



**La Fe**  
Hospital  
Universitari  
i Politècnic



XXXI CURSO DE CIRUGÍA GENERAL. SOCIEDAD VALENCIANA DE CIRUGÍA

# MANEJO DEL PÓLIPO CÁNCER EN ANATOMÍA PATOLÓGICA

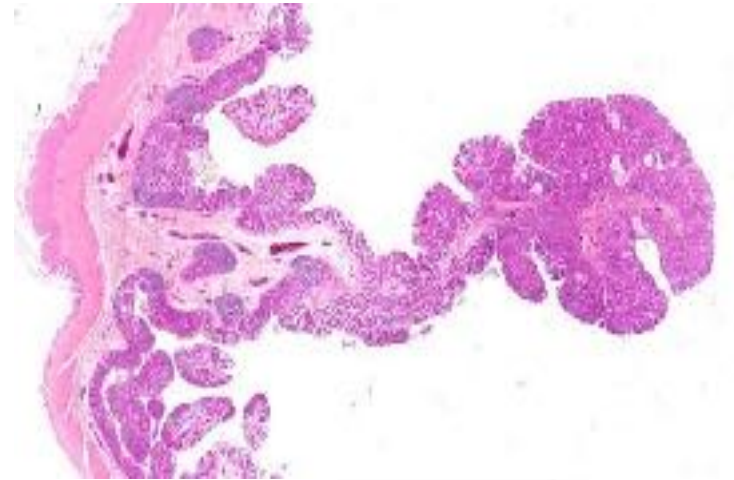
¿Qué información debe dar el patólogo y cuáles son las limitaciones?

1. Pieza de endoscopia
2. Transanal endoscopic operation (TEO)
3. Pieza quirúrgica

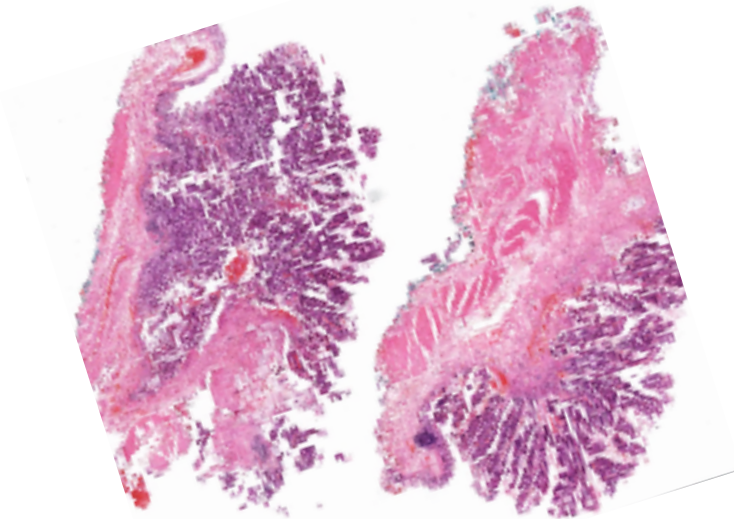
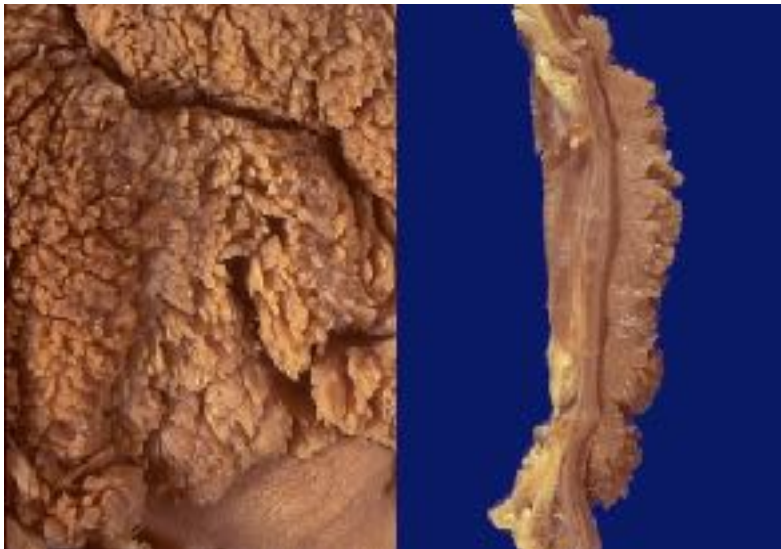
**PIEZA DE RESECCIÓN ENDOSCÓPICA**

# COLON Y RECTO -ADENOMAS-

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**ADENOMAS  
TUBULARES  
80%**

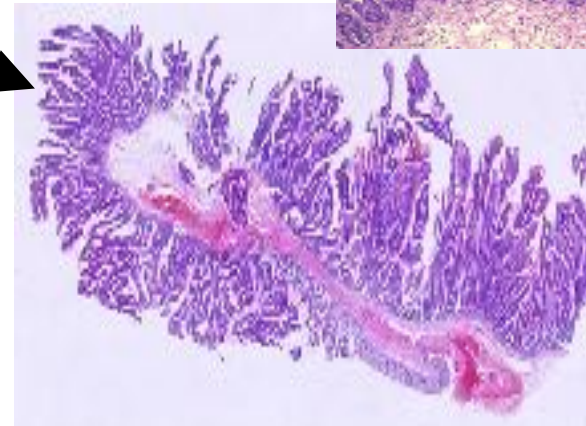
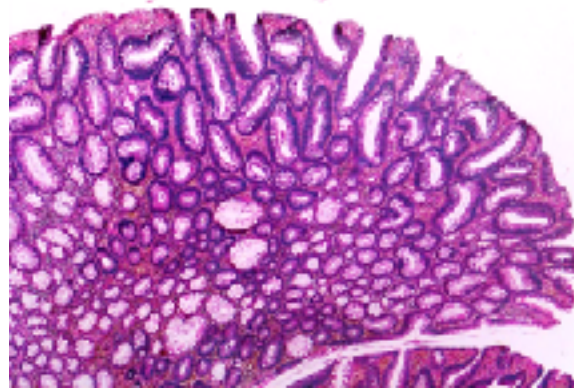
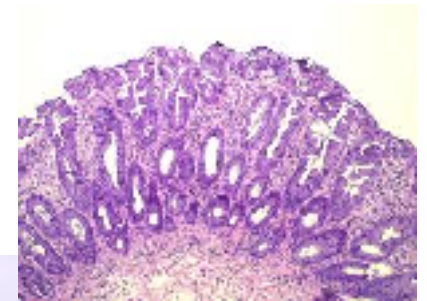
**ADENOMAS  
TUBULO-VELLOSOS  
13-14%**

