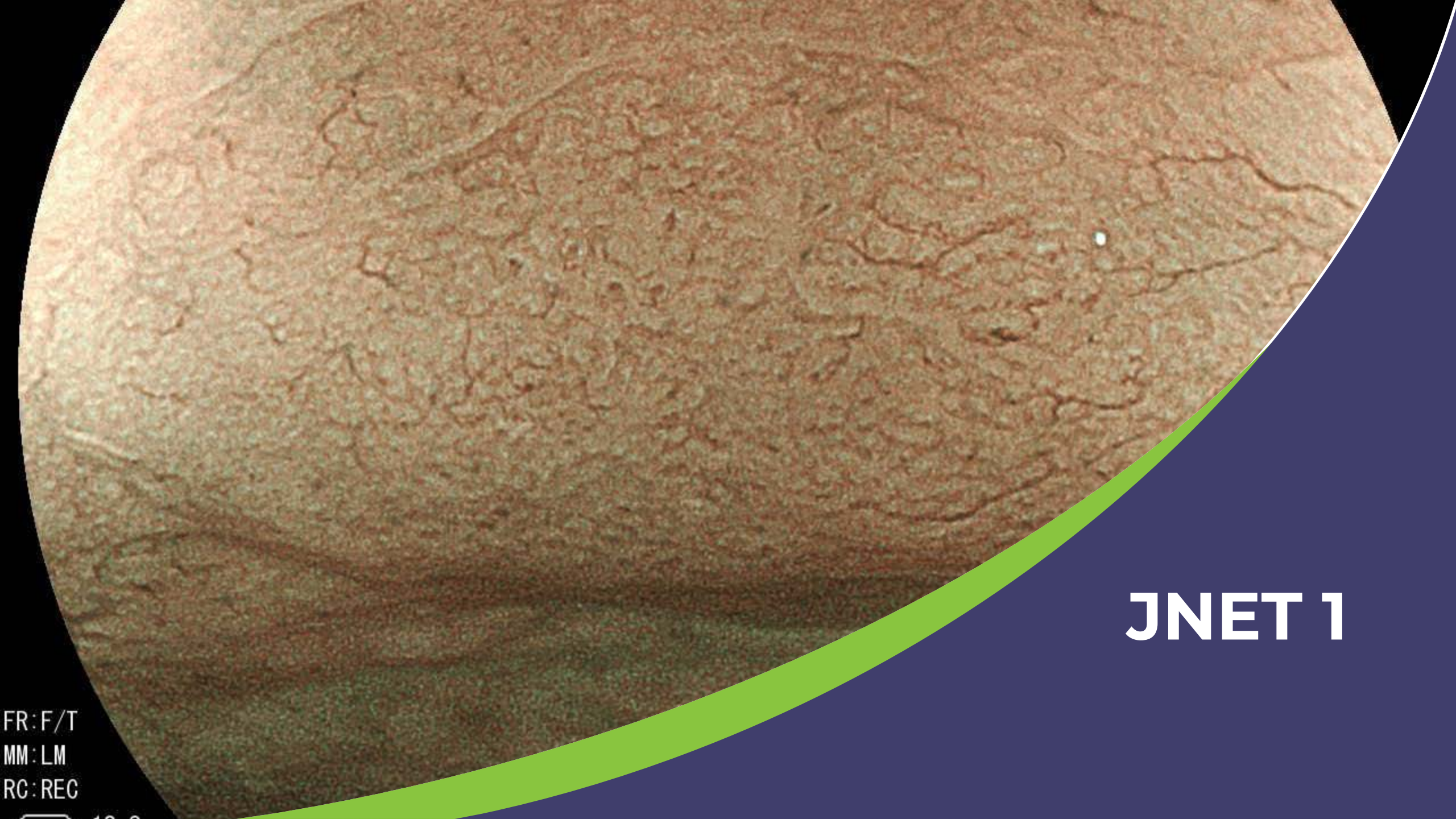

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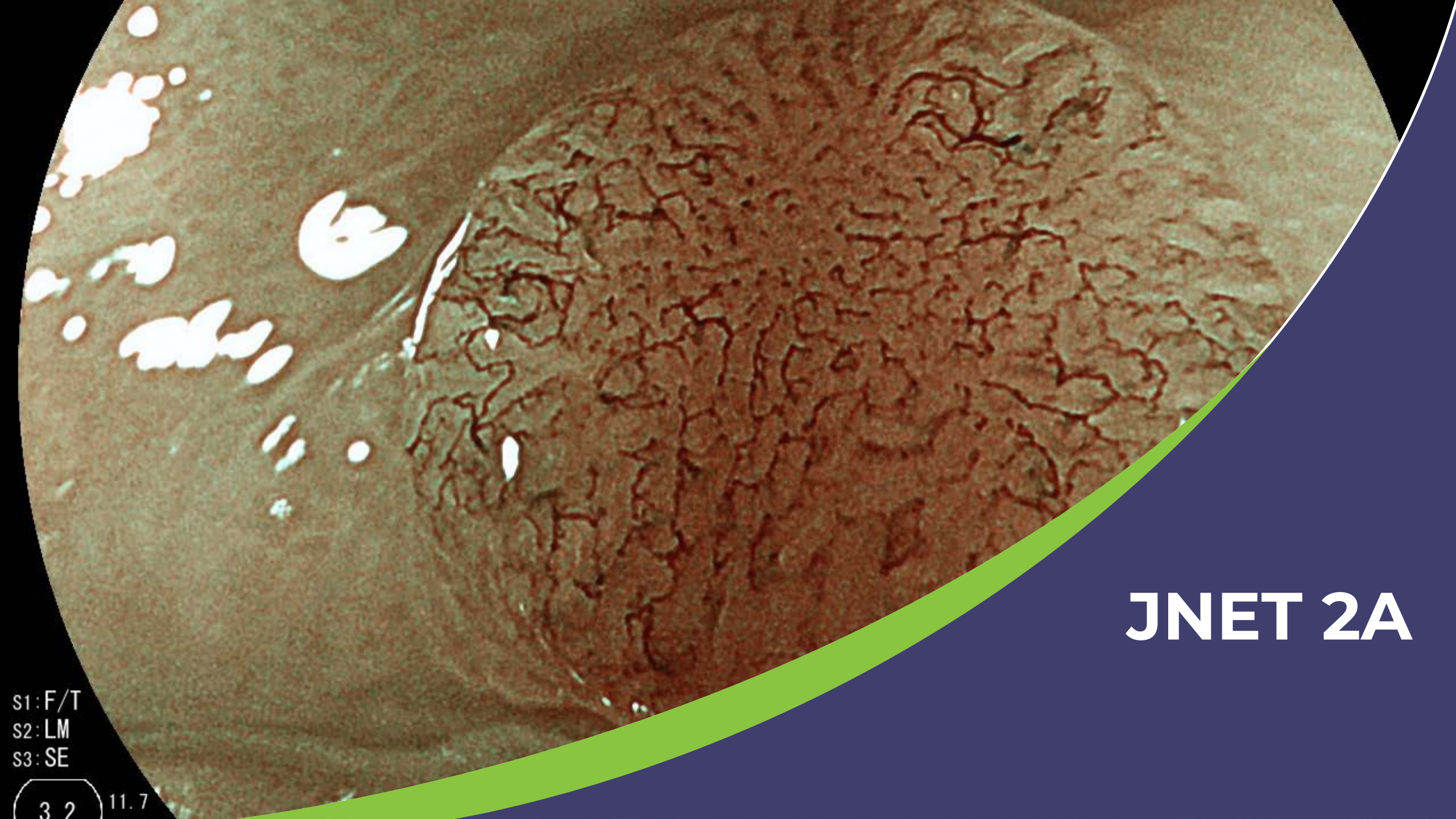

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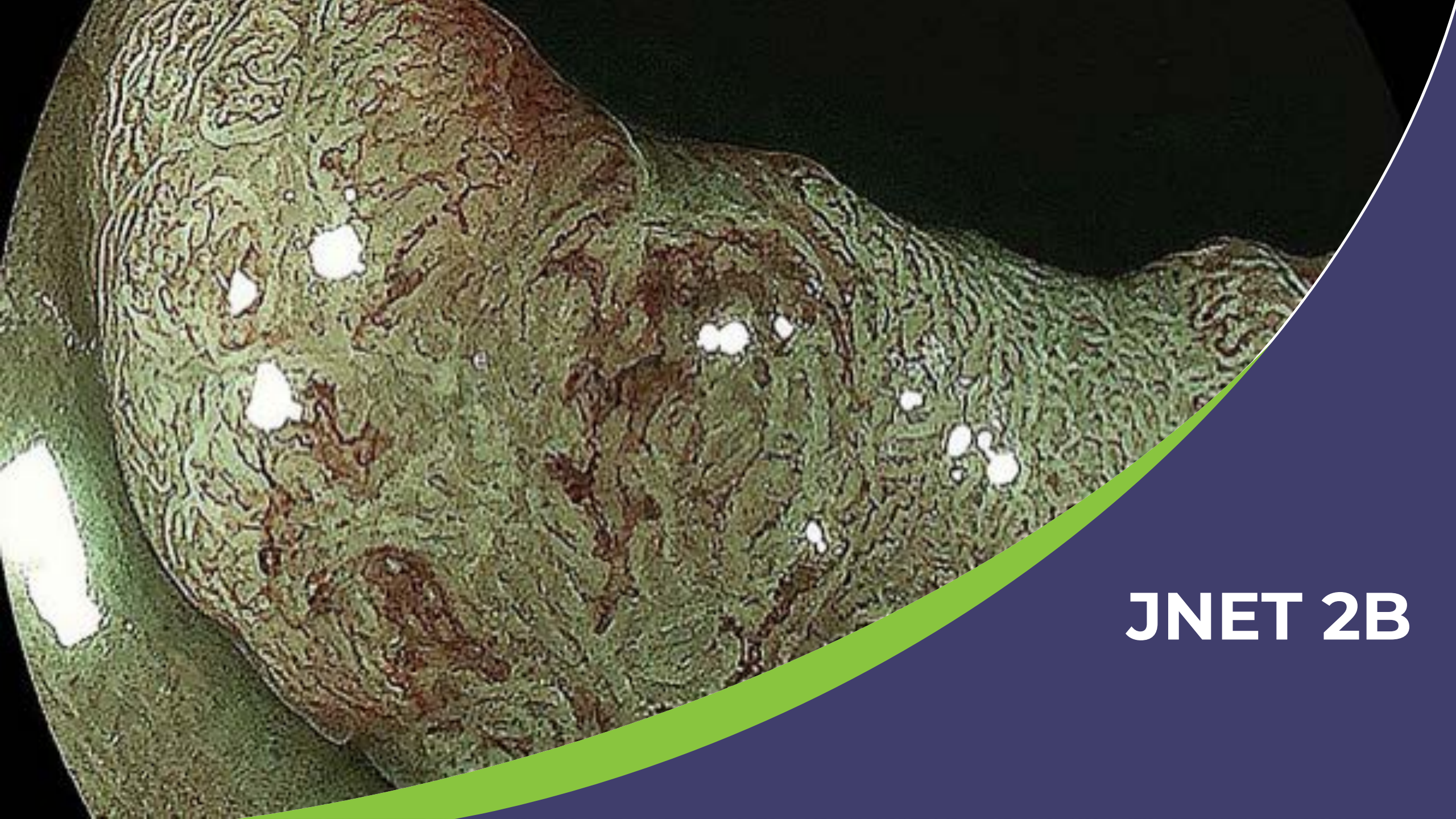

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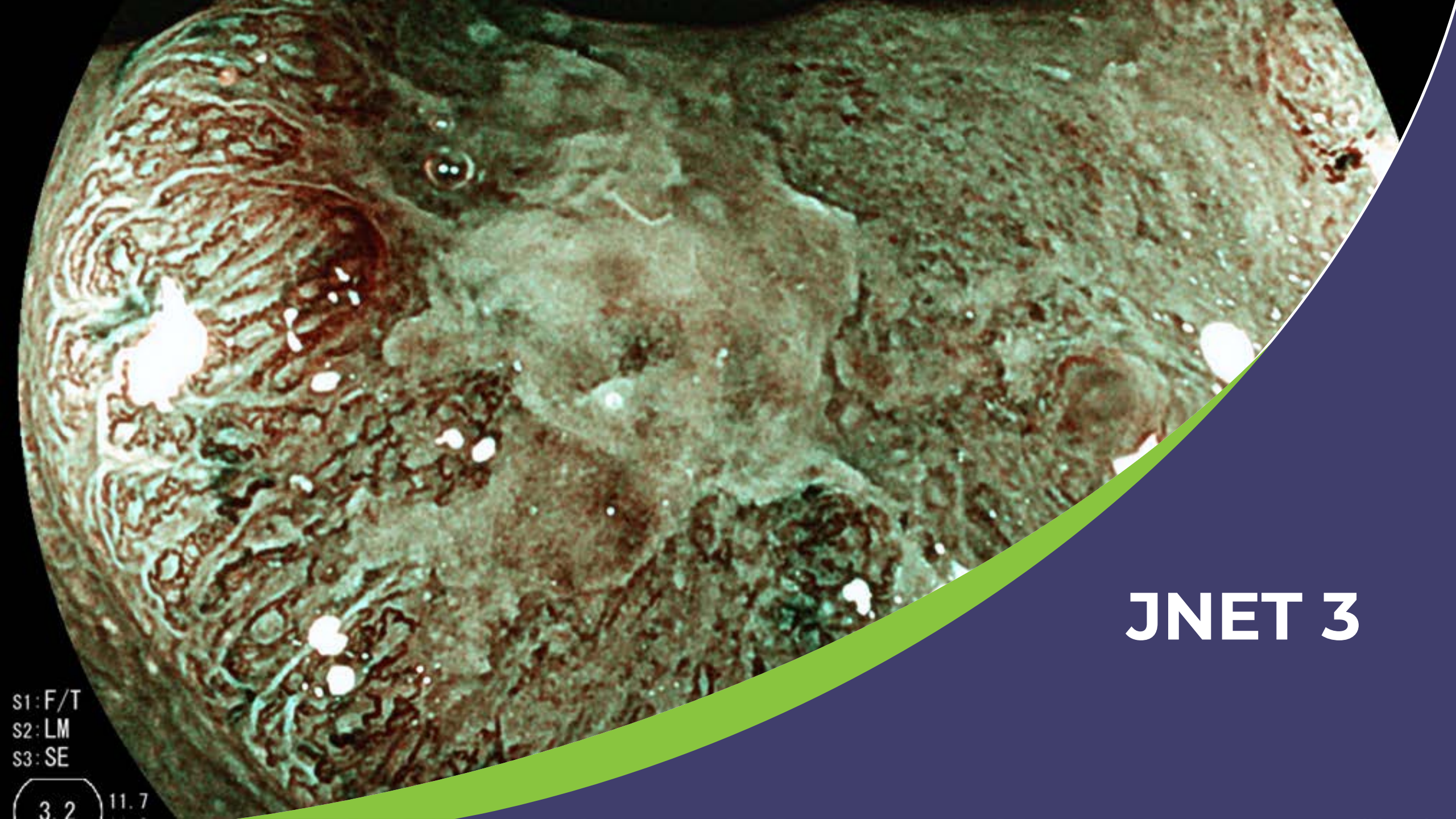