**ADENOMAS  
VELLOSOS  
5%**

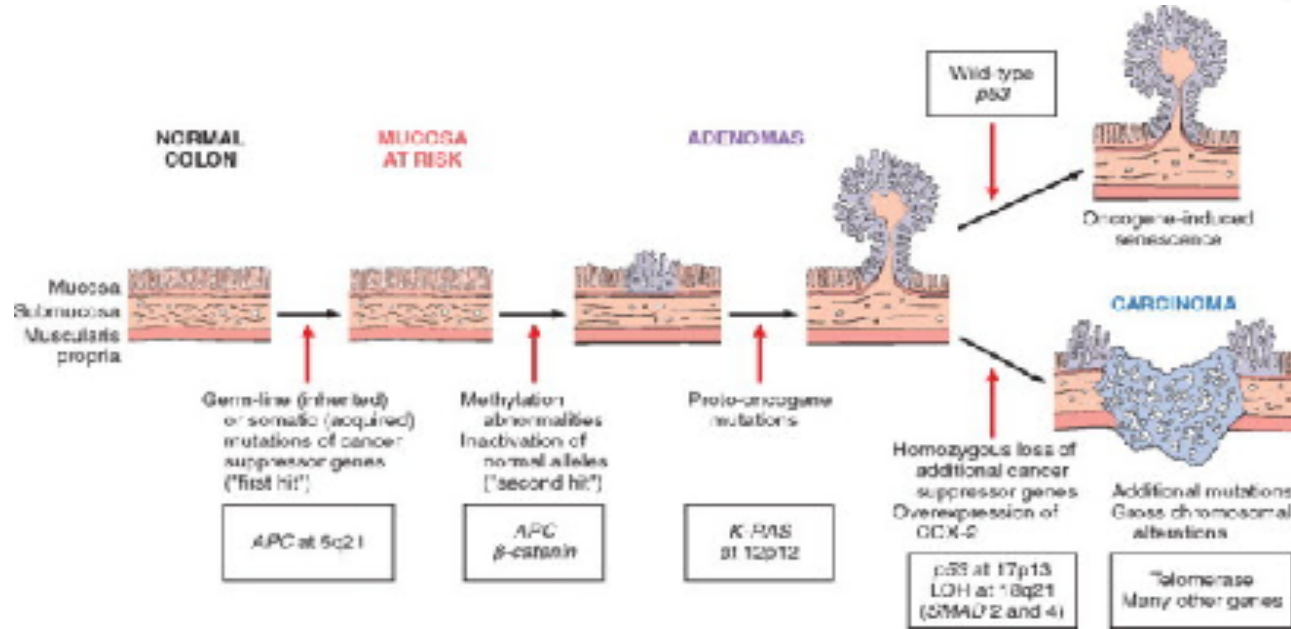
**ADENOMAS  
SERRADOS  
1-2%**



← **Características  
intermedias** →

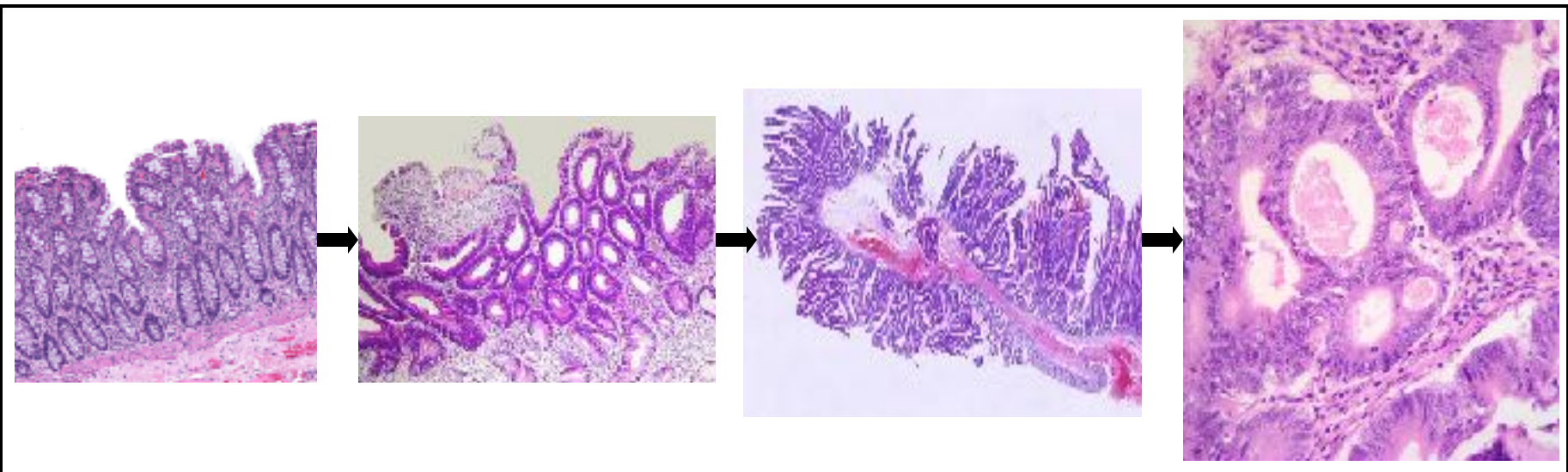


# SECUENCIA ADENOMA-CARCINOMA / fenotipo-genotipo



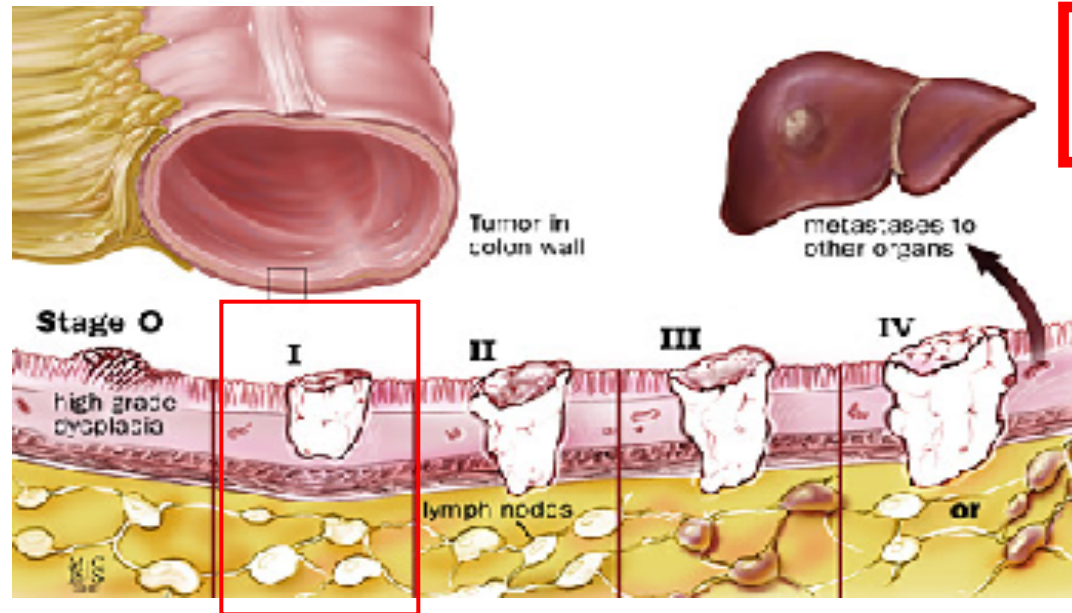
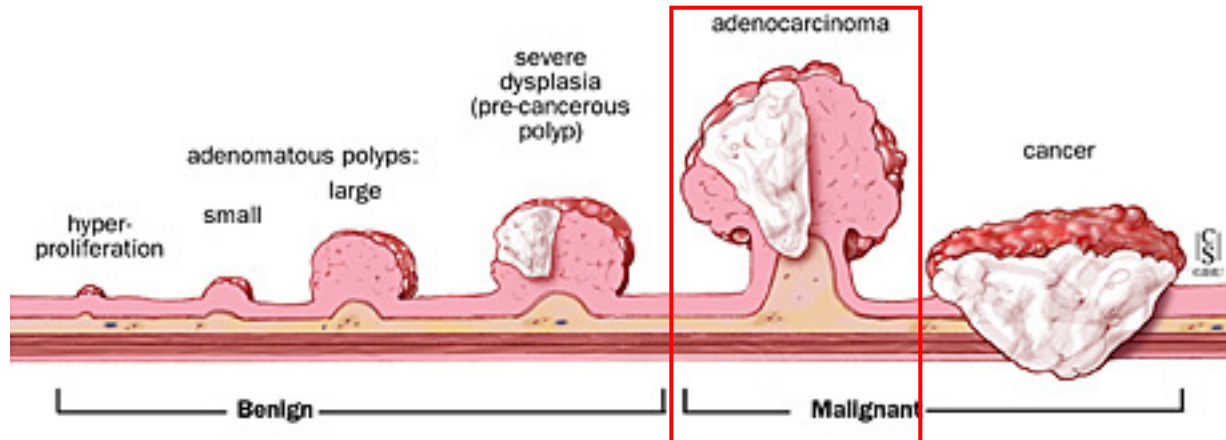
MORSON et al. 1978

10-40 años →



# CÁNCER DE COLON-RECTO

## ADENOCARCINOMA: ESTADIAJE [TNM]



**pT1 N0/1?**

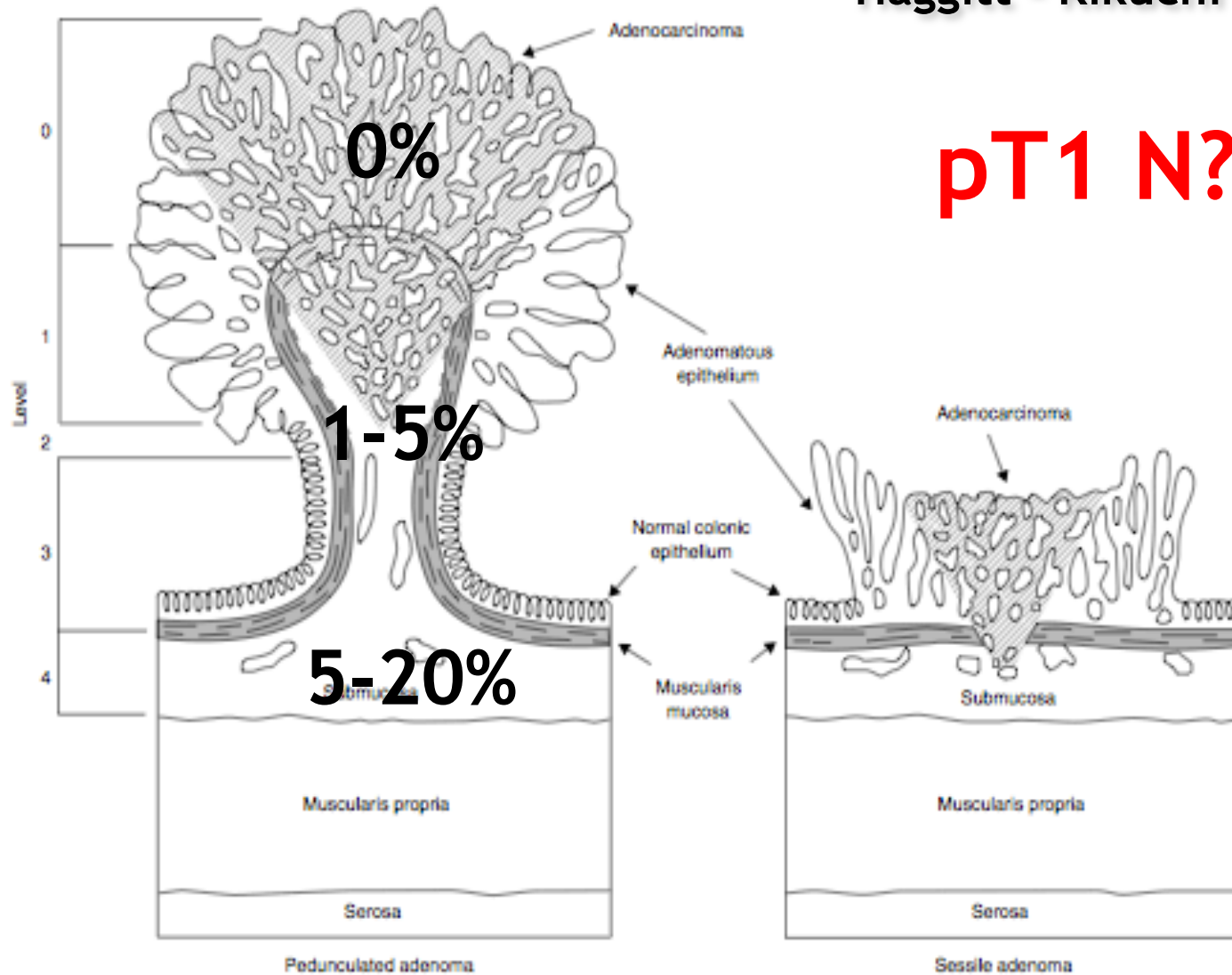


Fig. 3 Schematic view of submucosal invasion, after Haggitt and colleagues<sup>81</sup>, from Haboubi and Scott<sup>5</sup>

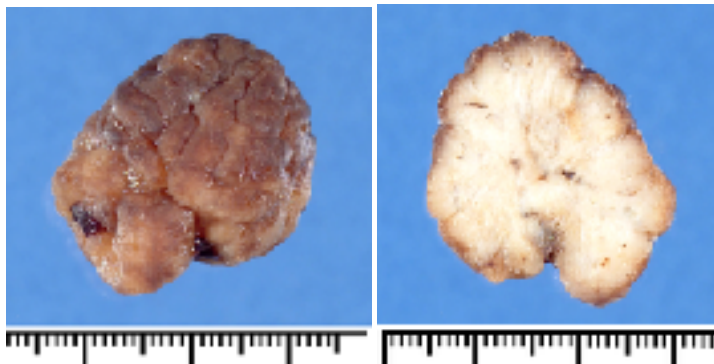
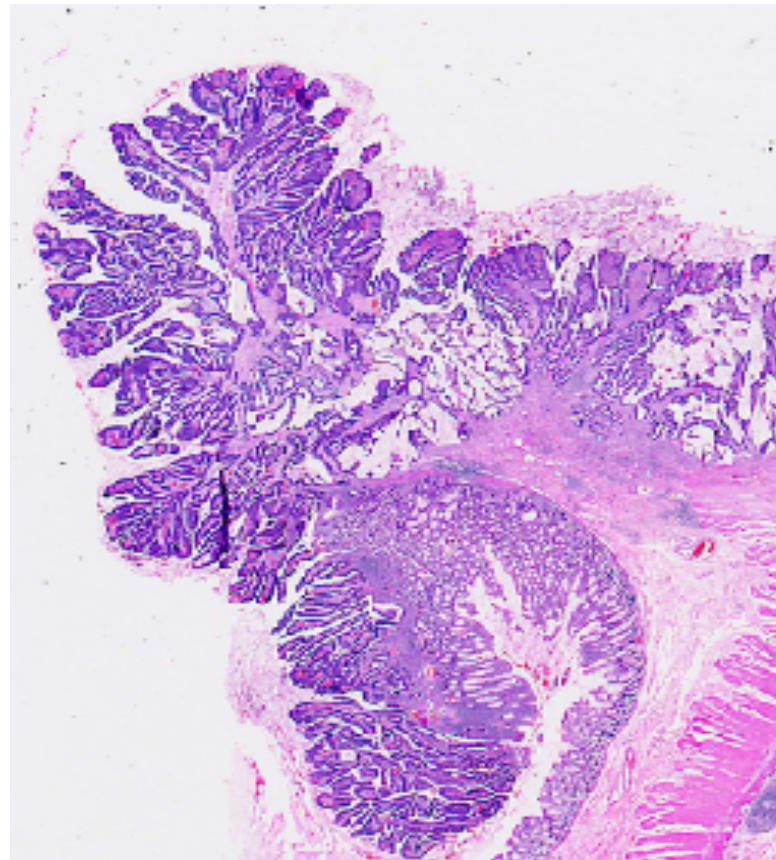
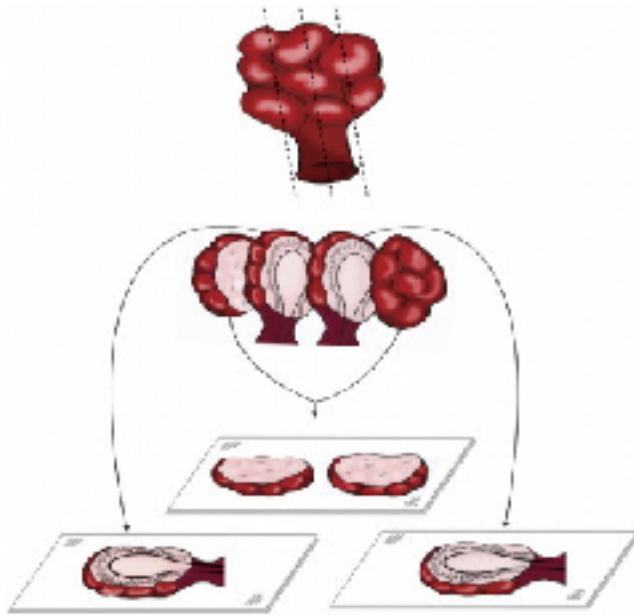


## Adenomas and Malignant Colorectal Polyps

© 1997 by

**Terry Gramlich, MD, Richard Lusk, MD and Robert E Petras, MD**

*Amend's Textbook of Gastrointestinal Pathology and Digestive Disease, Oxford, 1997*