JNET 3

CARACTERIZACIÓN – PASO 1:
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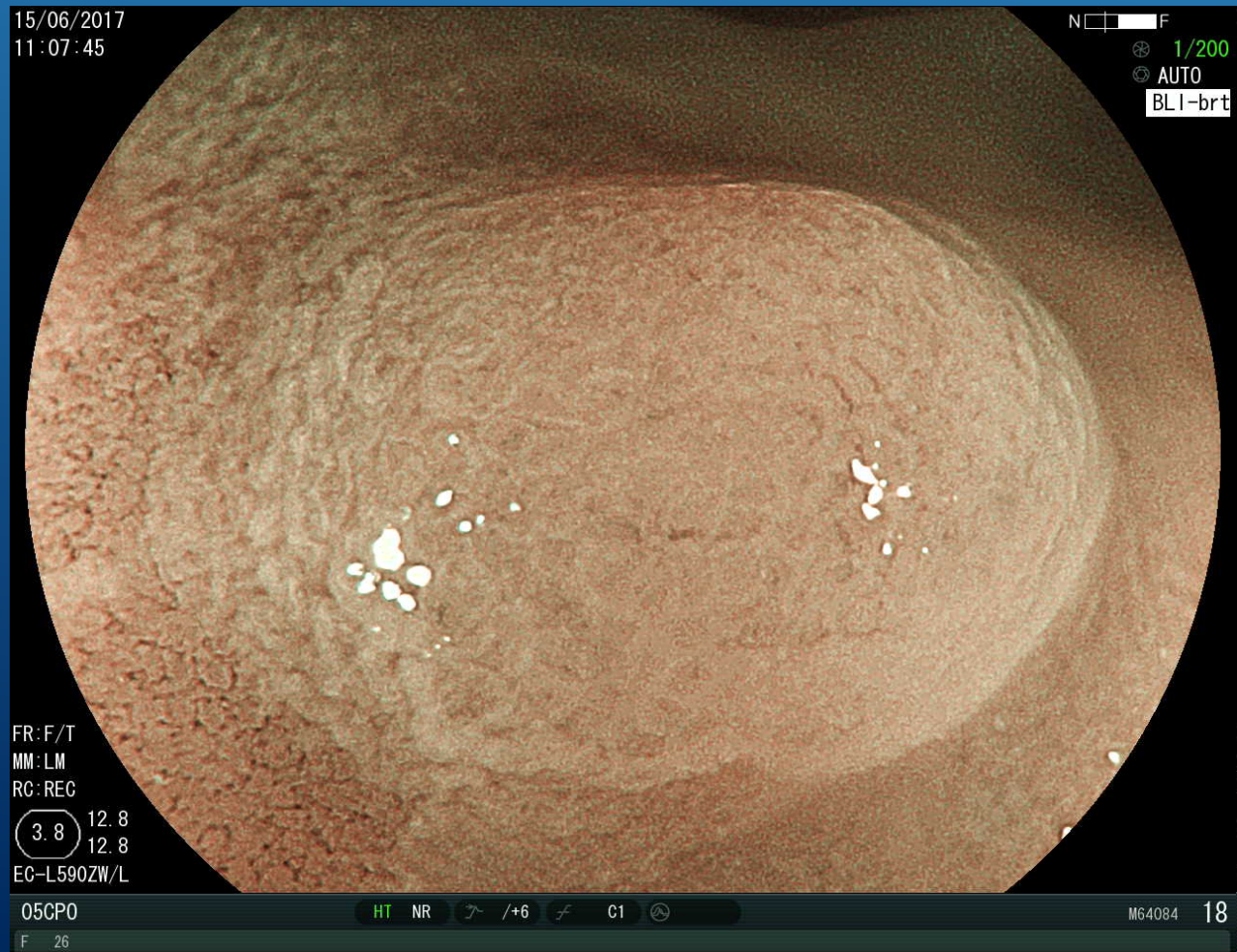

CARACTERIZACIÓN – PASO 1:
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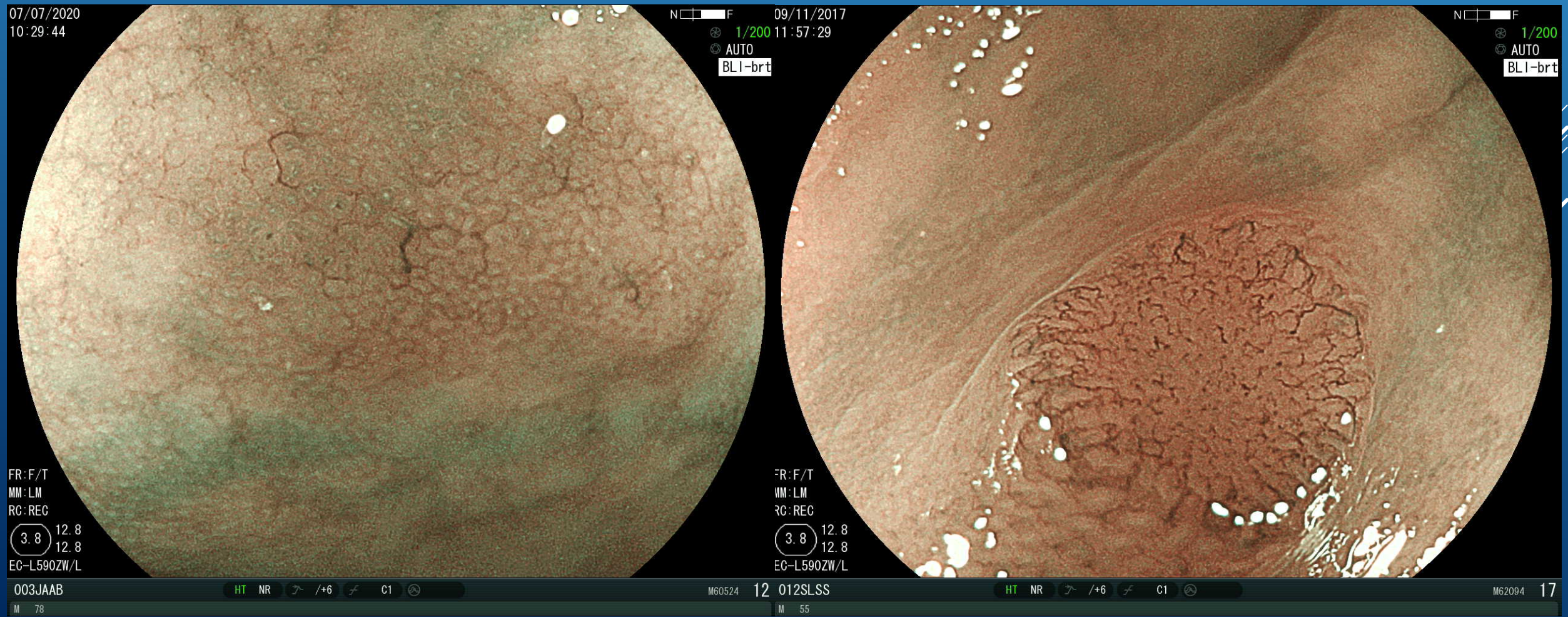
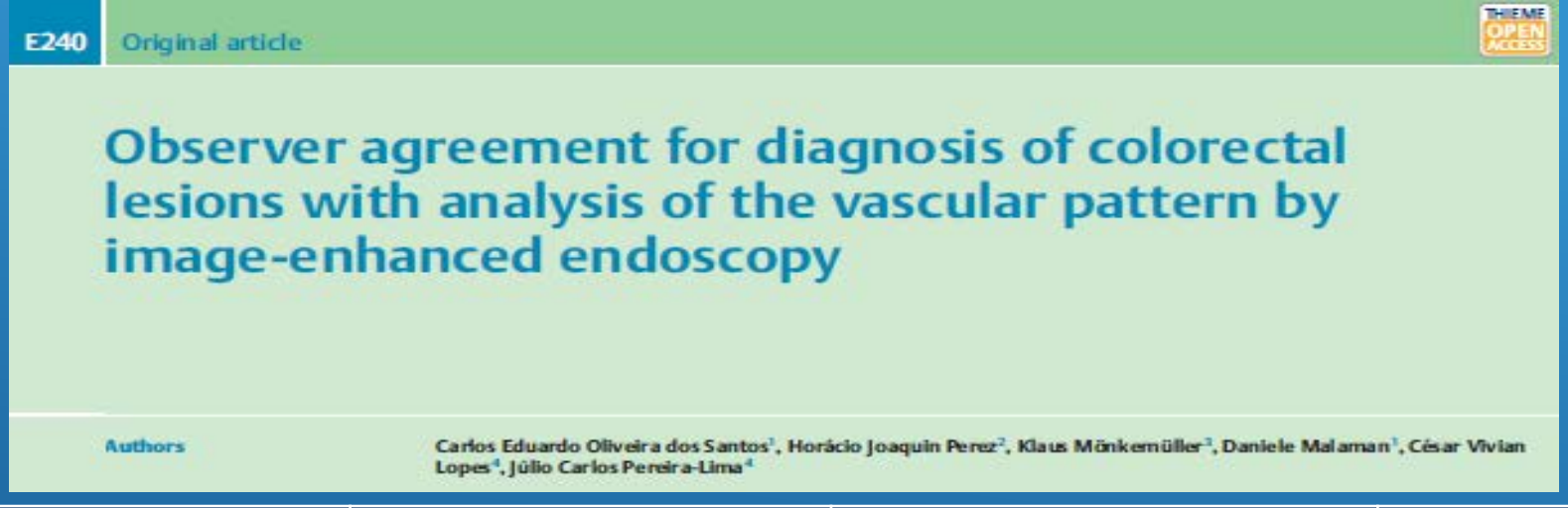



E240 Original article

Observer agreement for diagnosis of colorectal lesions with analysis of the vascular pattern by image-enhanced endoscopy

Authors Carlos Eduardo Oliveira dos Santos[1], Horácio Joaquin Perez[2], Klaus Mönkemüller[3], Daniele Malaman[1], César Vivian Lopes[4], Júlio Carlos Pereira-Lima[4]

	Precisión %	Sensibilidad %	Especificidad %	VPP %	VPN %
Examinador 1	95	97.7	75	96.6	81.8
Examinador 2	95	98.9	66.7	95.6	88.9

- Concordancia interobservador: kappa = 0.80 (IC95% 0.75-0.85)
- Concordancia intraobservador: kappa 1 = 0.88 (IC95% 0.83-0.94)
  kappa 2 = 0.73 (IC95% 0.65-0.81)

Original article

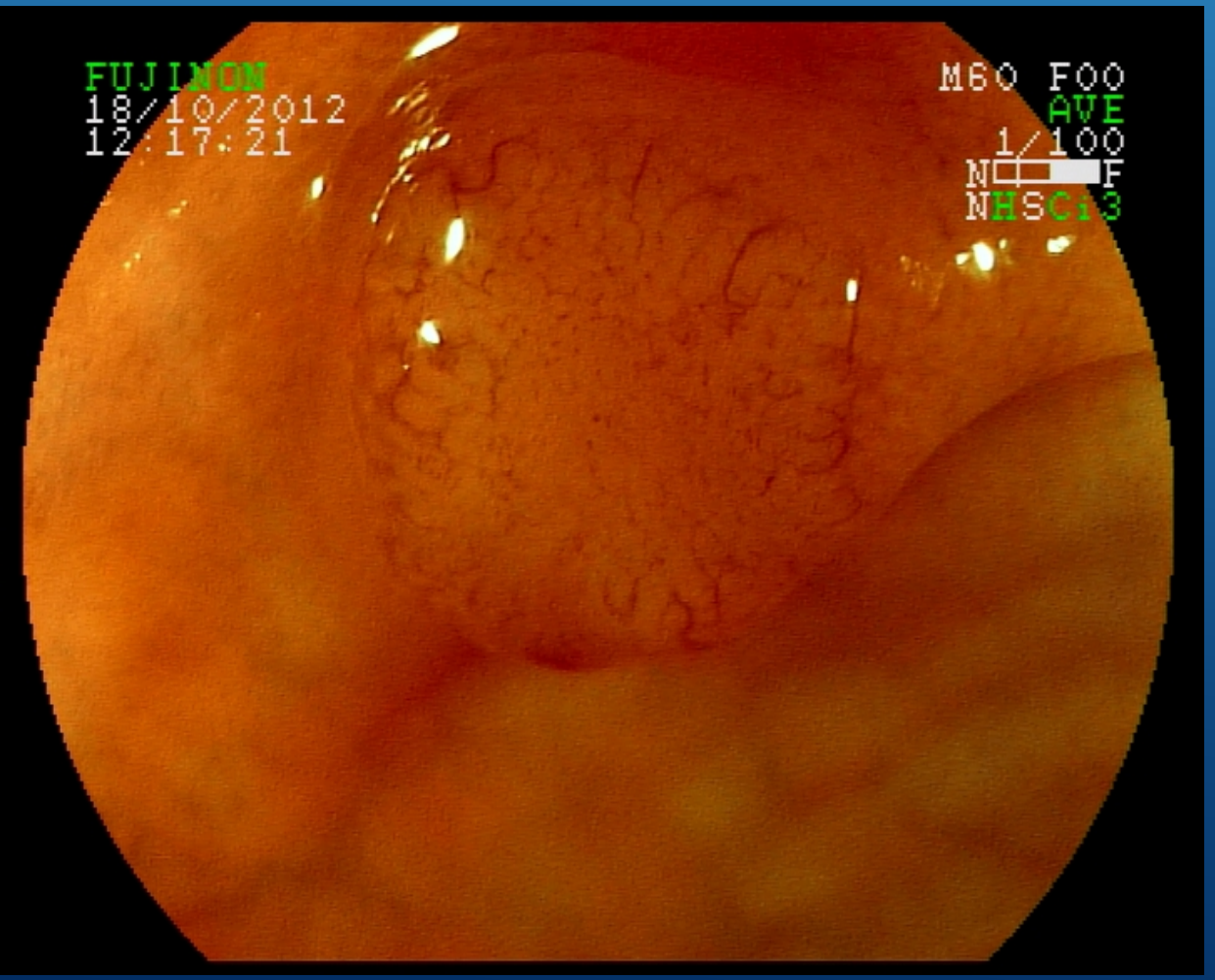
Blue laser imaging: a new image-enhanced endoscopy for the diagnosis of colorectal lesions

Carlos E.O. dos Santos[a], Daniele Malaman[a], Naohisa Yoshida[d], Júlio C. Pereira-Lima[b], Fernanda de Quadros Onófrio[b], Rafaelle G. Furlan[a], Fernando I. Tabushi[c] and Osvaldo Malafaia[c]