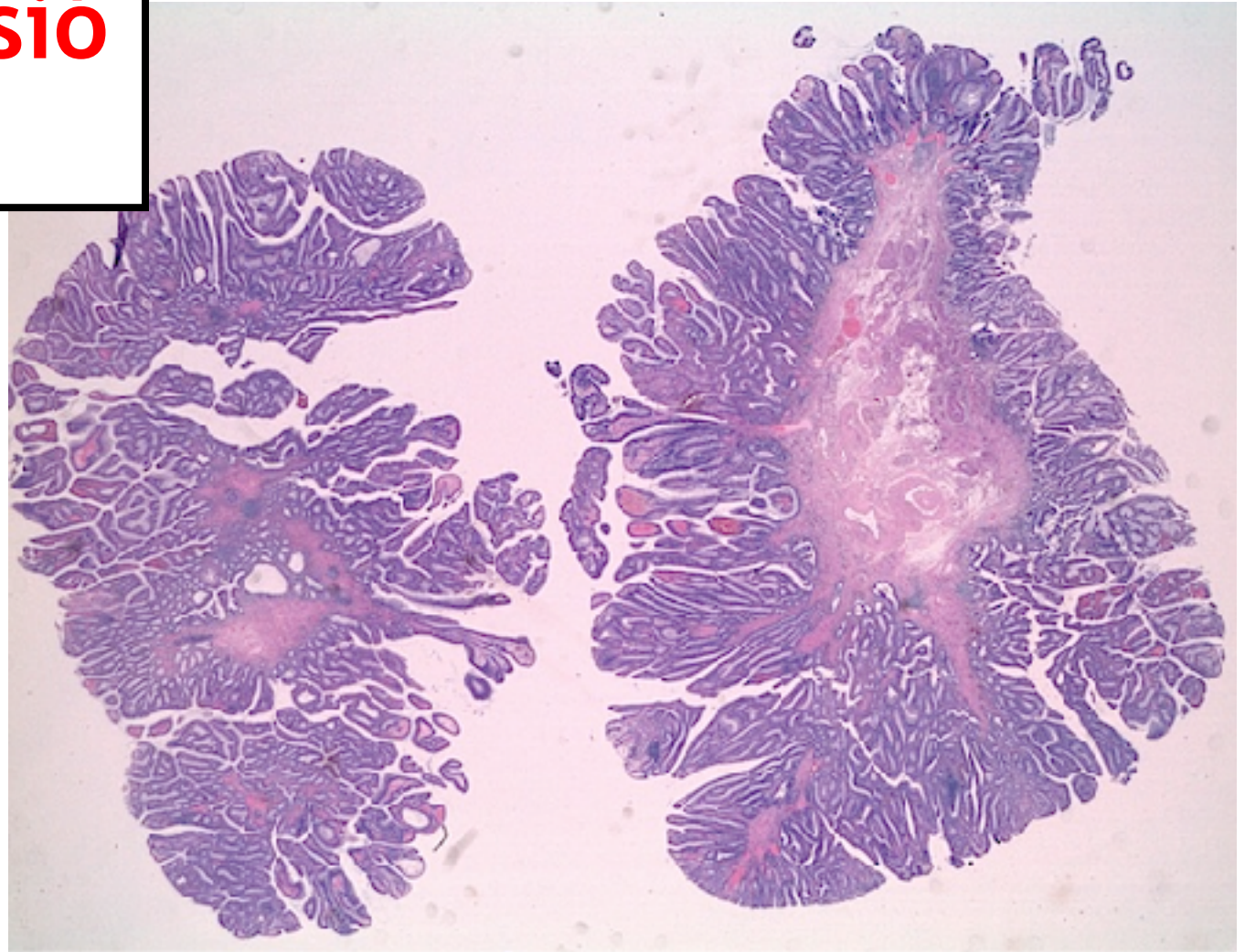
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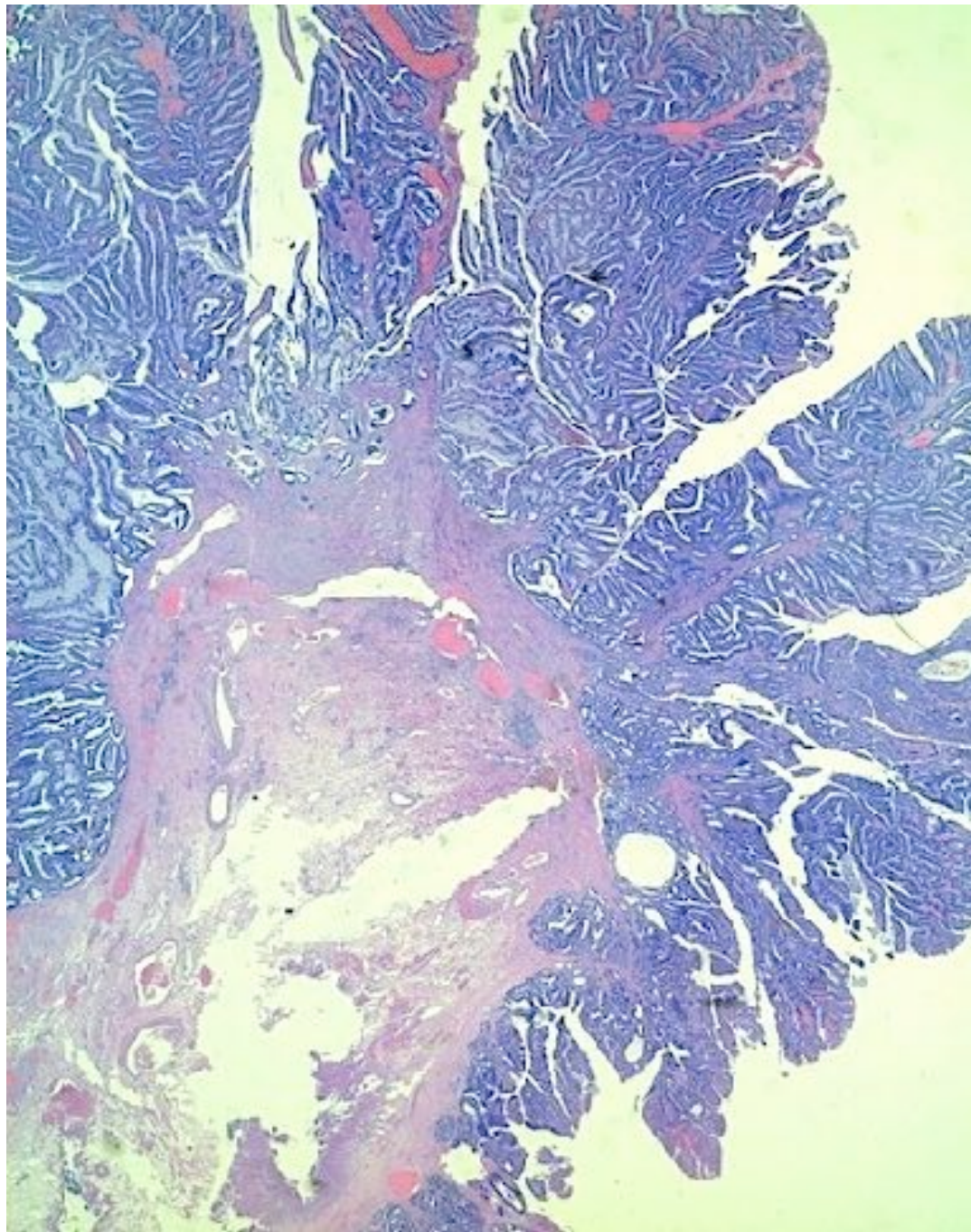
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**Mala  
inclusió  
n**



**CORRECTA  
INCLUSIÓN**



# Limitaciones de la resección endoscópica

- En los pólipos pediculados no observamos el nivel 4 de Haggitt
- No todos los pólipos son pediculados o sésiles, ¿qué sucede con los pólipos semipediculados?
- En los pólipos malignizados con margen de resección <1mm no se puede valorar el pT con seguridad
- La fragmentación en la extirpación limita la valoración del nivel de Haggitt, así como el margen de resección
- La incorrecta inclusión y orientación del pólipo impide la correcta valoración del Haggitt y el margen de resección

## Risk factor assessment of endoscopically removed malignant colorectal polyps

P Netzer, C Förster, R Biral, C Ruchti, J Neuweiler, H Stauffer, R Schönegg, C Maurer, J Hüsler, F Hutter, A Schumacher

Table 2 Comparison of various risk factors with outcome

Groups	Risk factors (N)	N	Adverse outcome	Odds ratio (95% CI)	p Value
Polyp shape	†Sessile v pedunculated	19 v 51	10 v 9	8.3 (2.1 to 34.8)	<0.001
Polypectomy	Incomplete v complete	8 v 62	6 v 10	15.6 (2.2 to 169)	0.001
*Margin of resection	Not cancer-free v cancer-free	24 v 38	9 v 1	20.2 (2.6 to 998)	<0.001
*Lymphatic invasion	†Present v not present	6 v 56	4 v 6	16.7 (1.8 to 204)	0.005
*Venous invasion	†Present v not present	5 v 57	2 v 8	4.1 (0.3 to 40.7)	0.18
*Grade III cancer	†Present v not present	5 v 57	2 v 57	4.1 (0.3 to 40.7)	0.18
*Polypoid cancer	†Present v not present	6 v 56	3 v 7	7 (0.7 to 60.6)	0.048
Risk categories	High risk v low risk	38 v 32	16 v 0	Infinite (5 to infinite)	<0.001

The odds ratio for an adverse outcome is given regardless of the presence or absence of various risk factors.

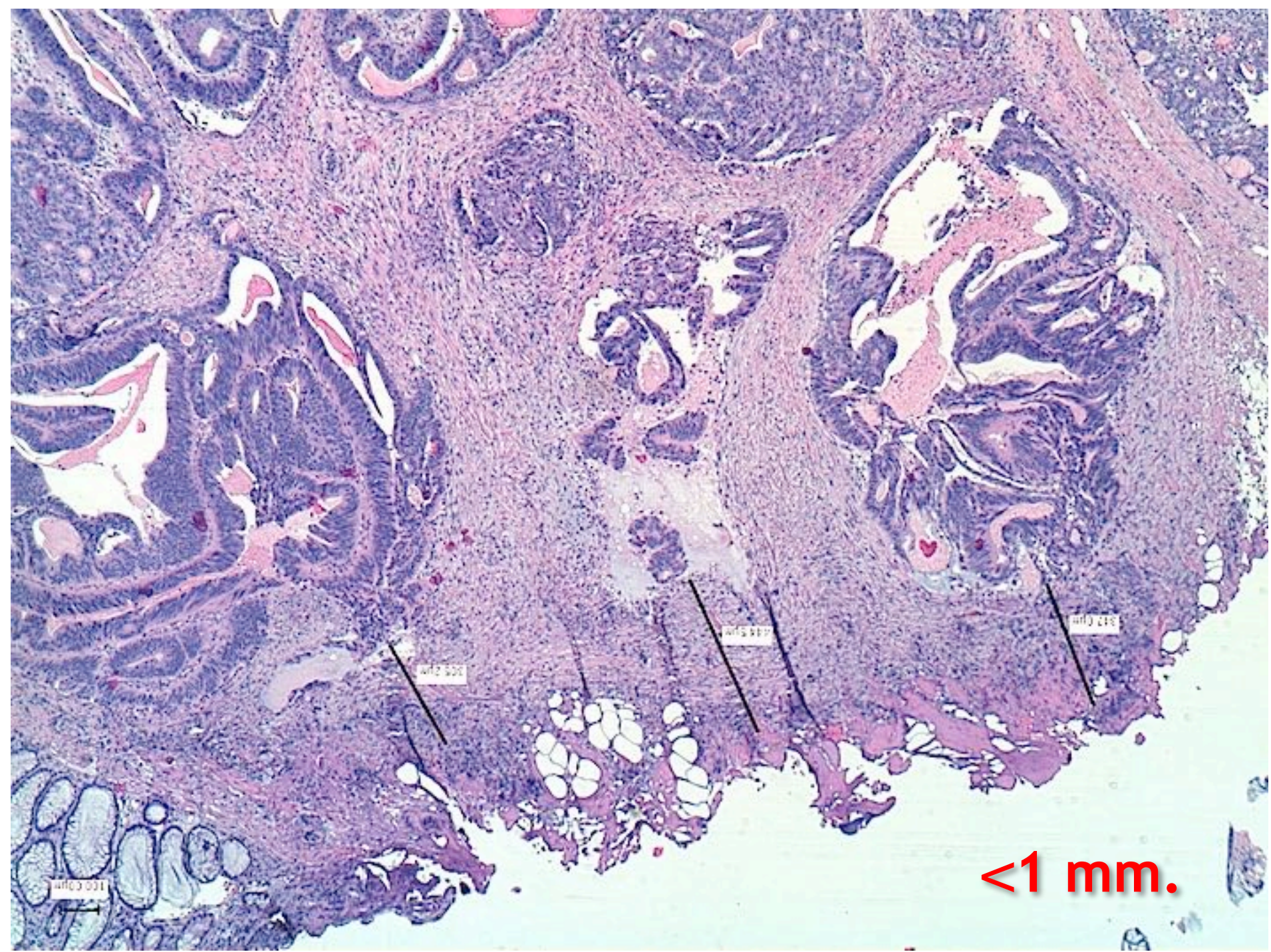
\*Eight of the 70 malignant polyps had incomplete or piecemeal resection; as their histological features could not reliably be determined, they were excluded from this analysis.

†These risk factors had only an adverse outcome in combination with other risk factors.

**MARGEN RESECCIÓN:** controvertido definir margen seguridad

> 1 MM. (COOPER ET AL. 1995)

> 2 MM. (VOLK ET AL. 1995)



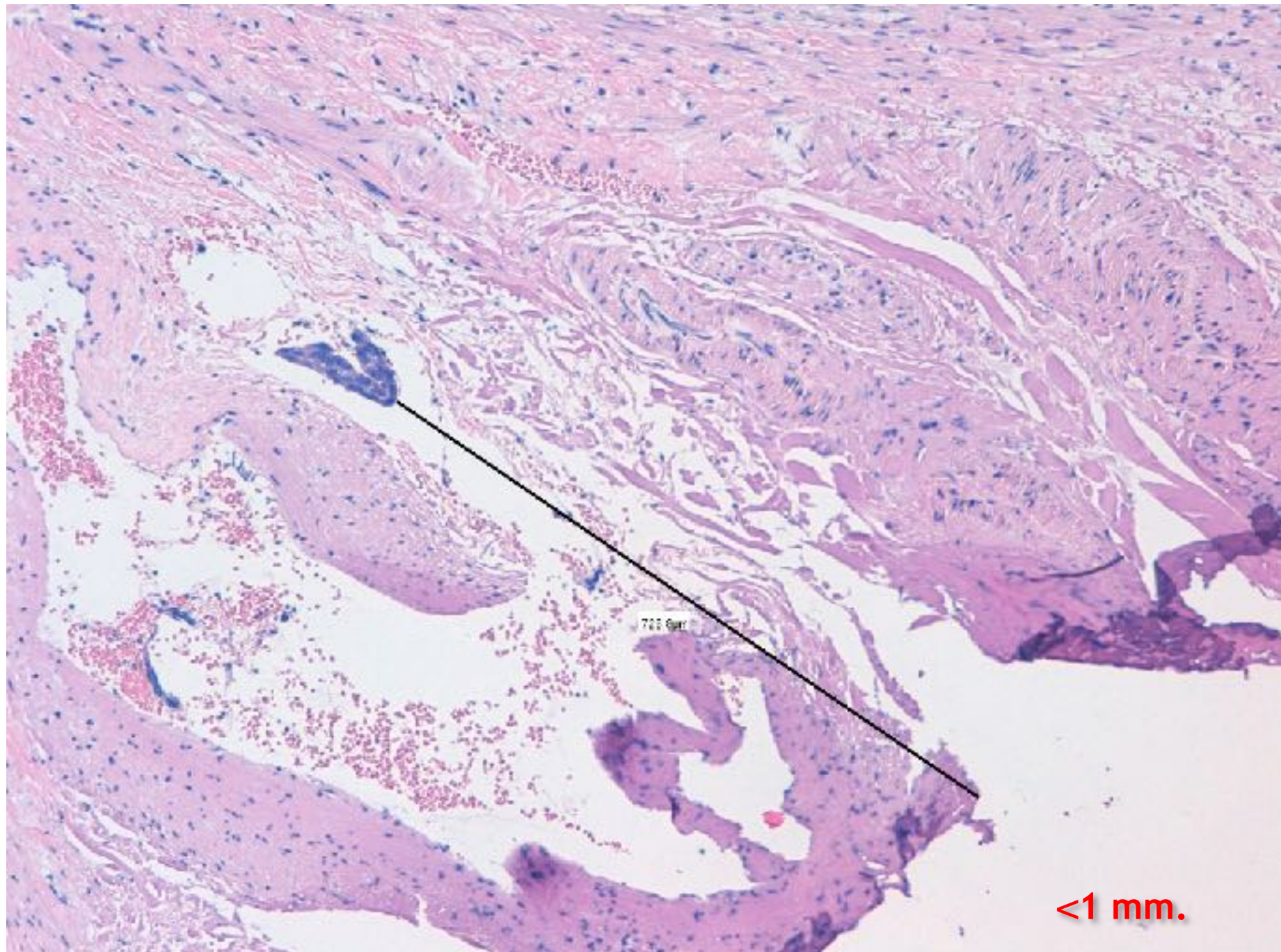
<1 mm.