Santos CE et al. Eur J Gastroenterol Hepatol 2018

Diagnostic criteria	%	95%CI
Accuracy	95.5	94.2 - 96.9
Kappa	0.90	0.86 - 0.93
Sensitivity	95.7	94.3 - 97.0
Specificity	95.2	93.8 - 96.6
PPV	97.9	97.0 - 98.9
NPV	90.3	88.4 - 92.2

FICE VS BLI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07/07/2017
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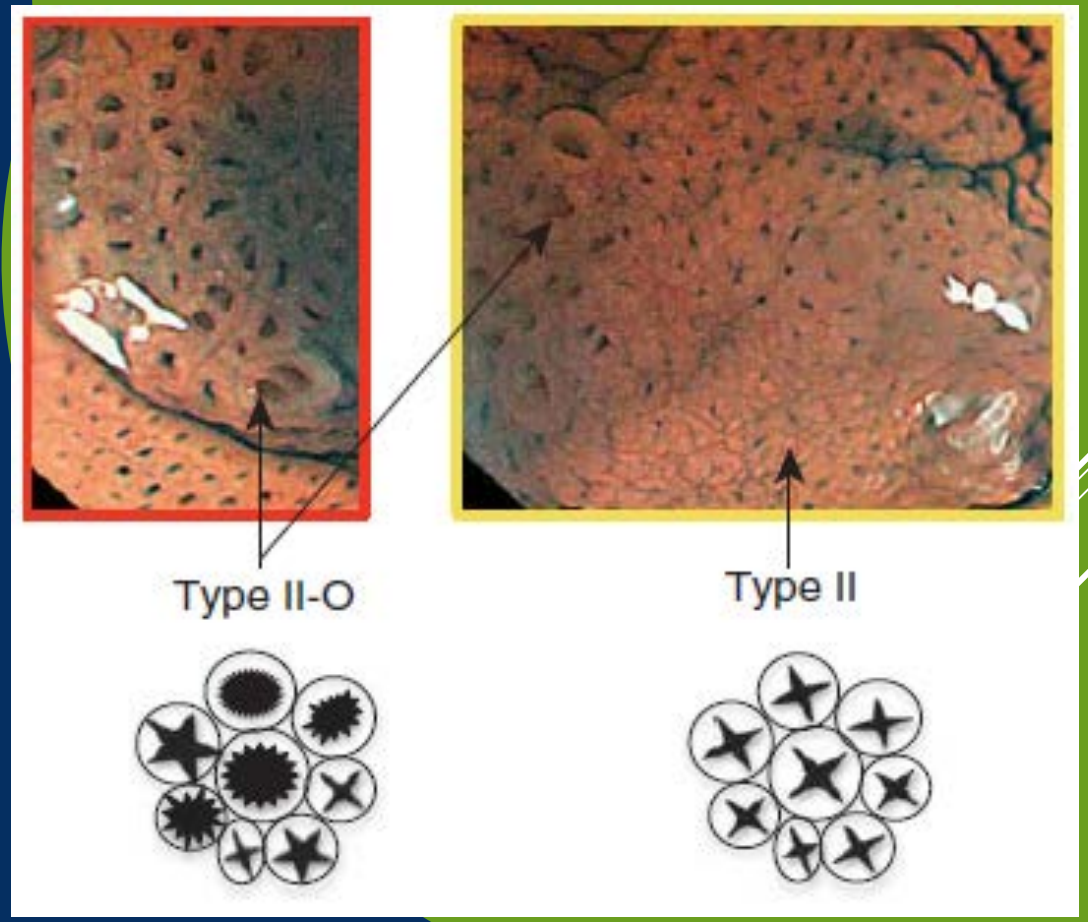
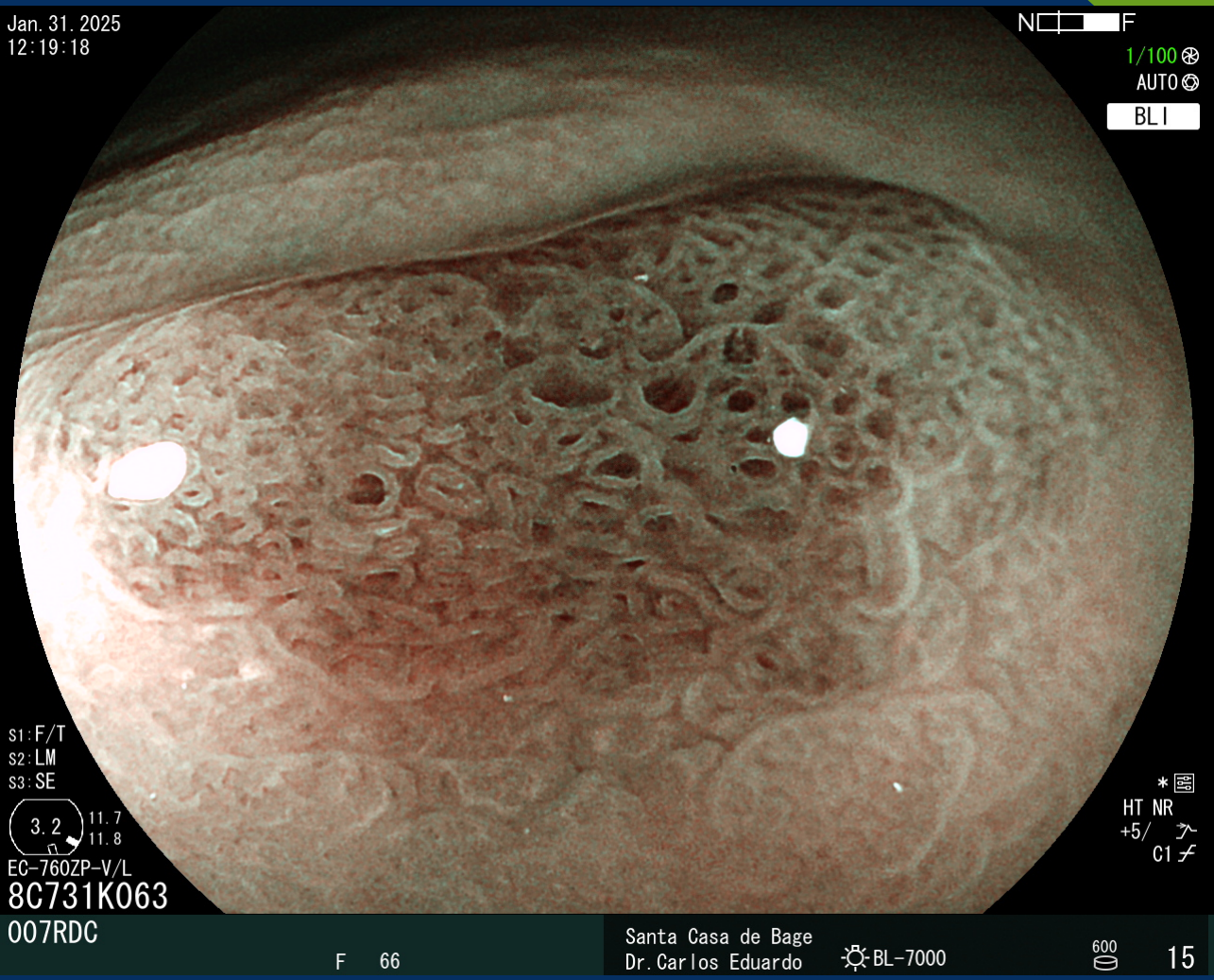
A Novel Pit Pattern Identifies the Precursor of Colorectal Cancer Derived From Sessile Serrated Adenoma

Tomoaki Kimura, MD[1,7], Eiichiro Yamamoto, MD, PhD[2,3,7], Hiro-o Yamano, MD[1], Hiromu Suzuki, MD, PhD[2,3], Seiko Kamimae, MD[2], Masanori Nojima, MD, PhD, MPH[4], Takeshi Sawada, MD, PhD[2], Masami Ashida, MS[2], Kenjiro Yoshikawa, MD[1], Ryo Takagi, MD, PhD[1], Ryusuke Kato, MD[1], Taku Harada, MD[1], Ryo Suzuki, MD[1,3], Reo Maruyama, MD, PhD[2,3], Masahiro Kai, PhD[2], Kohzoh Imai, MD, PhD[5], Yasuhisa Shinomura, MD, PhD[3], Tamotsu Sugai, MD, PhD[6] and Minoru Toyota, MD, PhD[2]

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Santa Casa de Bage
Dr.Carlos Eduardo
BL-7000
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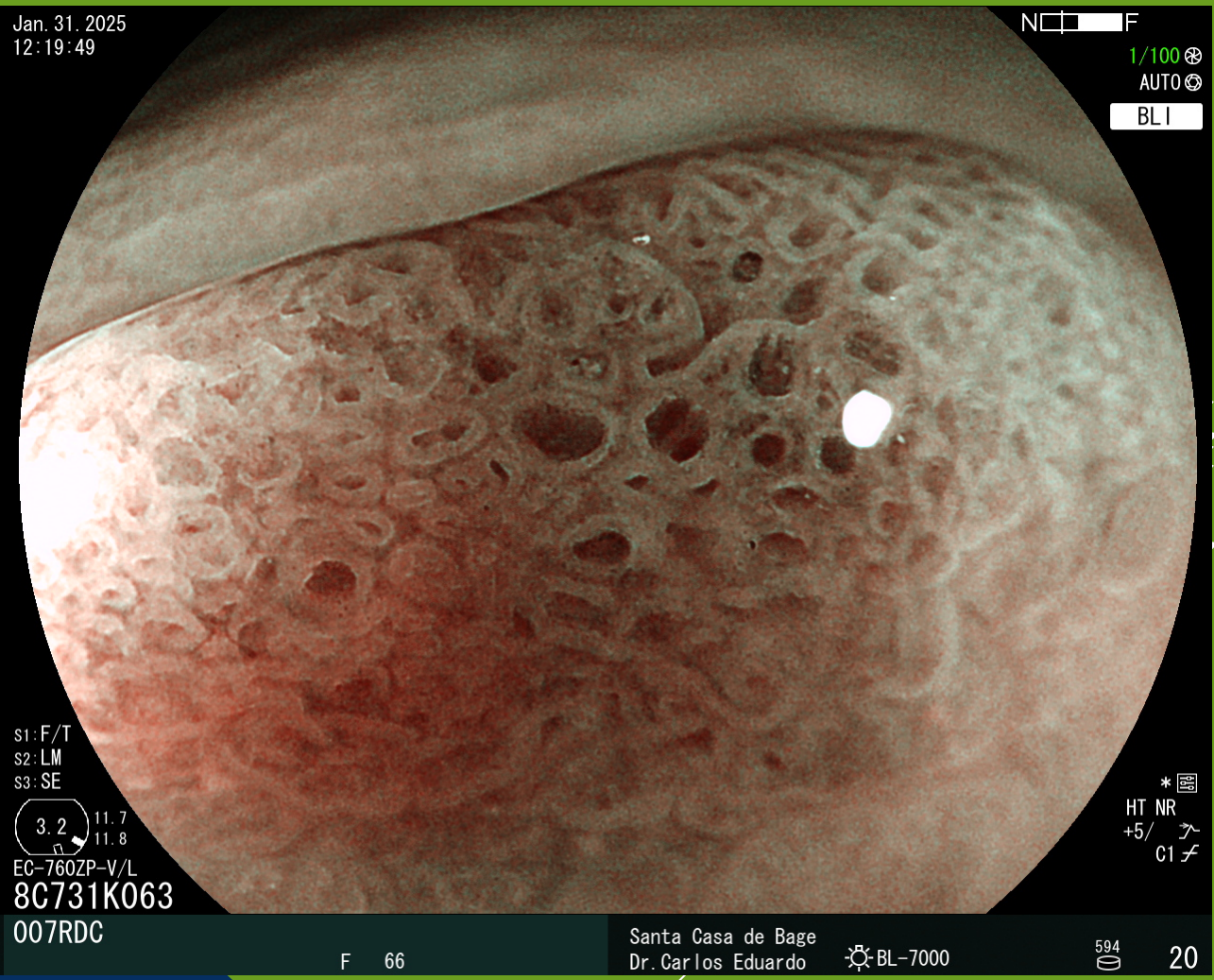
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F 66
Santa Casa de Bage
Dr.Carlos Eduardo
BL-7000
594
20

ORIGINAL ARTICLE

Investigating endoscopic features of sessile serrated adenomas/polyps by using narrow-band imaging with optical magnification

Masayoshi Yamada, MD, PhD,[1] Taku Sakamoto, MD,[1] Yosuke Otake, MD, PhD,[1] Takeshi Nakajima, MD, PhD,[1] Aya Kuchiba, PhD,[2] Hirokazu Taniguchi, MD, PhD,[3] Shigeki Sekine, MD, PhD,[4] Ryoji Kushima, MD, PhD,[3] Hemchand Ramberan, MD,[5] Adolfo Parra-Blanco, MD, PhD,[6] Takahiro Fujii, MD, PhD,[7] Takahisa Matsuda, MD, PhD,[1] Yutaka Saito, MD, PhD[1]

TABLE 3. Association between NBI findings and SSA/Ps (N = 24w)

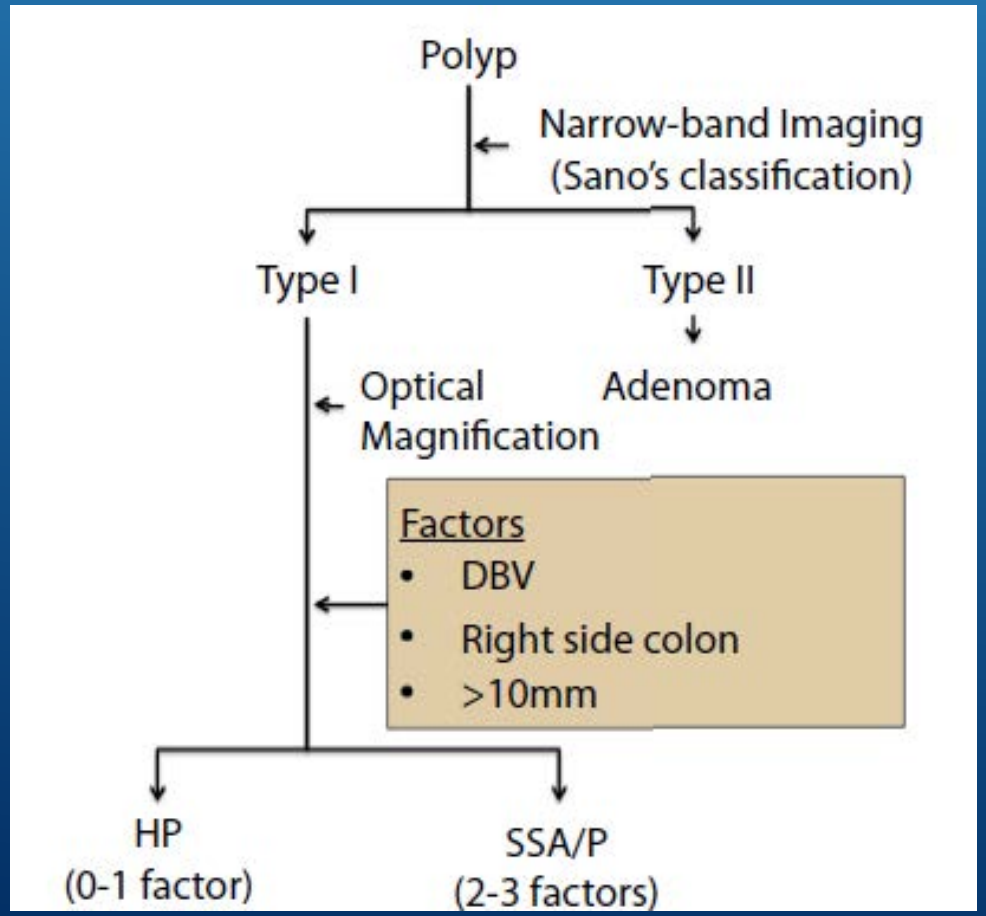
			Univariate analysis	Multivariate analysis
	HPs, no. (%)	SSA/Ps, no. (%)	OR (95% CI)	OR (95% CI)
Female	18 (18)	49 (47)	4.99 (2.72-9.17)	2.05 (0.83-5.05)
Size (>10 mm)	14 (11)	89 (75)	24.1 (12.0-48.4)	21.0 (8.48-51.8)
Location (proximal)*	30 (24)	98 (83)	15.4 (8.16-28.9)	11.1 (4.59-27.1)
DBVs	30 (24)	77 (65)	5.88 (3.36-10.3)	2.33 (0.96-5.69)
iDSs	36 (29)	53 (45)	1.99 (1.17-3.39)	1.27 (0.53-3.01)
Meshed capillary pattern				
Regular	18 (15)	13 (11)	0.73 (0.34-1.56)	1.52 (0.51-4.54)
Disorganized	10 (8)	11 (9)	1.17 (0.48-2.87)	2.02 (0.52-7.93)
Dense pattern	6 (5)	3 (3)	0.51 (0.13-2.10)	2.19 (0.31-15.6)

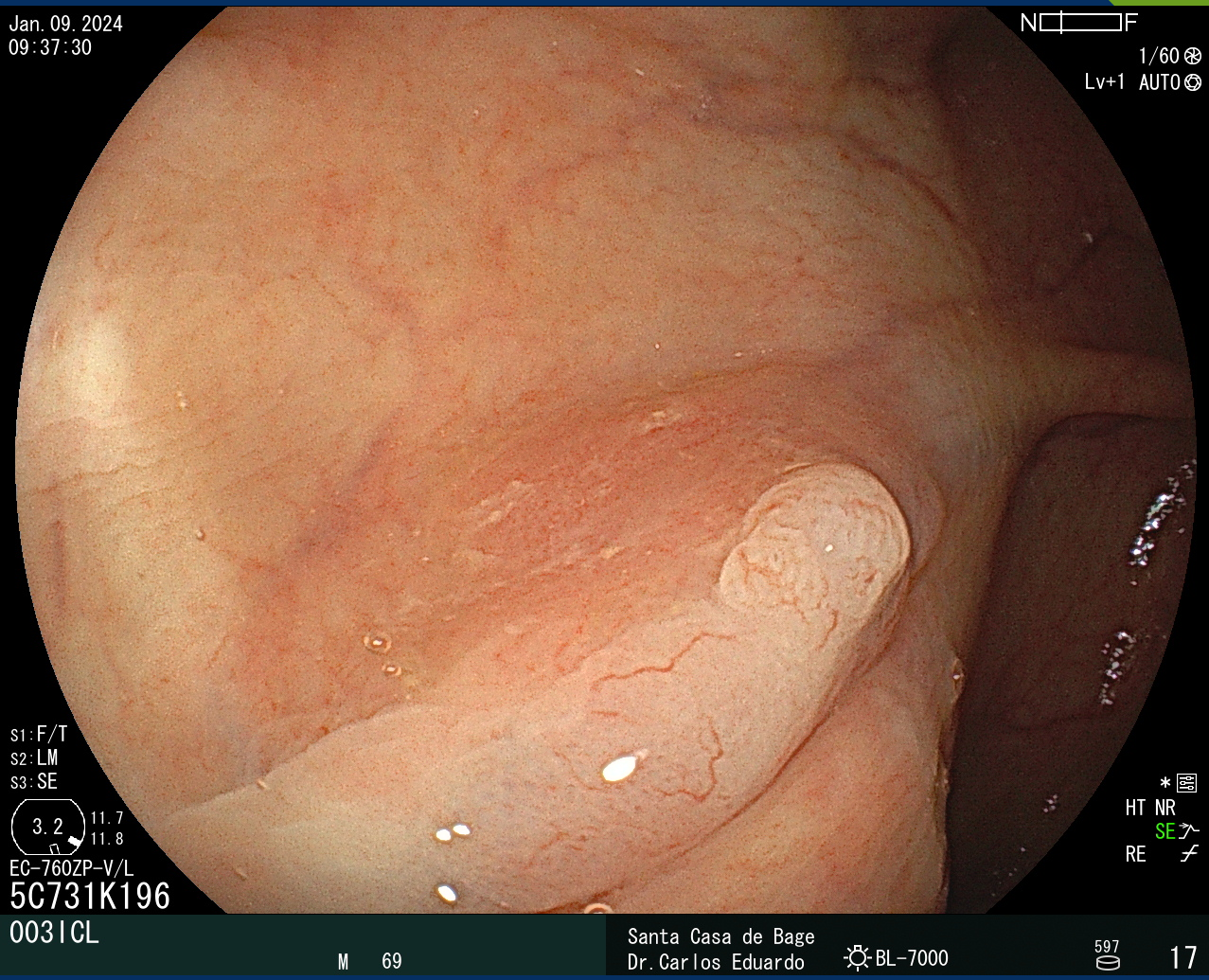
NBI, Narrow-band imaging; *SSA/Ps*, sessile serrated adenoma/polyps; *OR*, odds ratio; *CI*, confidence interval; *DBVs*, dilated and blanching vessels; *iDSs*, irregular dark spots.
*Proximal colon.

ORIGINAL ARTICLE

Investigating endoscopic features of sessile serrated adenomas/polyps by using narrow-band imaging with optical magnification

Masayoshi Yamada, MD, PhD,[1] Taku Sakamoto, MD,[1] Yosuke Otake, MD, PhD,[1] Takeshi Nakajima, MD, PhD,[1] Aya Kuchiba, PhD,[2] Hirokazu Taniguchi, MD, PhD,[3] Shigeki Sekine, MD, PhD,[4] Ryoji Kushima, MD, PhD,[3] Hemchand Ramberan, MD,[5] Adolfo Parra-Blanco, MD, PhD,[6] Takahiro Fujii, MD, PhD,[7] Takahisa Matsuda, MD, PhD,[1] Yutaka Saito, MD, PhD[1]

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M 69
Santa Casa de Bage
Dr.Carlos Eduardo
BL-7000
597
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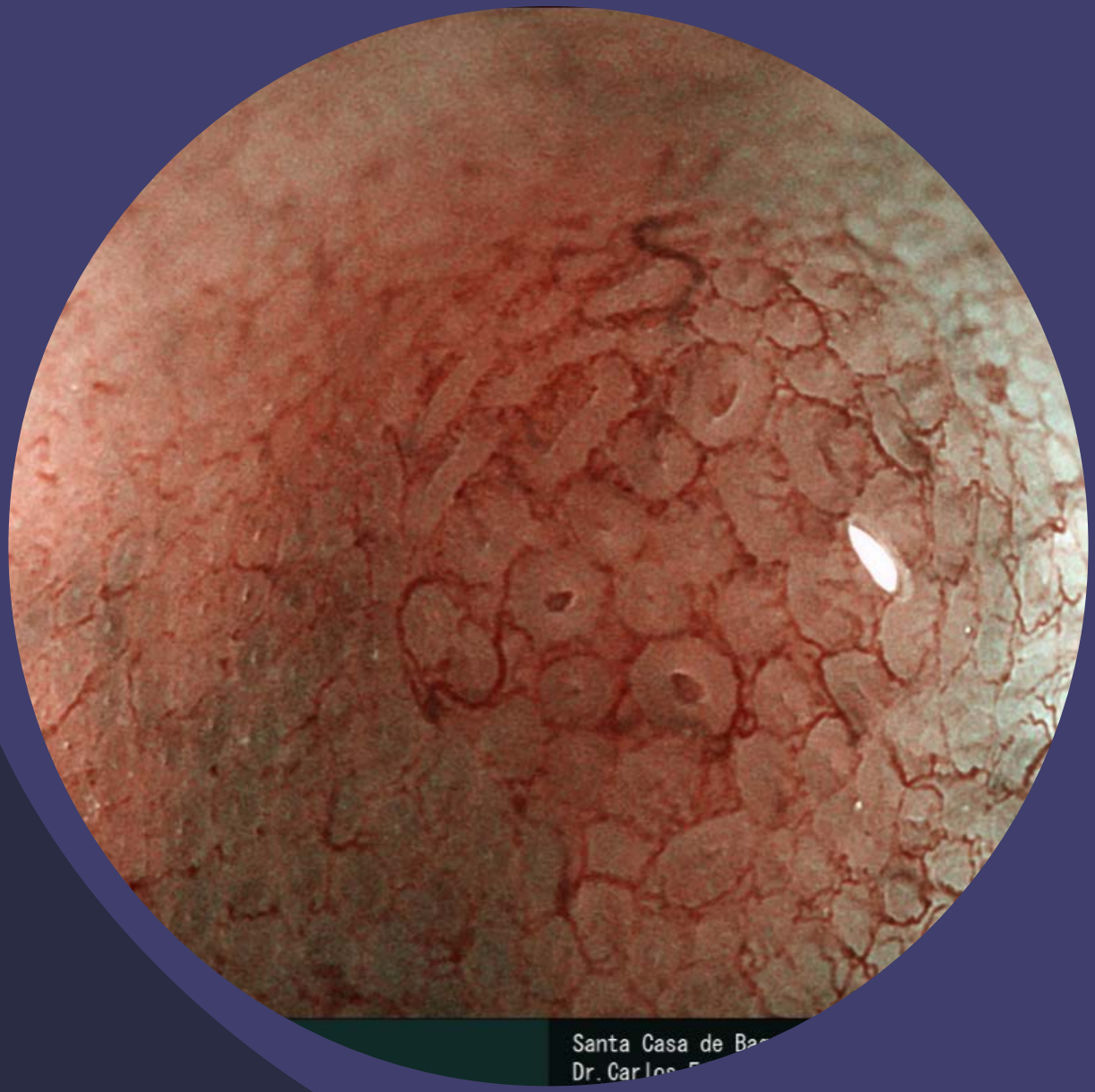
Santa Casa de Ba
Dr. Carlos


Santa Casa de Ba
Dr. Carlos

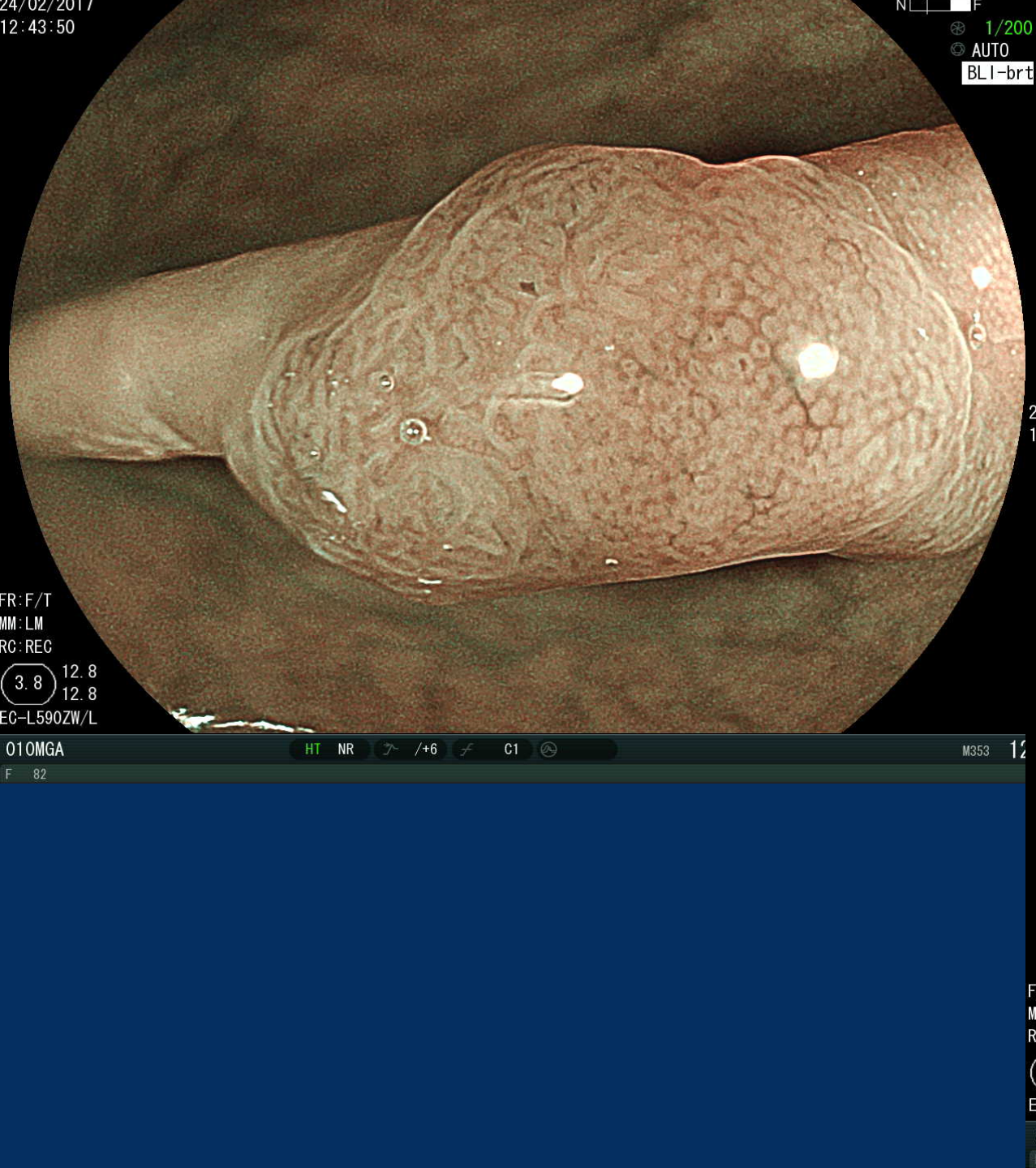
Clinical and endoscopic predictors of cytological dysplasia or cancer in a prospective multicentre study of large sessile serrated adenomas/polyps