100 μm

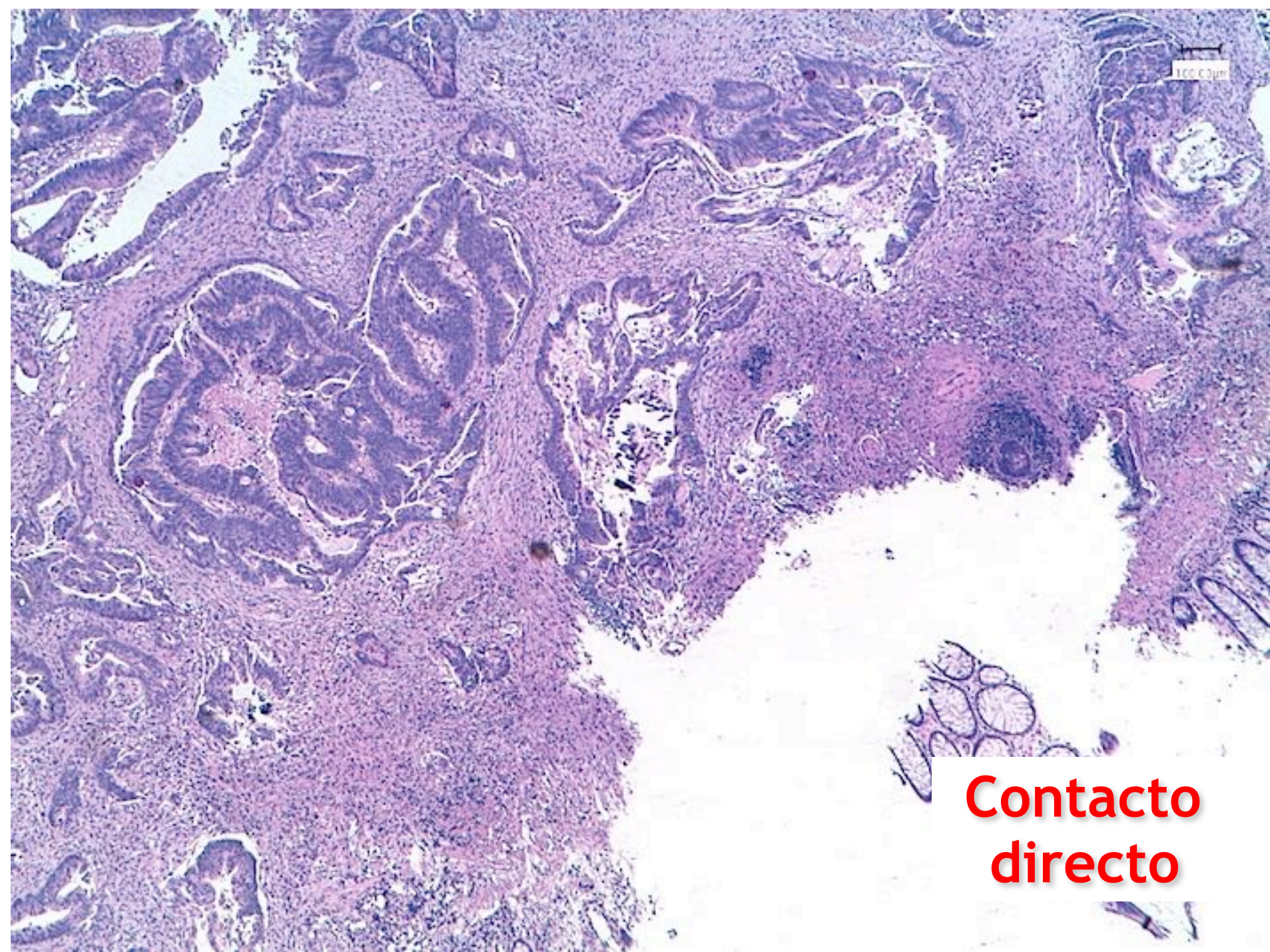
Gland 1

Gland 2

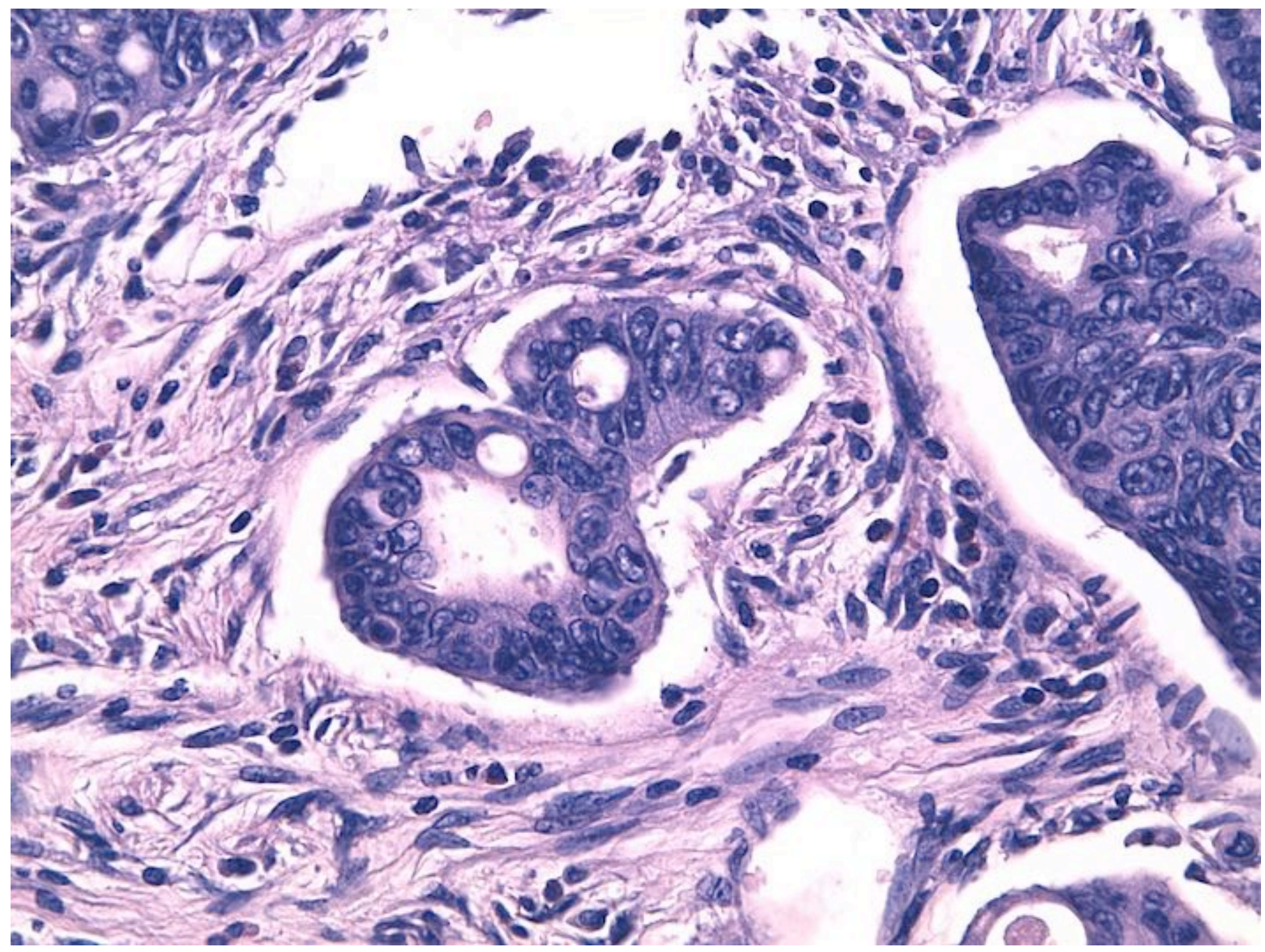
Gland 3

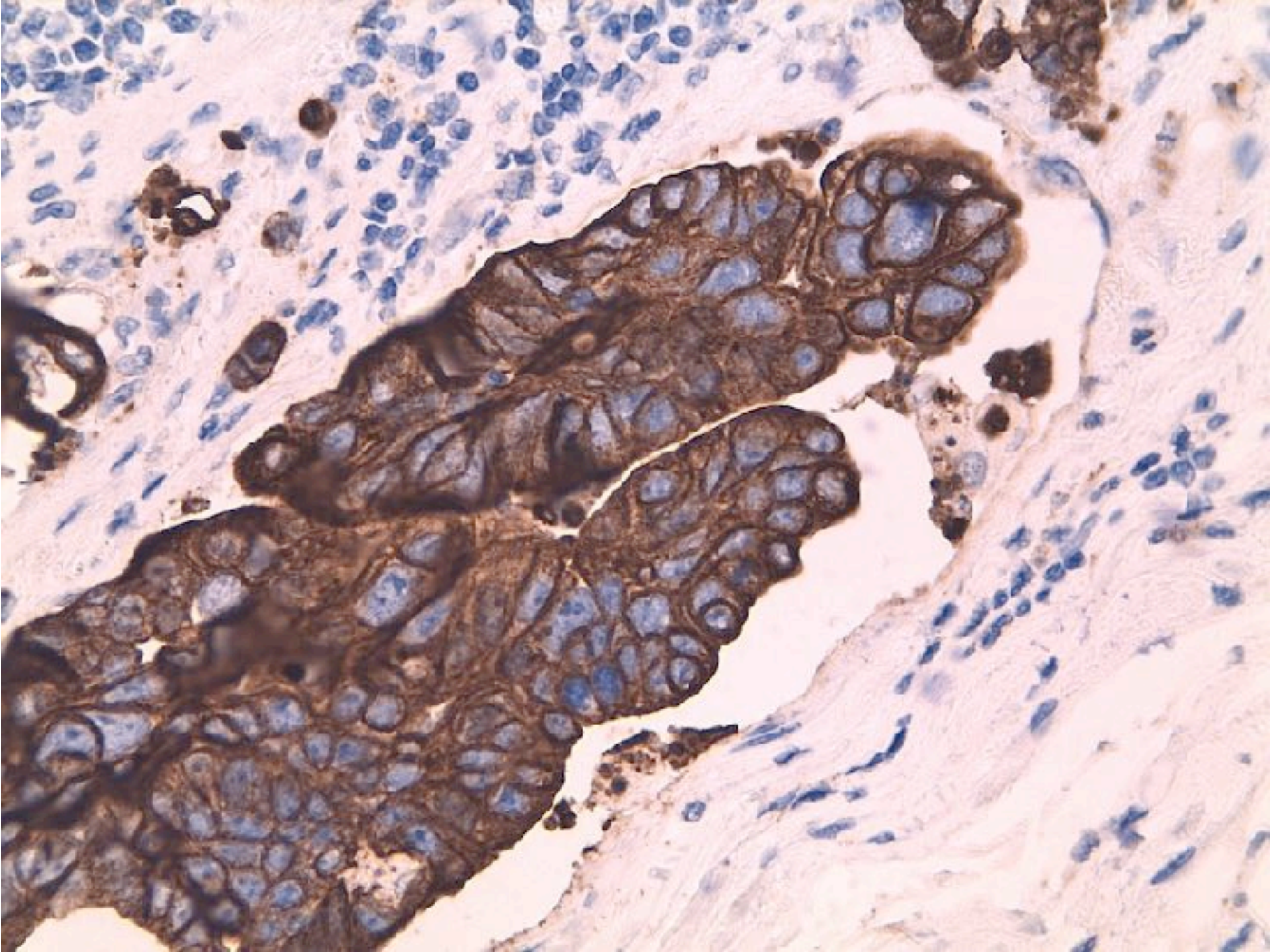




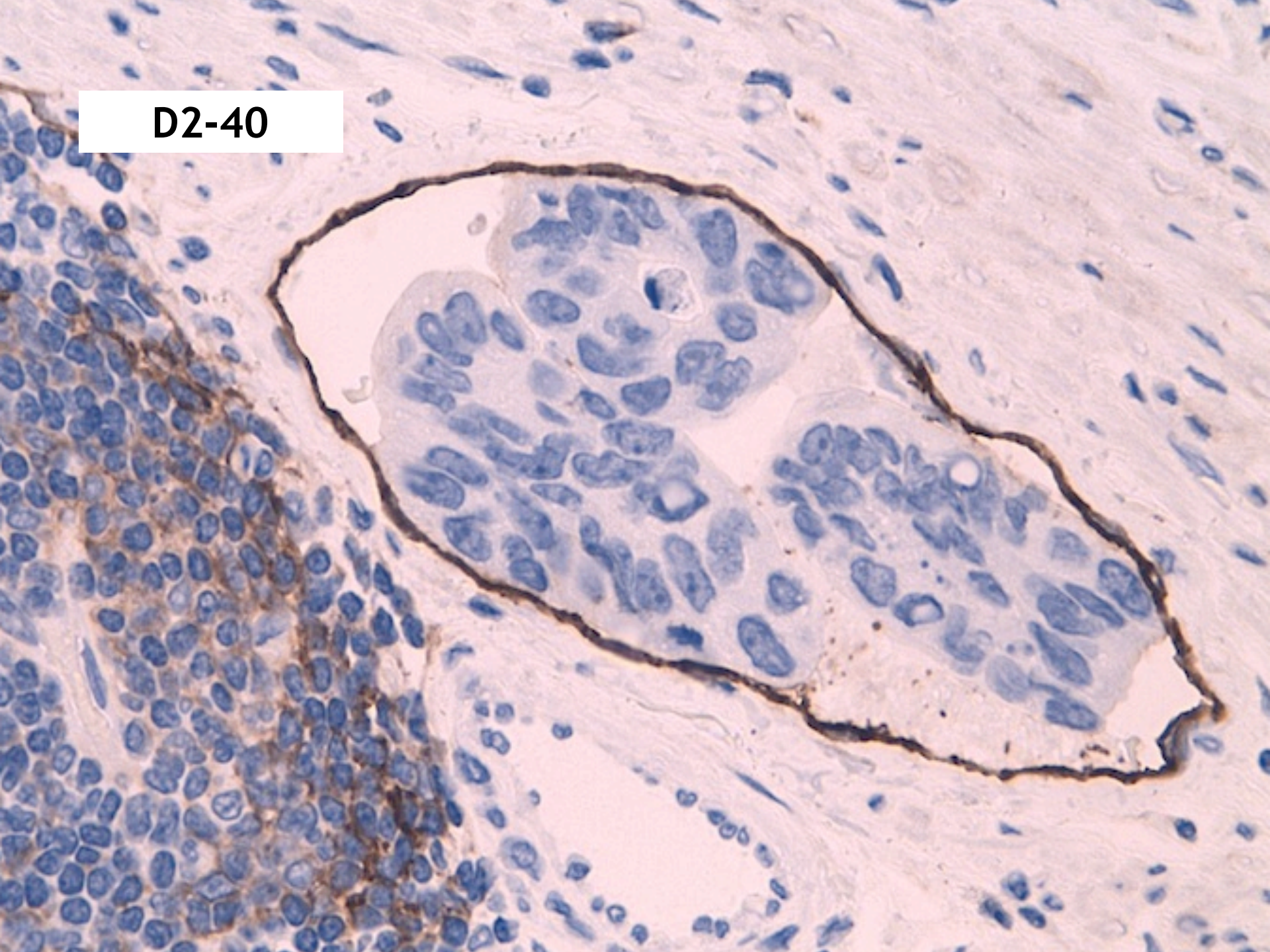


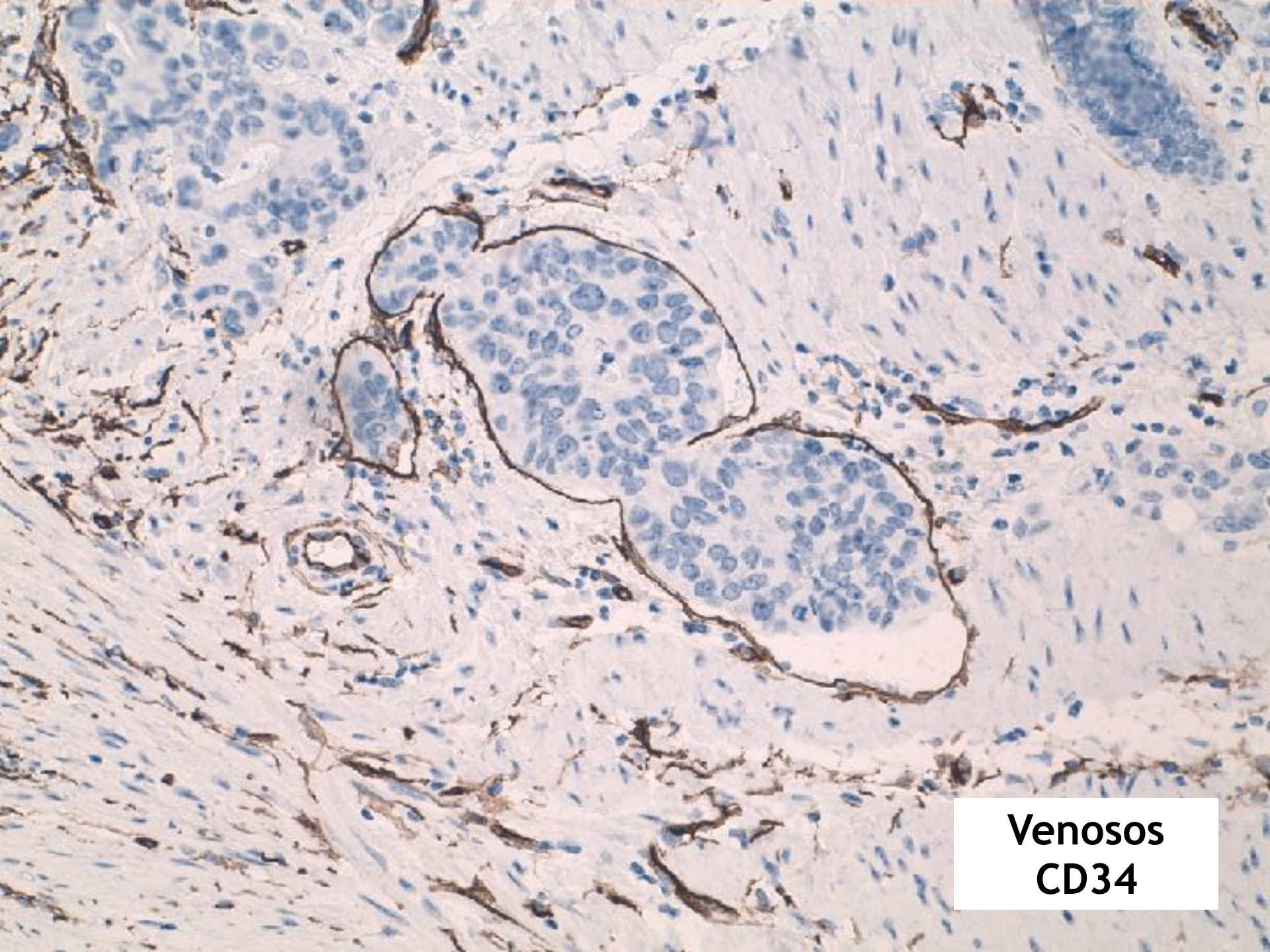
**Contacto  
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D2-40