Nicholas G Burgess,[1,2] Maria Pellise,[1] Kavinderjit S Nanda,[1] Luke F Hourigan,[3,4] Simon A Zanati,[5,6] Gregor J Brown,[5,7] Rajvinder Singh,[8] Stephen J Williams,[1] Spiro C Raftopoulos,[9] Donald Ormonde,[9] Alan Moss,[6] Karen Byth,[10] Heok P'Ng,[11] Duncan McLeod,[11] Michael J Bourke[1,2]

GUT 2016

Table 2 Univariable analysis and best fitting multiple logistic regression model for factors associated with sessile serrated adenomas with cytological dysplasia (SSA-D)

			Univariable analysis	Best fitting multiple logistic regression model	
	SSA/P-ND	SSA/P-D	p Value	Adjusted OR (95% CI)	p Value
Paris dassification* (n, %)					
No 0-Is component	125 (89.3%)	45 (67.2%)	<0.001	1	0.021
Any 0-Is component	15 (10.7%)	22 (32.8%)		3.10 (1.19 to 8.12)	
Highest Kudo dassification* (n, %)†					
Kudo I and II	98 (72.6%)	22 (33.3%)	<0.001	1	<0.001
Kudo III, IV, V	37 (27.4%)	44 (66.7%)		3.98 (1.94 to 8.15)	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M353
F 82


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M345
17
F 82


14/10/2020
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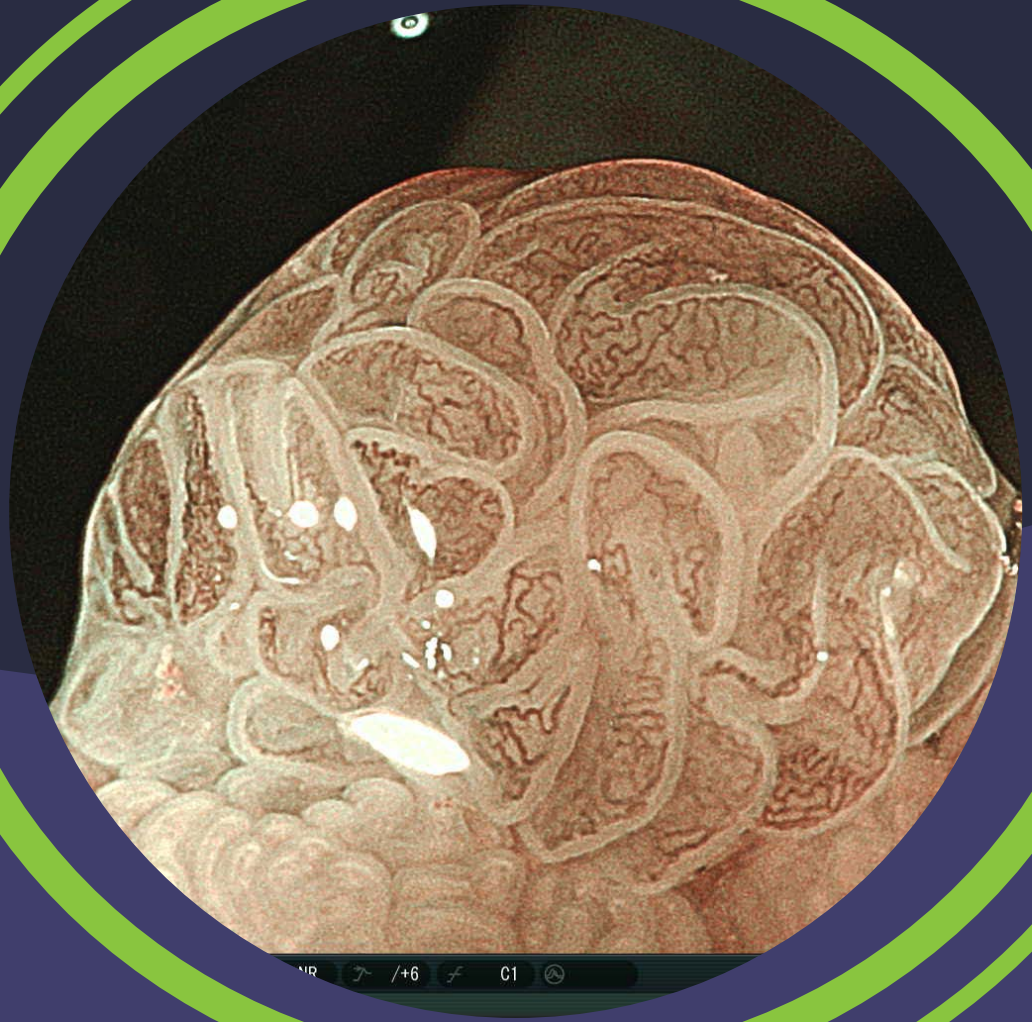

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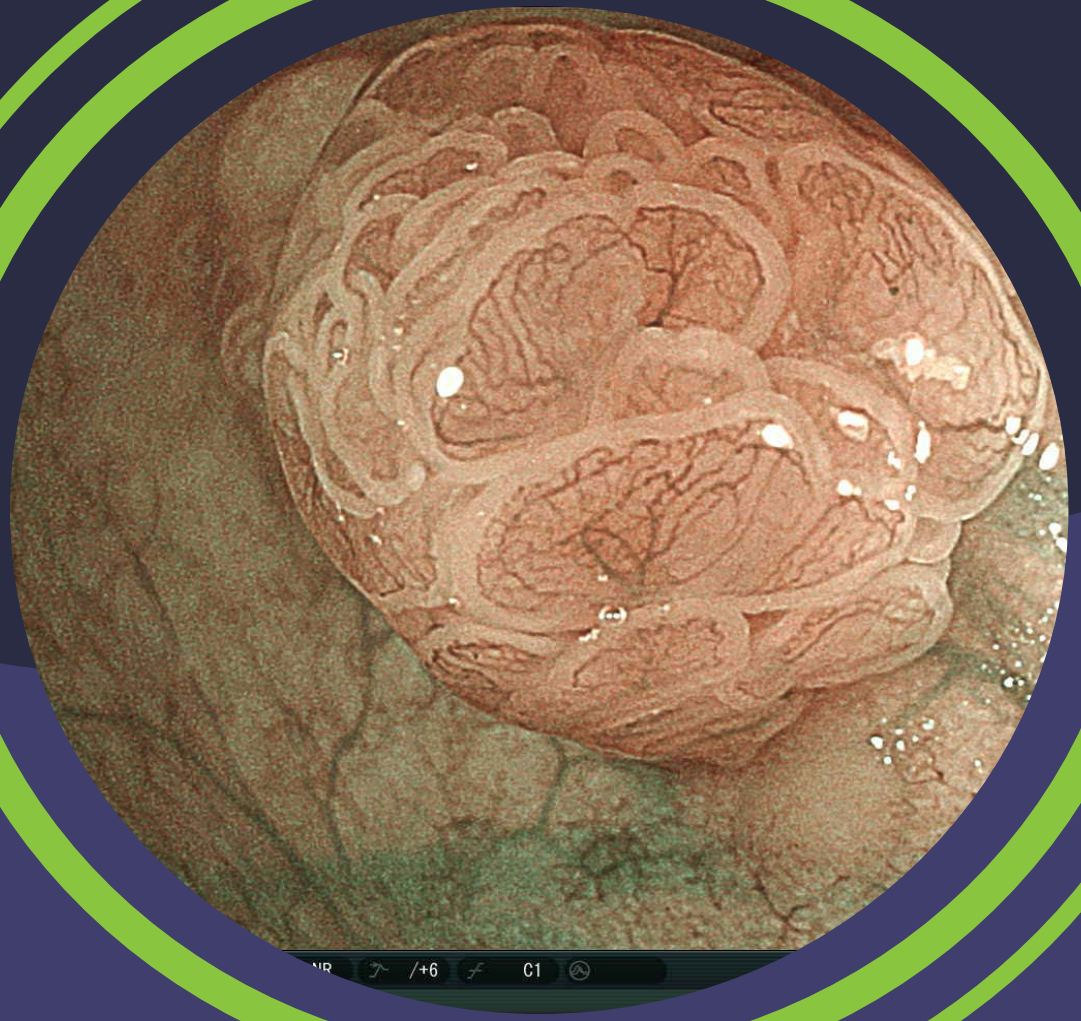
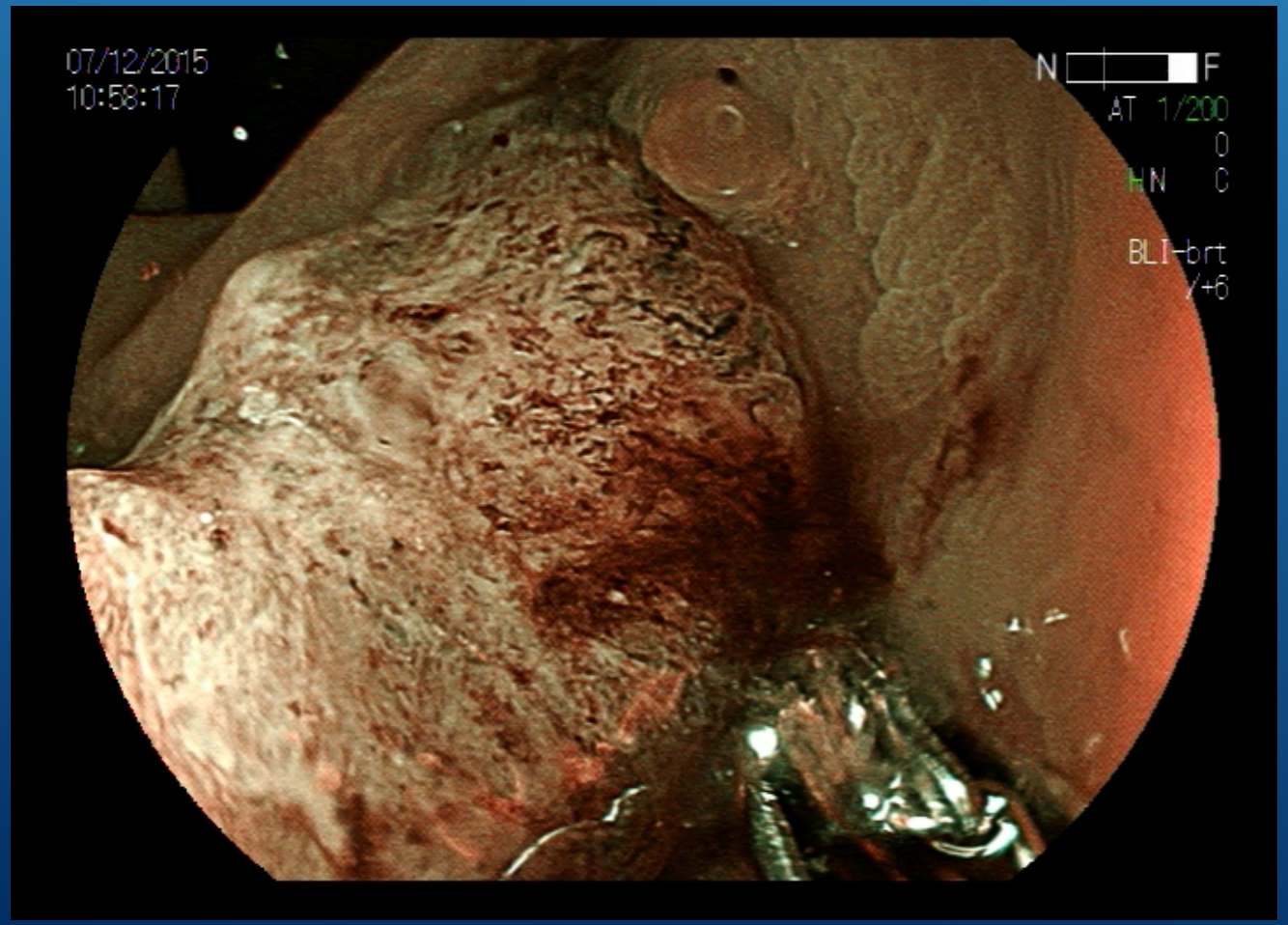


CARACTERIZACIÓN - PASO 2:
EVALUACIÓN DE LA INVASIÓN DE LA SM



Guideline

Thieme

Colorectal polypectomy and endoscopic mucosal resection (EMR): European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline

ESGE

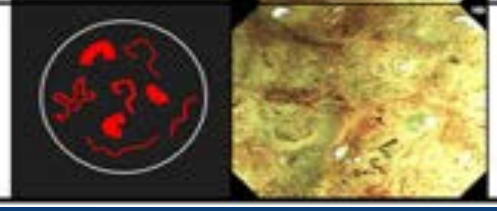
RECOMMENDATION

ESGE recommends the use of advanced endoscopic imaging to identify the potential presence of superficial submucosal invasion. (Moderate quality evidence; strong recommendation.)

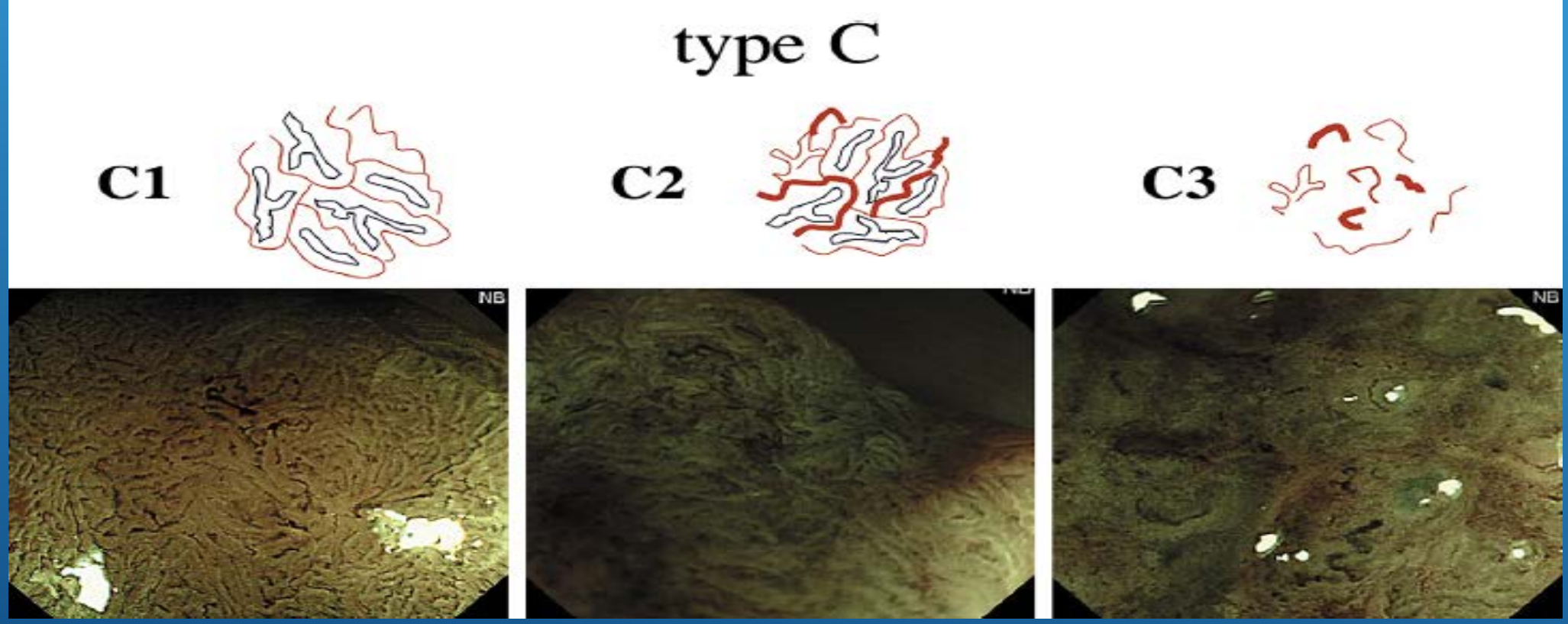
RECOMMENDATION

ESGE suggests that when advanced imaging is not available, standard chromoendoscopy may be beneficial. (Moderate quality evidence; strong recommendation.)

CLASIFICACIÓN DE HIROSHIMA

A type			Microvessel intensity are vague or invisible. None or isolated lacy vessels may be present coursing across the lesion. Brown or black dots, star or round shaped surrounded by white.
B type			Regular surface pattern is observed by the increased microvessel intensity around the pits and image enhance. Or regular meshed microvessel network pattern is observed.
C type	1		Irregular surface pattern is observed by the increased microvessel intensity around the pits and image enhance. Thickness and distribution of vessels are homogenous.
	2		More irregular surface pattern is observed by the increased microvessel intensity around the pits and image enhance. Thickness and distribution of vessels are heterogenous.
	3		Surface pattern is completely unclear. Thickness and distribution of vessels are heterogenous. Avascular area (AVA) and scattered microvessel fragments are observed.

Tipo A - 80% pólipos hiperplásicos y 20% adenomas;
Tipo B - 20% adenomas y 80% pólipos hiperplásicos



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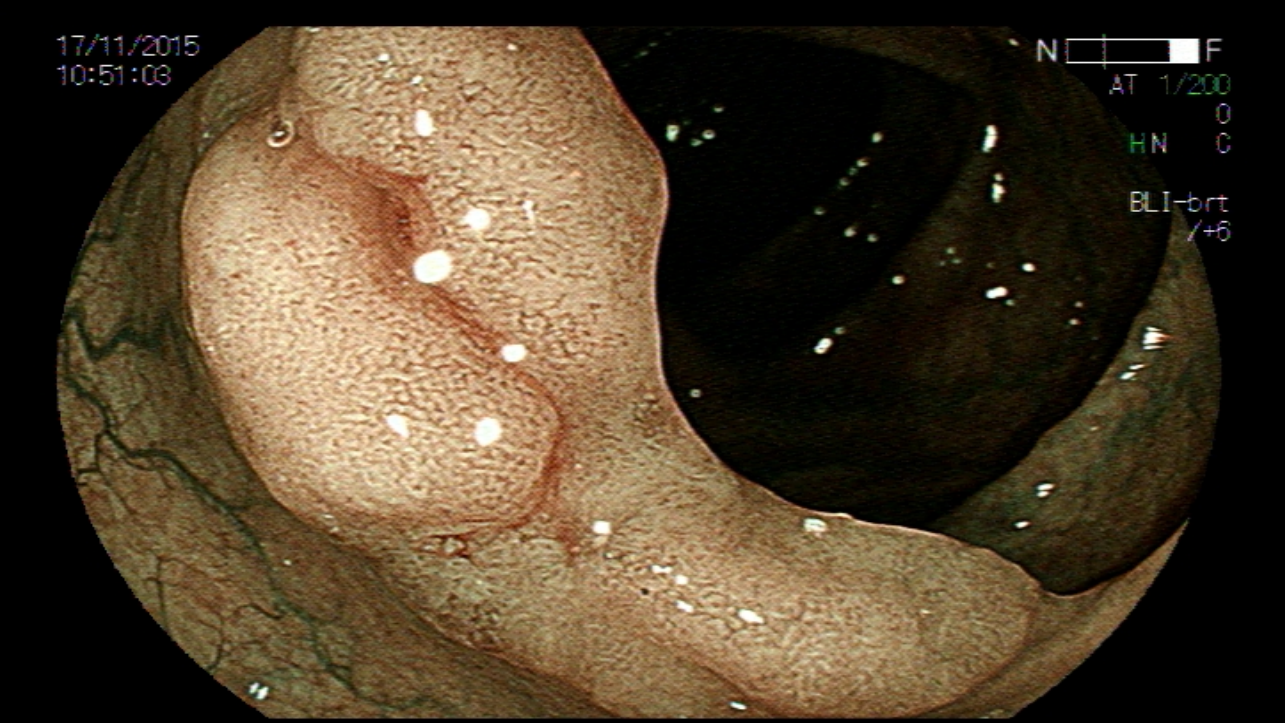
C2		45.5%	54.5%
C3			100%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HN C
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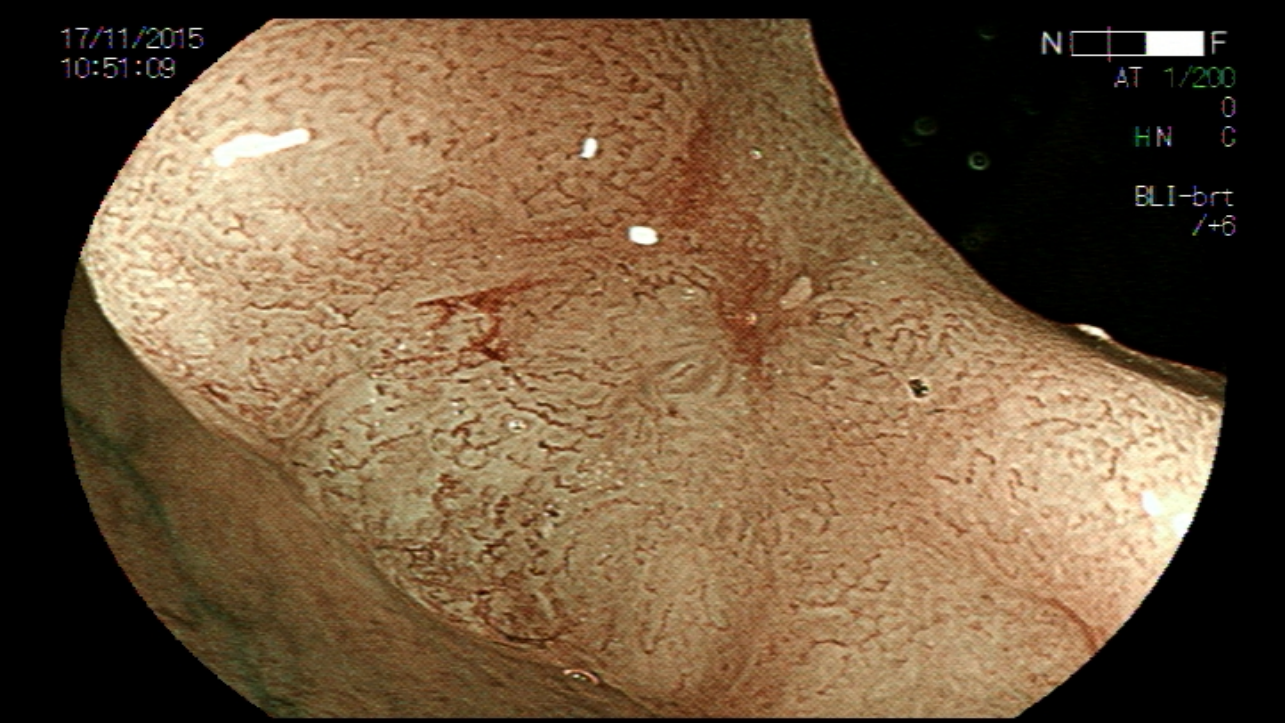
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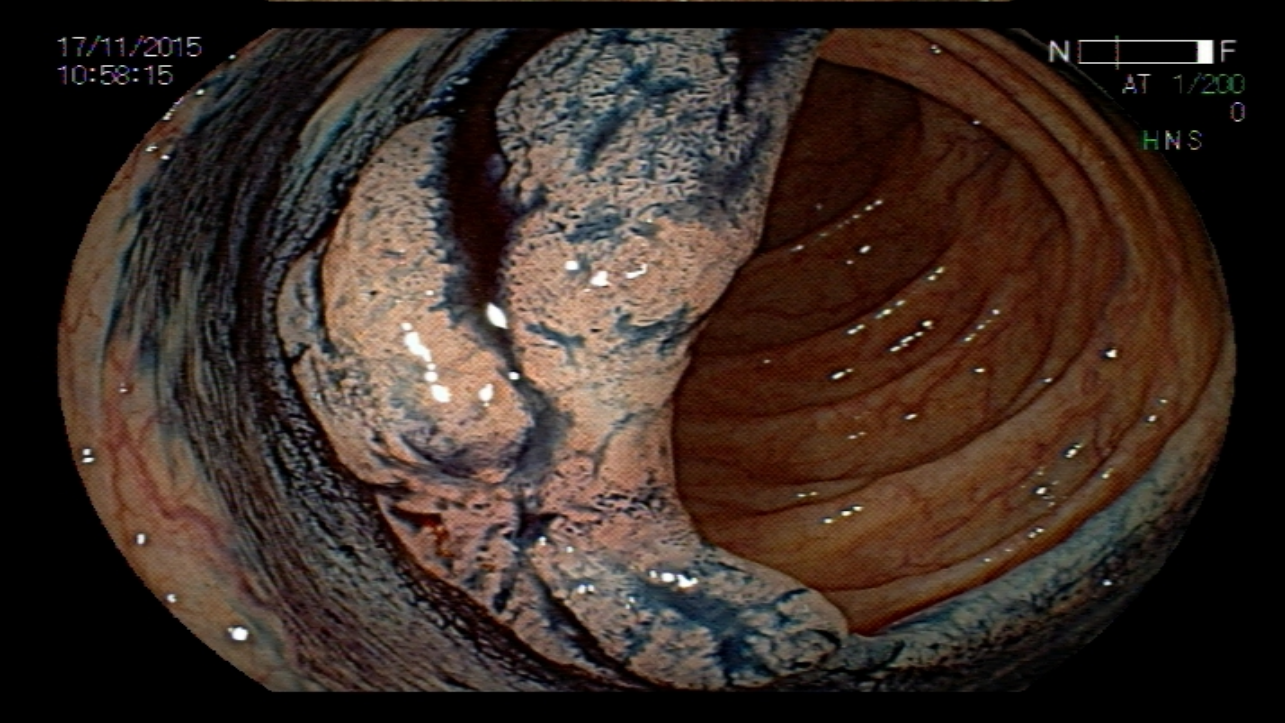
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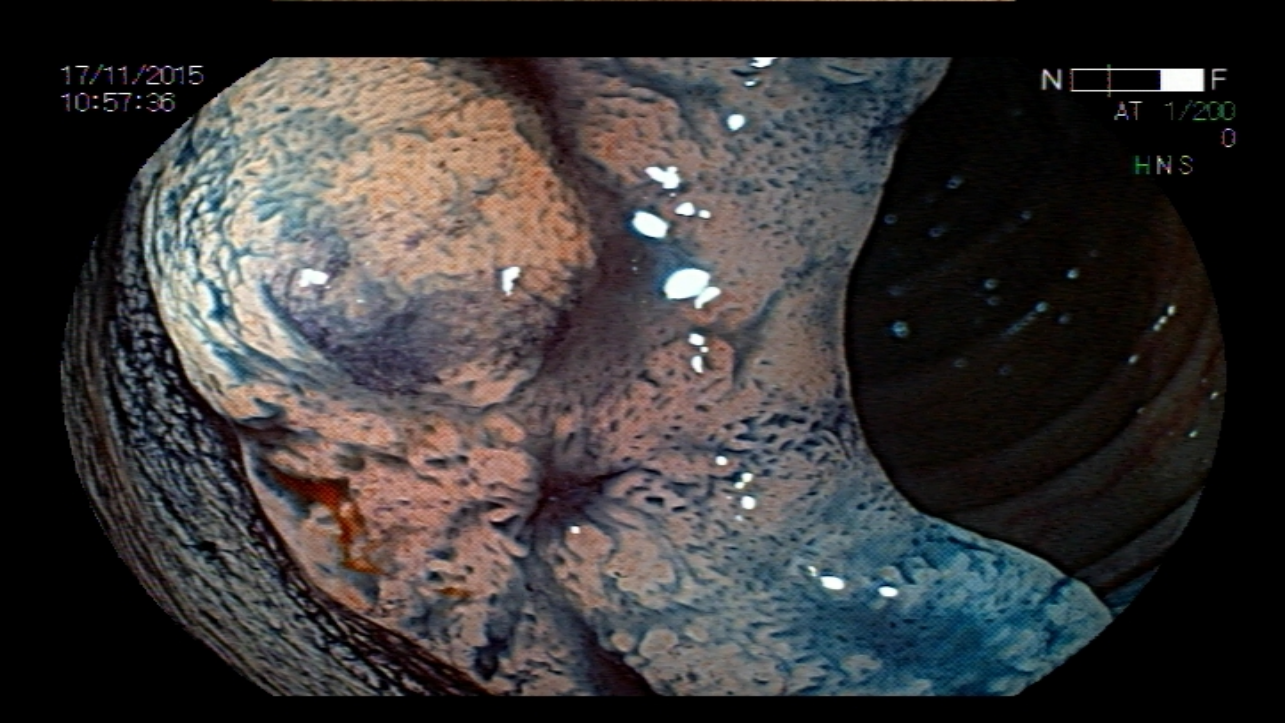
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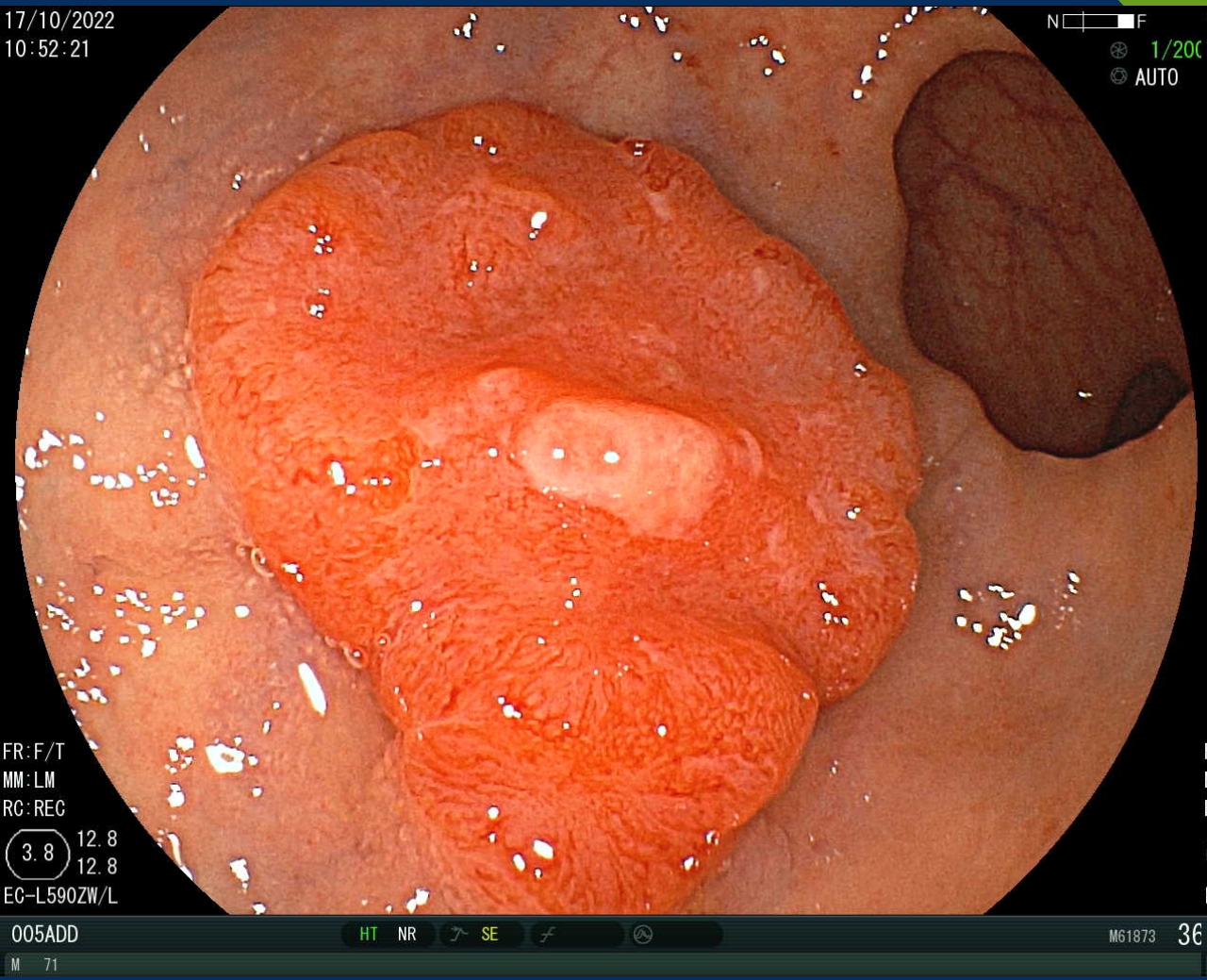
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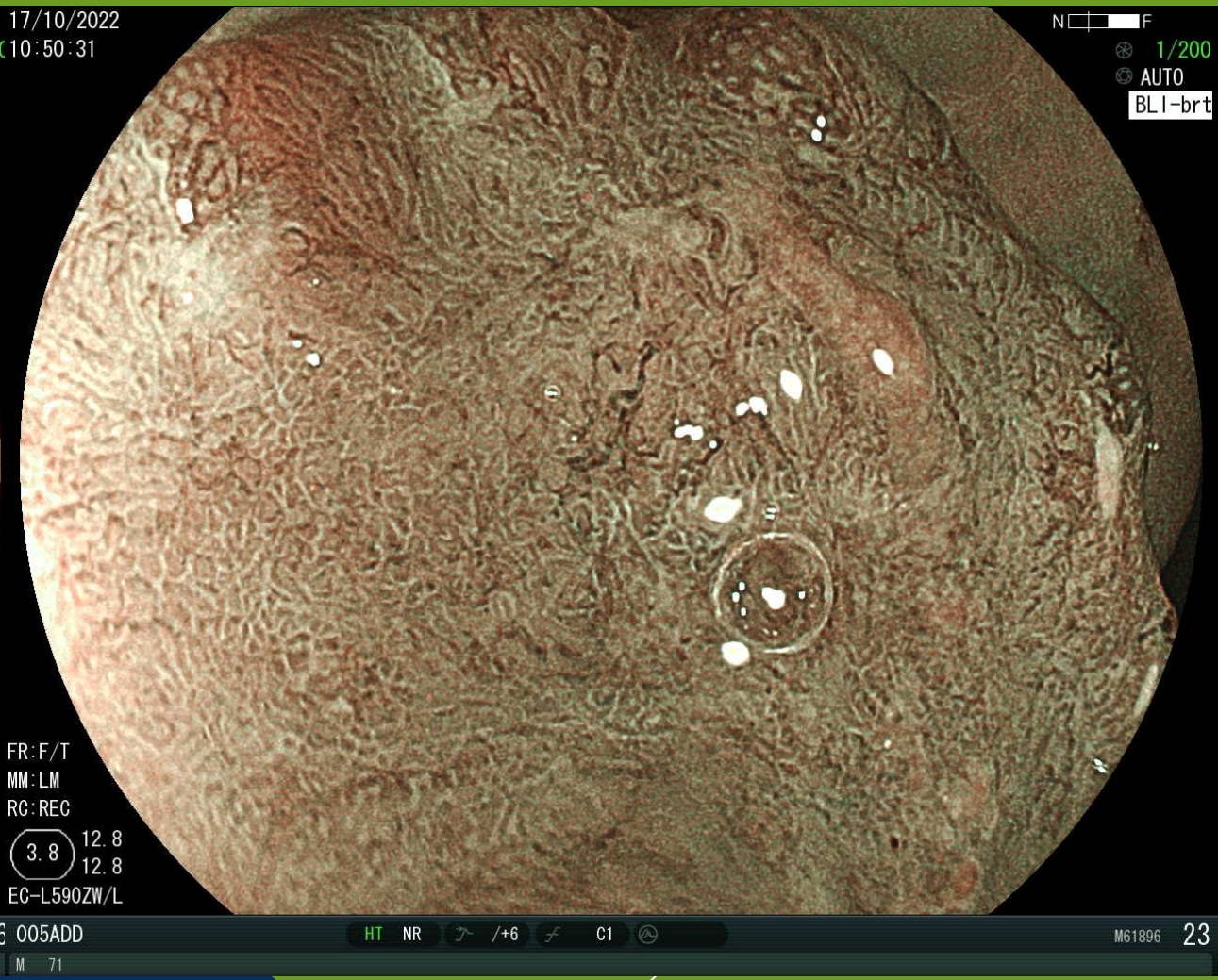
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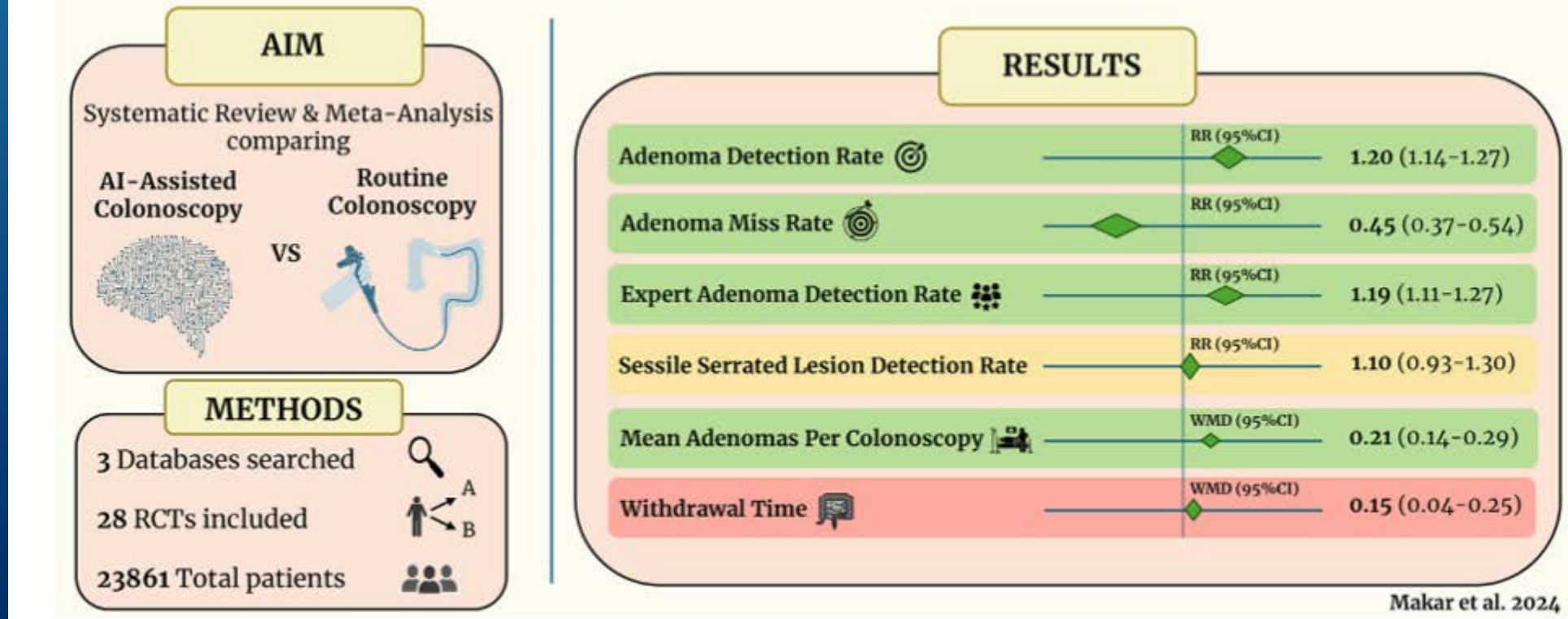
M61896
M 71