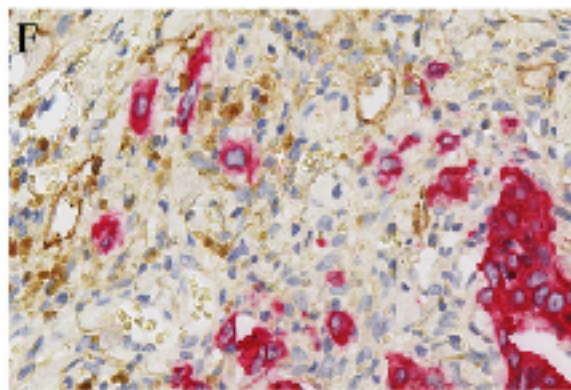
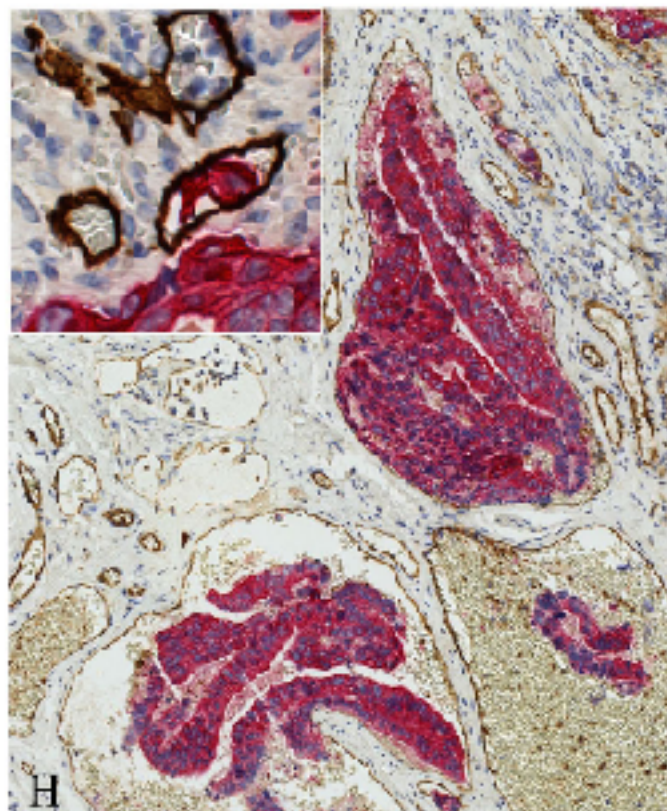
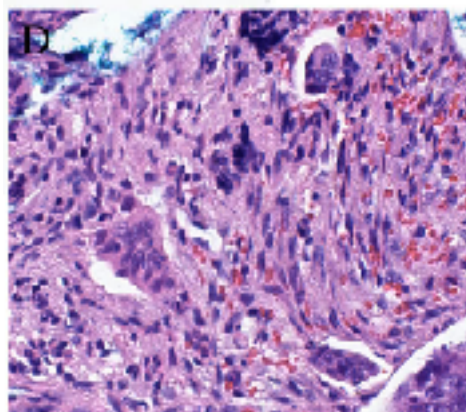
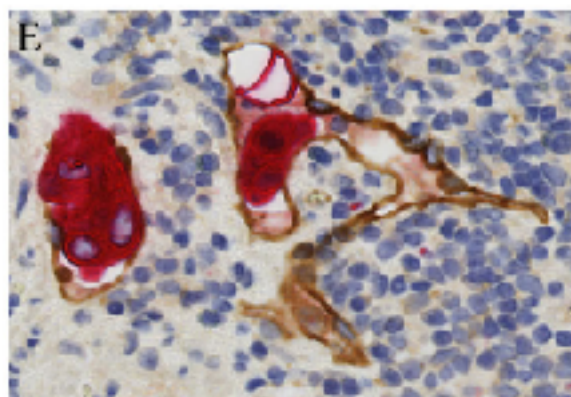


**Venosos  
CD34**

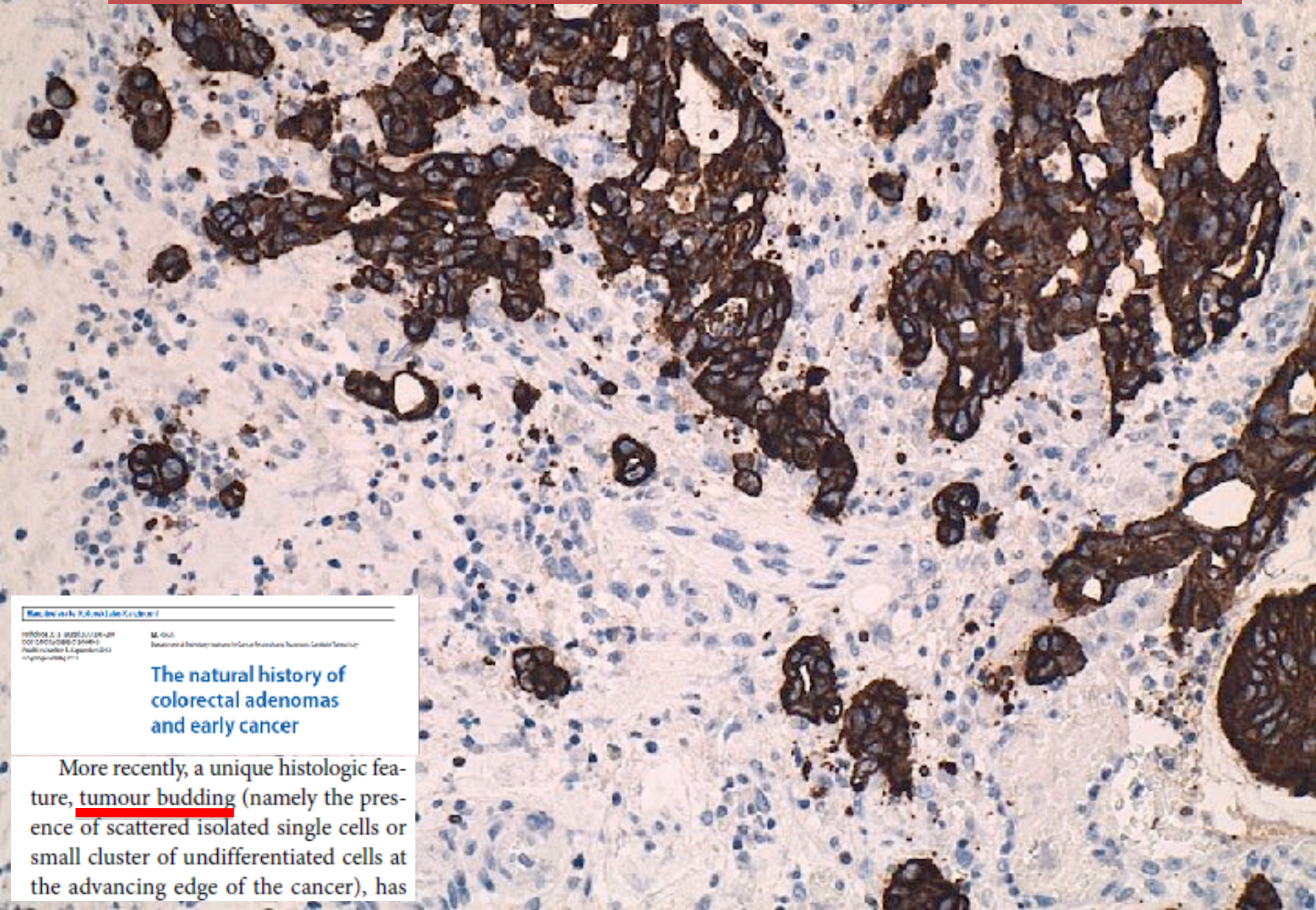
## Double immunohistochemistry enhances detection of lymphatic and venous invasion in early-stage colorectal cancer

A. J. Irvine<sup>1</sup> · H. A. McBride<sup>1</sup> · P. J. Kelly<sup>1</sup> · M. B. Loughrey<sup>1</sup>

**In conclusion, although this study is limited by its respective nature and small numbers, it suggests D-IHC employing epithelial and endothelial markers may offer a routine, sensitive and accurate method of detecting and distinguishing LI and VI. This is of particular relevance to early-stage CRC but of potential clinical application to a wide range of other cancers. The clinical significance of LI and VI detected in order**



# «tumor budding»



Review article published in *Journal of Cellular Biochemistry*

WITKOWSKI J, J. (2023), 123-135  
DOI: 10.1002/jcb.25444  
Published online 15 September 2023  
in Wiley Online Library

M. Gull  
Department of Biomedical Sciences, University of Medicine and Health Sciences, Faculty of Medicine

## The natural history of colorectal adenomas and early cancer

More recently, a unique histologic feature, tumour budding (namely the presence of scattered isolated single cells or small cluster of undifferentiated cells at the advancing edge of the cancer), has

# «*tumor budding*»

British Journal of Cancer (2006) 94, 273–278

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www.bjancer.com

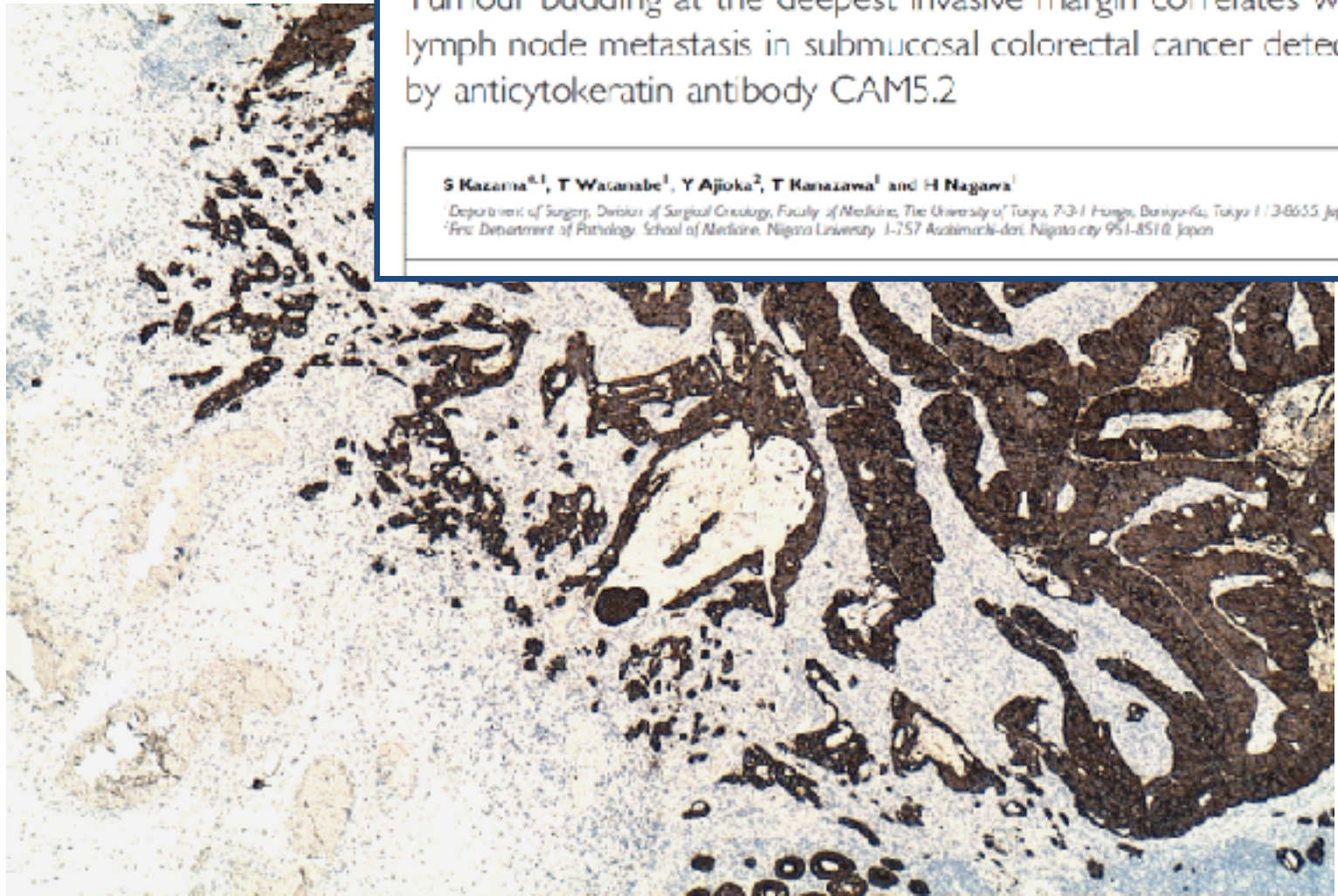


Tumour budding at the deepest invasive margin correlates with lymph node metastasis in submucosal colorectal cancer detected by anticytokeratin antibody CAM5.2