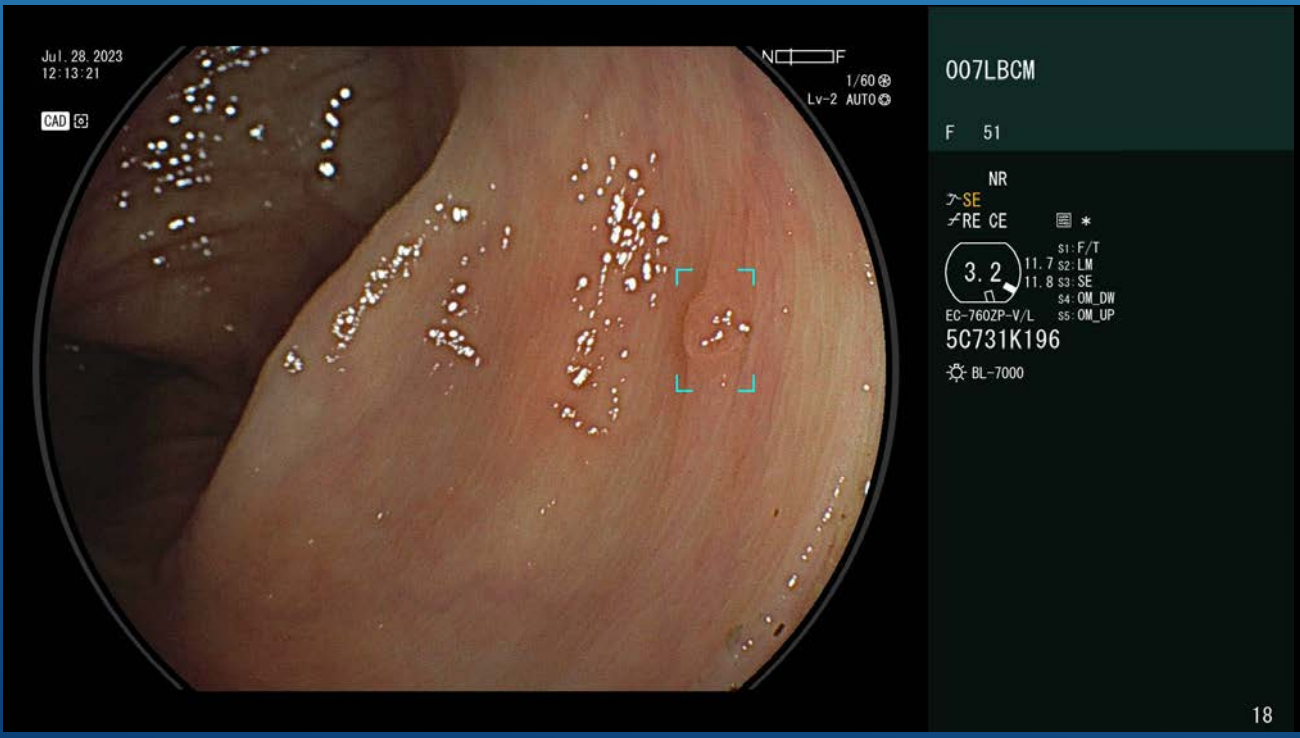
INTELIGENCIA ARTIFICIAL

SYSTEMATIC REVIEW AND META-ANALYSIS

Use of artificial intelligence improves colonoscopy performance in adenoma detection: a systematic review and meta-analysis

Jonathan Makar, BSc,[1] Jonathan Abdelmalak, MBBS (Hons), FRACP,[2,3,4] Danny Con, MD, FRACP,[1,2] Bilal Hafeez, BSc,[1] Mayur Garg, MBBS, PhD, FRACP[1,5]