S Kazama<sup>1,2</sup>, T Watanabe<sup>1</sup>, Y Ajioka<sup>2</sup>, T Kanazawa<sup>1</sup> and H Nagawa<sup>1</sup>

<sup>1</sup>Department of Surgery, Division of Surgical Oncology, Faculty of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan,

<sup>2</sup>First Department of Pathology, School of Medicine, Niigata University, 1-757 Asahimachi-dori, Niigata city 951-8518, Japan





## Tumor budding is a significant indicator of a poor prognosis in lung squamous cell carcinoma patients

RYOMA MASUDA<sup>1</sup>, HIROSHI KIJIMA<sup>2</sup>, NAOKO ISHAMURA<sup>1</sup>, NAOHIRO ARUGA<sup>1</sup>, YUSUKE NAKAMURA<sup>1</sup>,  
DAISUKE MASUDA<sup>1</sup>, HARUKA TAKEICHI<sup>1</sup>, NORIYUKE KATO<sup>1</sup>, TOMOKI YARAGAWA<sup>3</sup>,  
MARIKO TANAKA<sup>2</sup>, SATOAKI INOSUCHI<sup>2</sup> and MASAYUKI IWAZAKI<sup>3</sup>

<sup>1</sup>Department of General Thoracic Surgery, Tohoku University School of Medicine, Irahara, Kanagawa 270-1193,

<sup>2</sup>Department of Pathology and Biocscience, Hiroshima University Graduate School of Medicine,

Hiroshima, Asanomi 039-8502; <sup>3</sup>Department of Critical Care and Intensive Medicine,  
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Received March 14, 2012; Accepted July 25, 2012

DOI: 10.3892/mmr.2012.1048

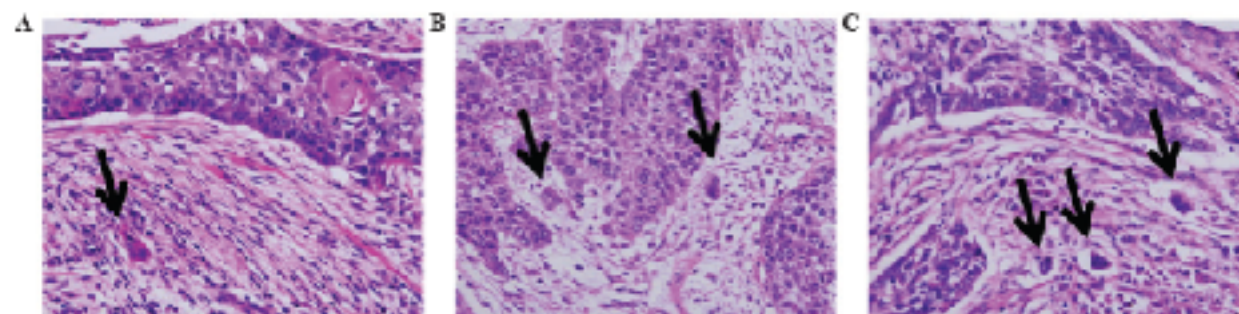


Figure 3. Microscopic findings of lung squamous cell carcinoma (hematoxylin and eosin staining). Tumor budding is defined as single cancer cells and/or clusters composed of up to four cancer cells. (A) One, (B) two and (C) three budding foci.

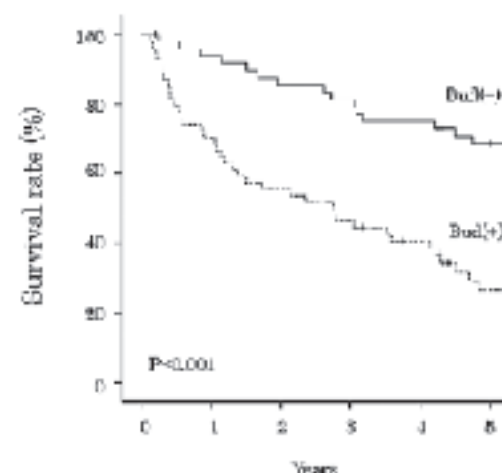


Figure 4. Tumor budding and cumulative survival of patients with lung squamous cell carcinoma.

**Systematic review and meta-analysis of histopathological factors influencing the risk of lymph node metastasis in early colorectal cancer.**

Beaton G<sup>1</sup>, Irvine GP, Williams GL, Raddiffe AG.

## Conclusion

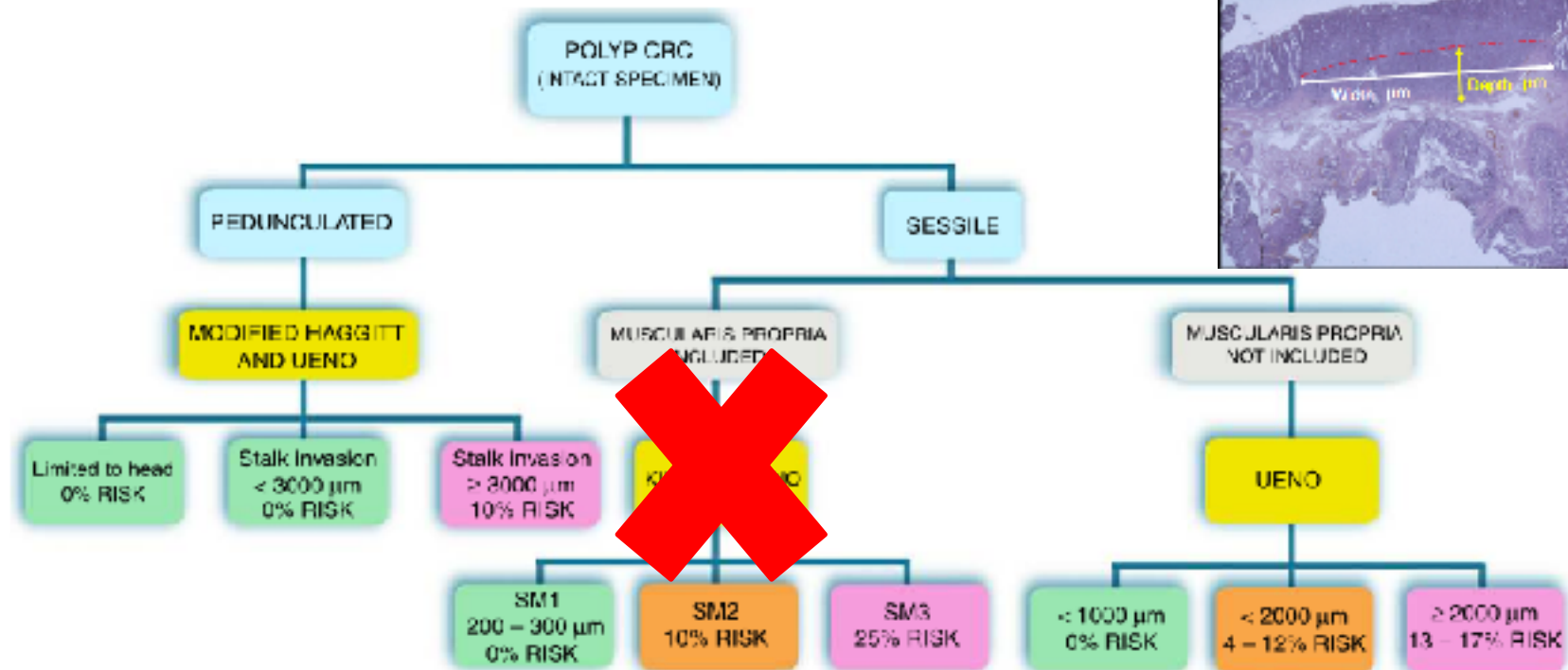
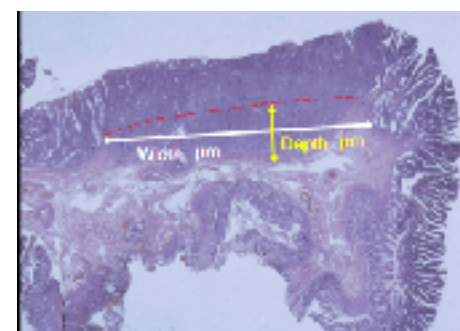
Meta-analysis of the current literature demonstrates that in early colorectal cancer a depth of submucosal invasion by the primary tumour of > 1 mm, lymphovascular invasion, poor differentiation and tumour budding are significantly associated with LN metastasis.

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# The Ueno method for substaging pT1 colorectal adenocarcinoma by depth and width measurement: an interobserver study

L. M. Wang\*, R. Guy†, E. Fryer\*, C. Kartsonaki‡, P. Gill\*, C. Hughes\*, A. Szuts\*, R. Perera\*, R. Chetty\* and N. Mortensen†

\*Department of Cellular Pathology, John Radcliffe Hospital, University of Oxford, Headington, Oxford, UK. †Department of Colorectal Surgery, Churchill Hospital, University of Oxford, Headington, Oxford, UK and OCR-UK/MRC Oxford Institute for Radiation Oncology, Department of Oncology, John Radcliffe Hospital, University of Oxford, Headington, Oxford, UK