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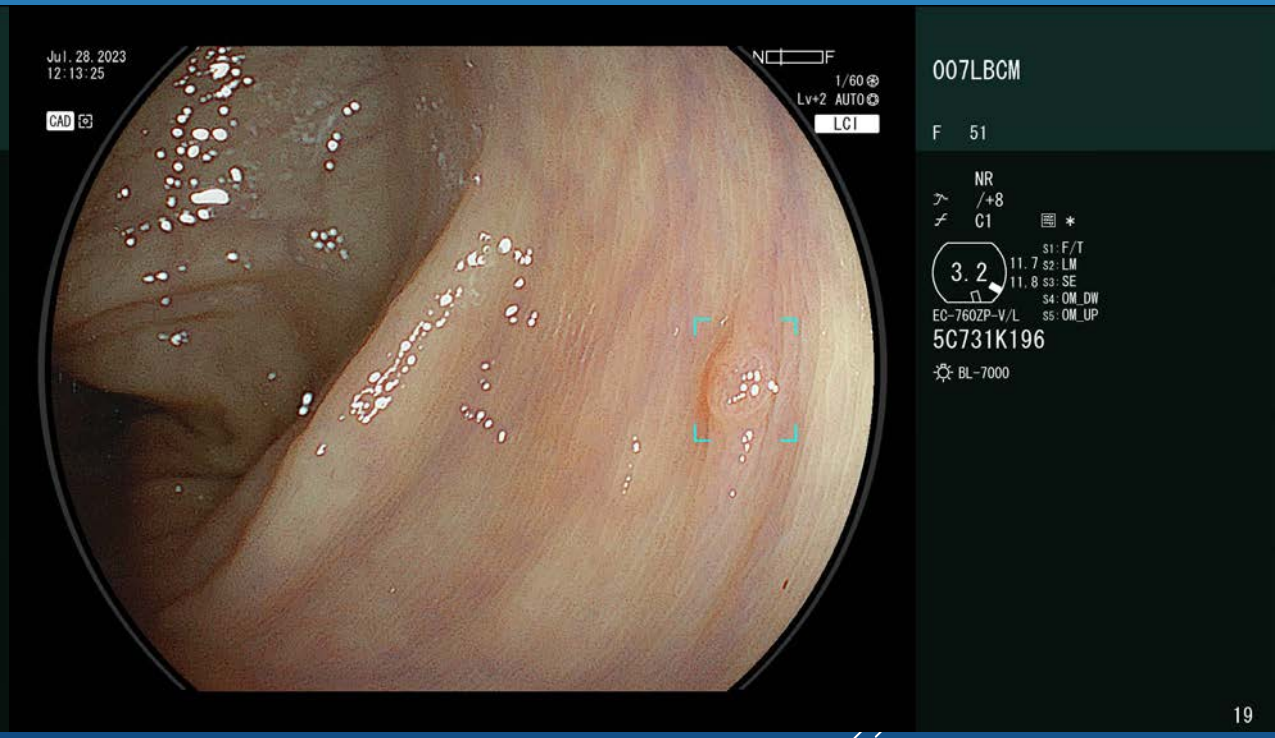
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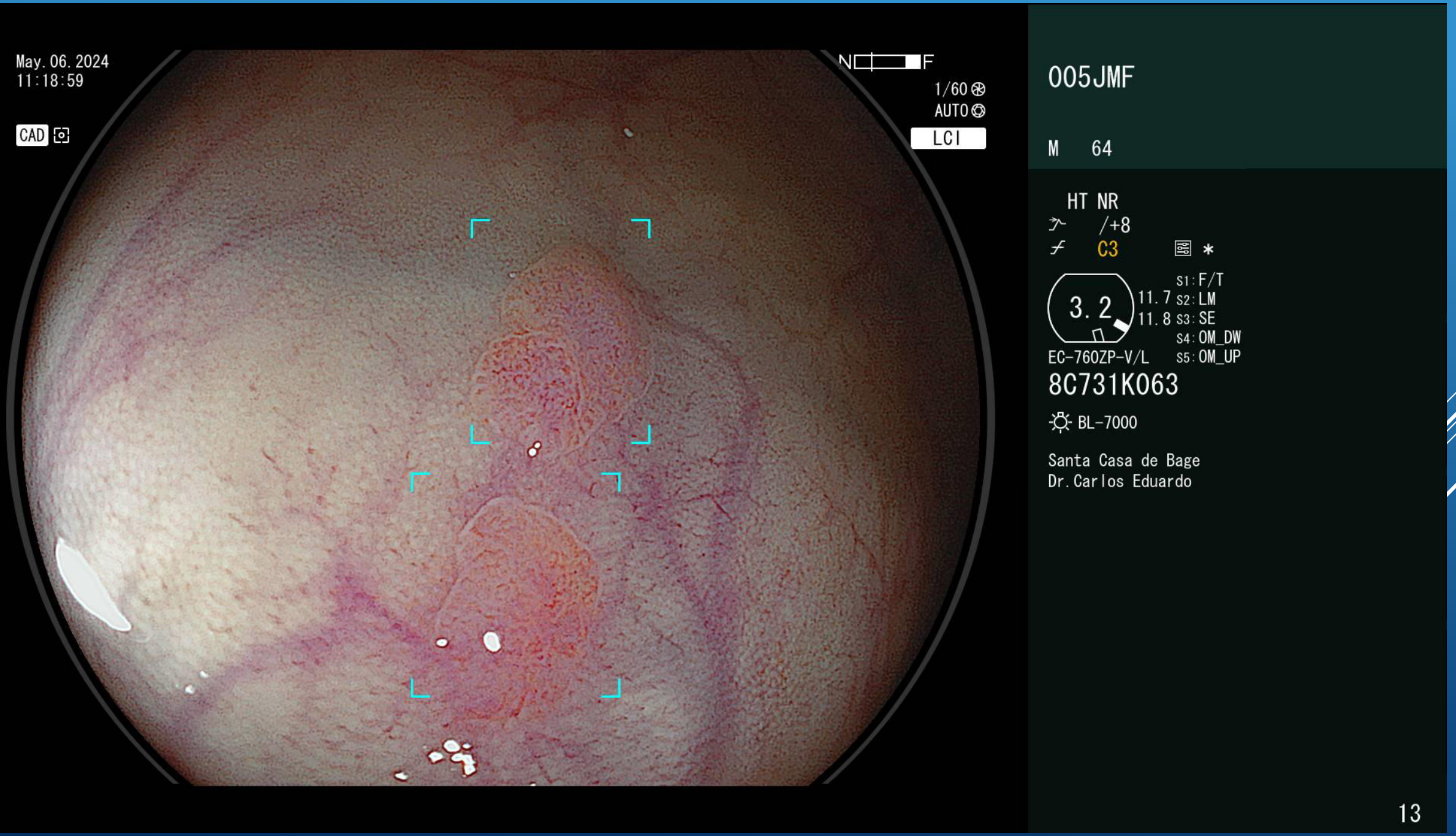
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8C731K063
BL-7000
Santa Casa de Bage
Dr. Carlos Eduardo

Original article

Thieme

Linked-color imaging with or without artificial intelligence for adenoma detection: a randomized trial

OPEN ACCESS

Authors
Kazuya Miyaguchi[1], Yoshikazu Tsuzuki[1], Nobutaka Hirooka[2], Hisashi Matsumoto[2], Hideki Ohgo[3], Hidetomo Nakamoto[2], Hiroyuki Imaeda[1]

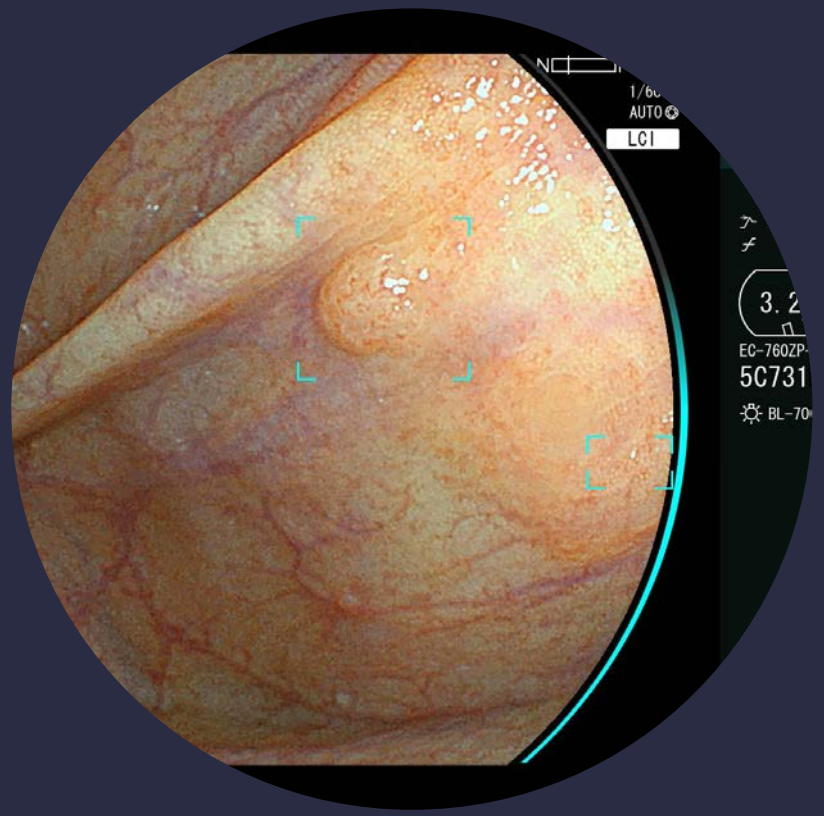
▶ **Table 3** Adenoma detection with linked-color imaging, with and without assistance from artificial intelligence.

	LCA (n = 400)	LCI (n = 400)	Between-group differences[1] [95%CI]	*P* value[2]
ADR, n (%) [95%CI]	235 (58.8) [53.8 to 63.6]	174 (43.5) [38.6 to 48.5]	15.25 [8.40 to 22.10]	<0.001
▪ ADR in experts	145/258 (56.2) [49.9 to 62.3]	116/251 (46.2) [39.9 to 52.6]	9.99 [1.34 to 18.63]	0.02
▪ ADR in trainees	90/142 (63.4) [54.9 to 71.3]	58/149 (38.9%) [31.1 to 47.2]	24.45 [13.31 to 35.59]	<0.001
Relative risk [95%CI] (vs. LCI)				
▪ ADR	1.351 [1.176 to 1.551]	–	–	
▪ ADR in experts	1.216 [1.024 to 1.444]	–	–	
▪ ADR in trainees	1.628 [1.285 to 2.063]	–	–	

[LCA, linked-color imaging with artificial intelligence-assisted colonoscopy; LC, linked-color imaging-assisted colonoscopy; ADR, adenoma detection rate.
[1]LCA – LCI.
[2]Chi-squared test.

Linked color imaging versus artificial intelligence-assisted linked color imaging for neoplasia detection: a randomized trial

Santos et al. 2025 (Submitted)



Characteristic	All (n=622)	LCI group (n=304)	LCI+AI group (n=318)	p-value*
	Mean	Mean	Mean	
Cecal intubation time (min)	3.8	3.8	3.9	0.71
Withdrawal time (min)	11.8	11.8	11.8	0.93
Polyps/patient (number)	1.3	1.2	1.3	0.14
Adenomas/patient (number)	0.9	0.9	0.9	0.19
PDR (%)	66.9	65.1	68.6	0.42
ADR (%)	50.4	48.0	52.6	0.13
SDR (%)	8.4	8.2	8.5	0.90
NDR (%)	54.5	52.3	56.6	0.30
AADR (%)	5.8	5.9	5.7	1.0

Original Article

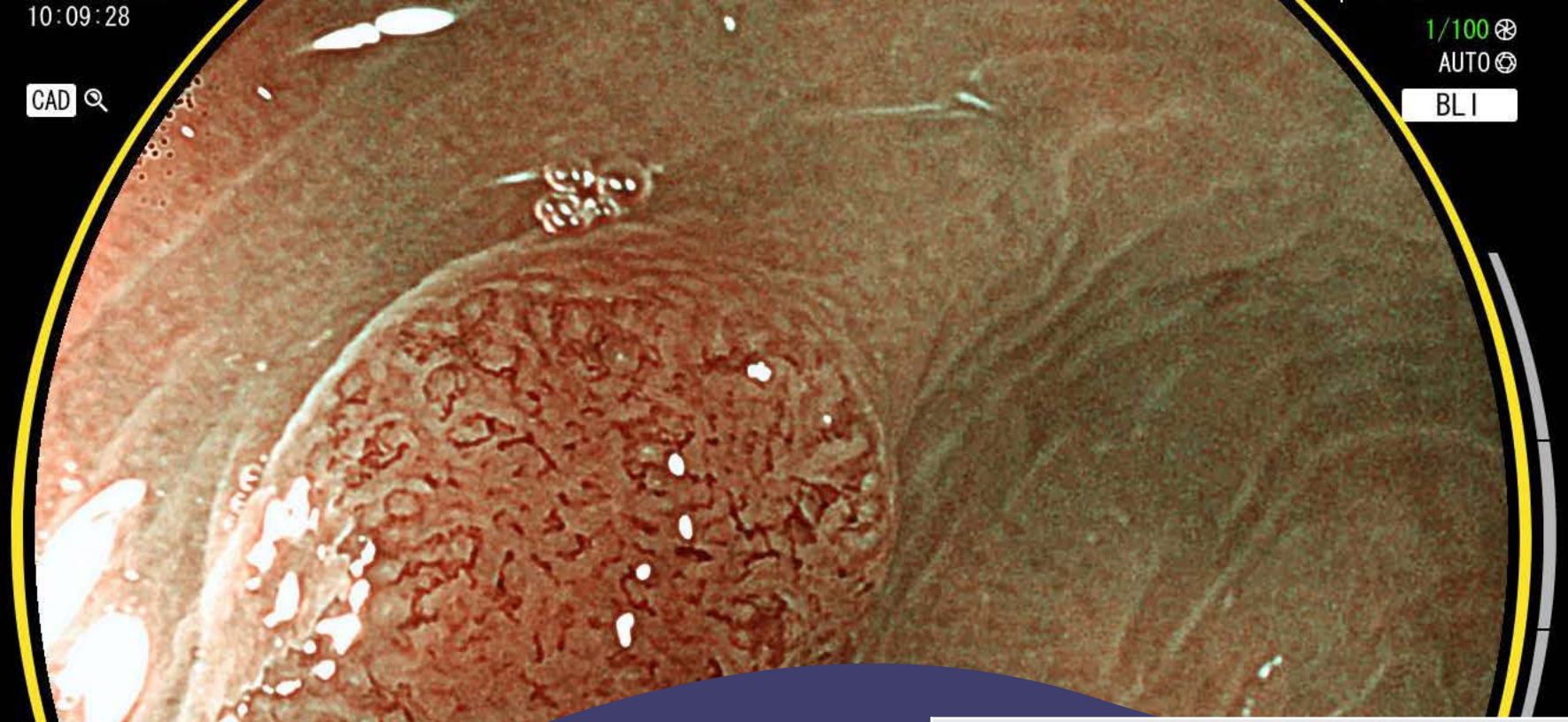
Performance of artificial intelligence in the characterization of colorectal lesions

Carlos E. O. Dos Santos[1,2], Daniele Malaman[1], Ivan D. Arciniegas Sanmartin[3], Ari B. S. Leão[2], Gabriel S. Leão[2], Júlio C. Pereira-Lima[4]

Saudi J Gastroenterol 2023

74 pacientes; 110 lesiones;
PDR = 67.6%; ADR = 45.9%

Variable	Inteligencia Artificial	Expert	Valor p
Acurácia	81.8%	93.6%	p<0.01
Kappa	0.61	0.85	p<0.01
Sensibilidad	76.3%	92.5%	p<0.01
Especificidad	96.7%	96.7%	ns
VPP	98.4%	98.7%	ns
VPN	60.4%	82.9%	p<0.01
AUC	0.87	0.95	p<0.01



AI X histopathology	782 LESIONS
Accuracy	92.1%
Kappa (95%CI)	0.76 (0.70-0.82)
Sensitivity	94.7%
Specificity	81.8%
Positive predictive value	95.3%
Negative predictive value	79.8%
Area under ROC curve	0.88