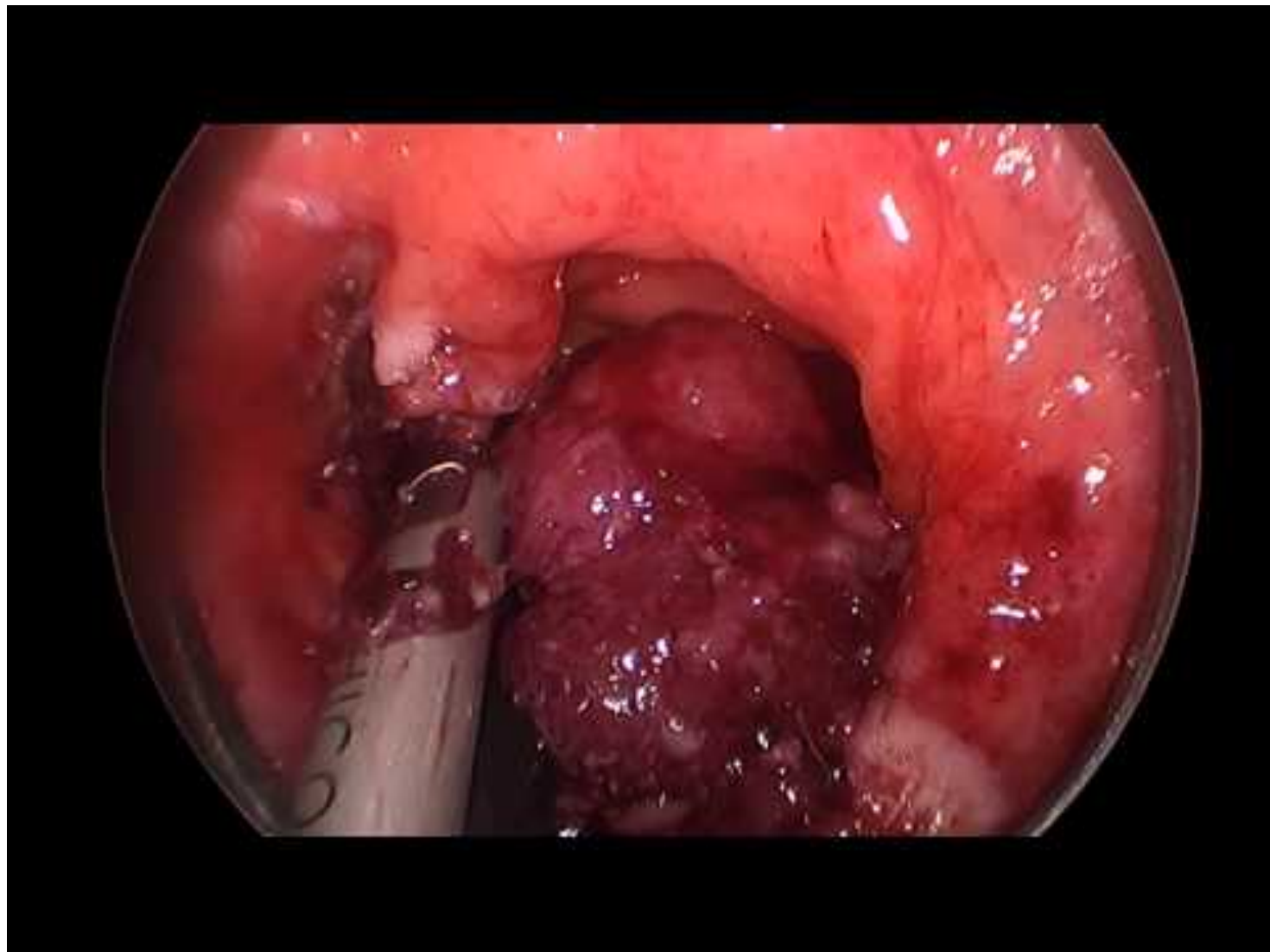


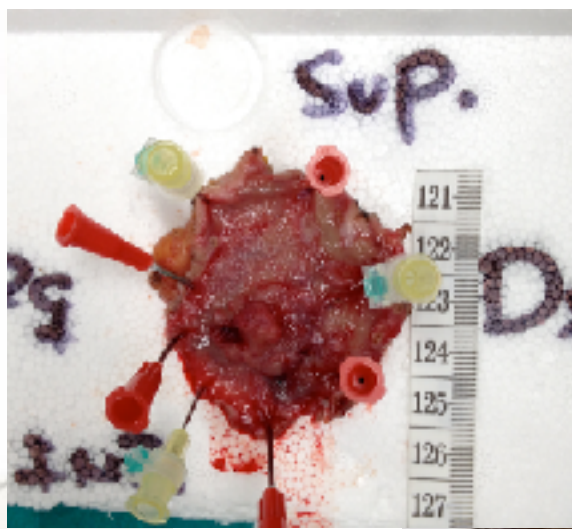
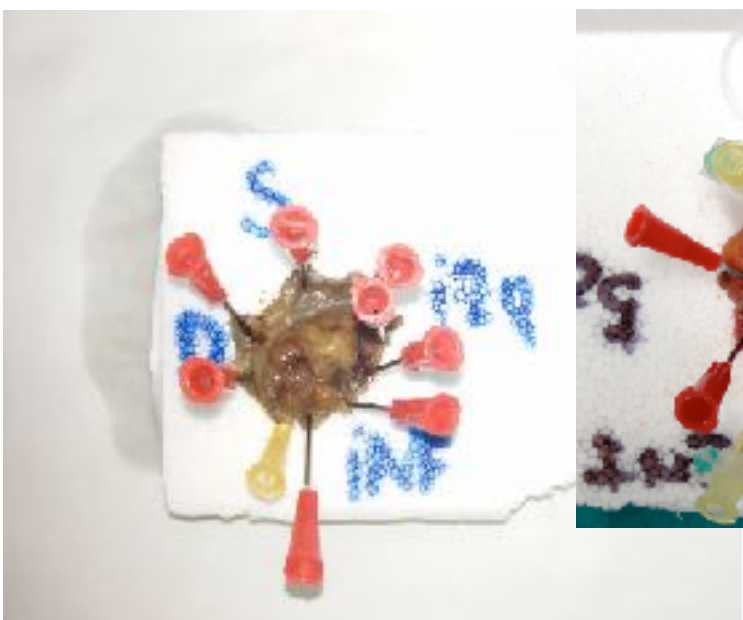
**Figure 5** Proposed algorithm for the reporting of polyp CRCs by depth of submucosal invasion to allow better substaging and risk stratification.

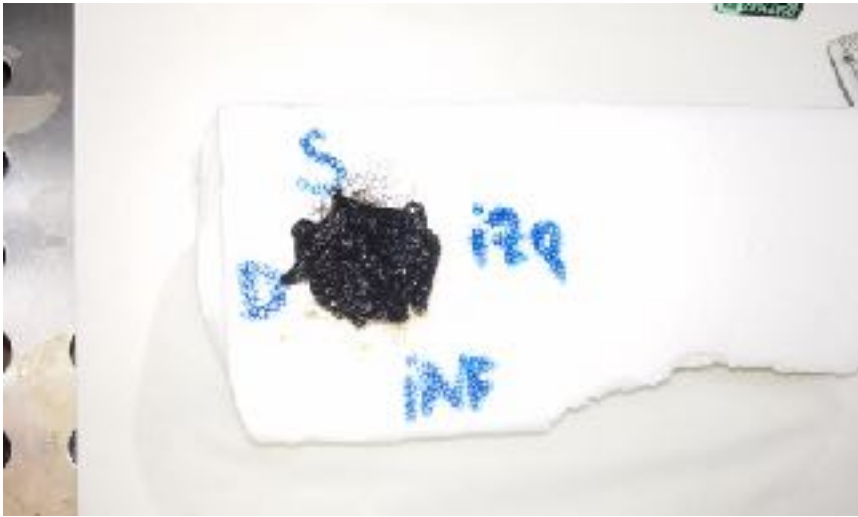
## CRITERIOS HISTOLÓGICOS EN UN INFORME AP EN PÓLIPO-CÁNCER:

- *TIPO Y GRADO HISTOLÓGICO (componente mucinoso)*
- *NIVEL DE HAGGITT*
- *MARGEN RESECCIÓN (distancia en mm.) > 1 MM.*
- *PROFUNDIDAD DE INVASIÓN de la submucosa (MM)*
- *PRESENCIA Y CUANTIFICACIÓN TUMOR BUDDING Y GRUPOS POBREMENTE DIFERENCIADOS*
- *PRESENCIA DE EMBOLIZACIÓN TUMORAL VASCULAR (linfáticos o vasos sanguíneos)*

# Transanal endoscopic operation (TEO)

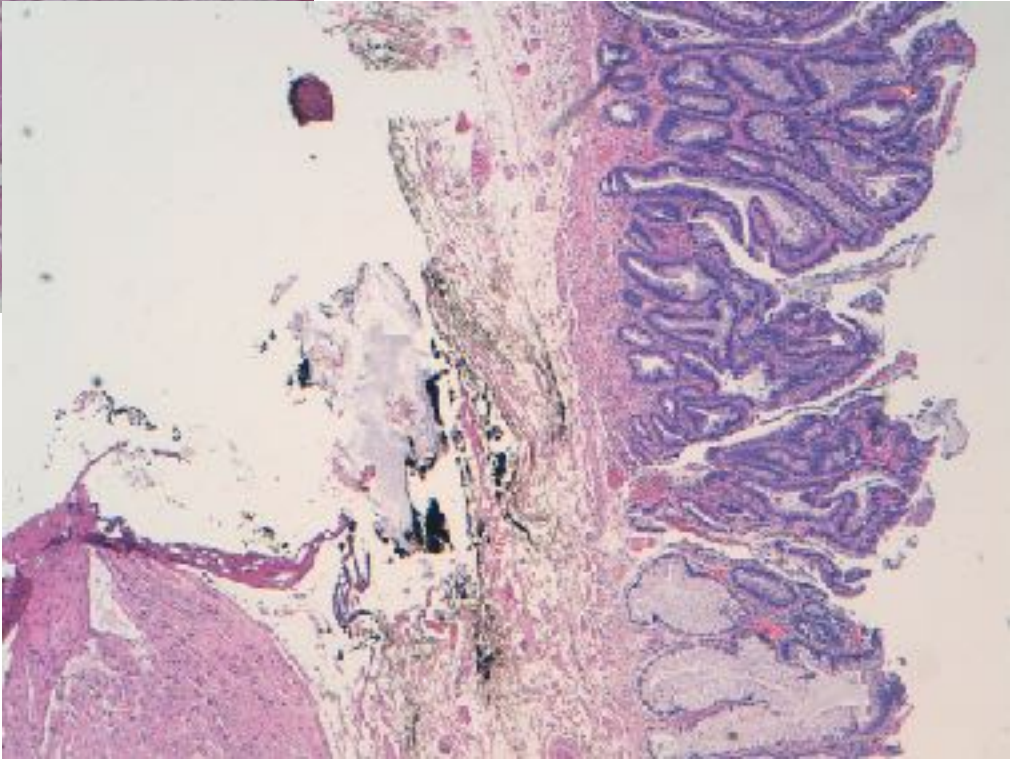
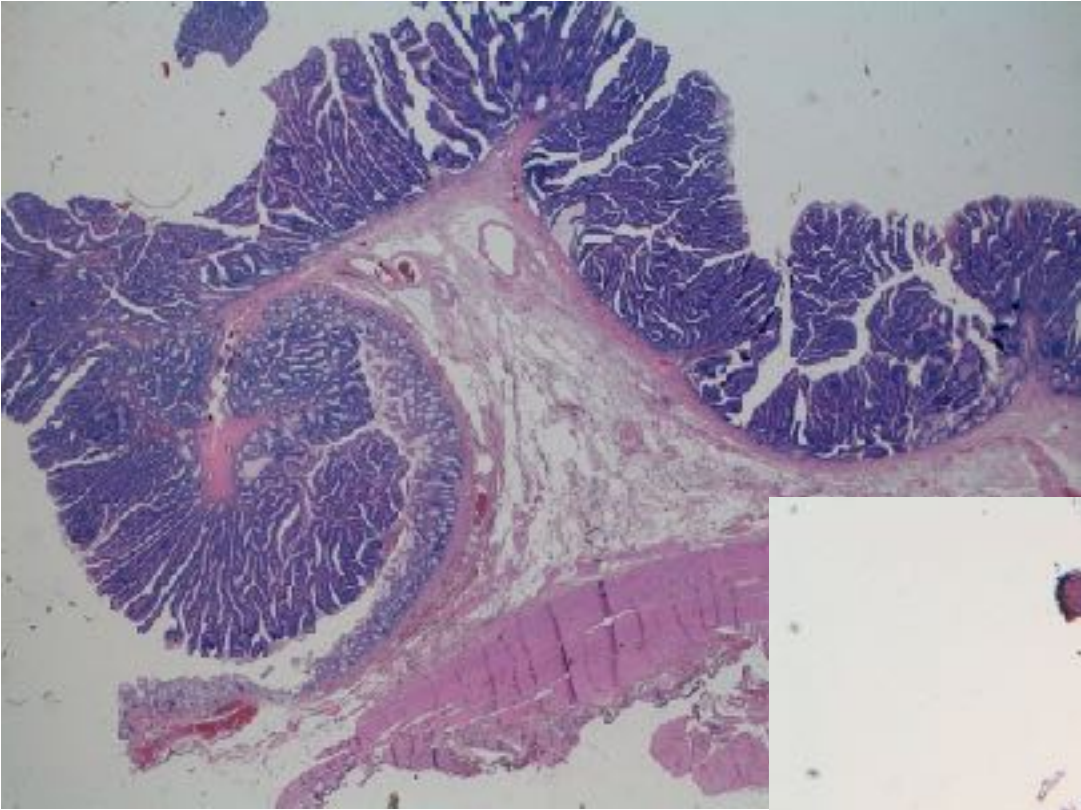


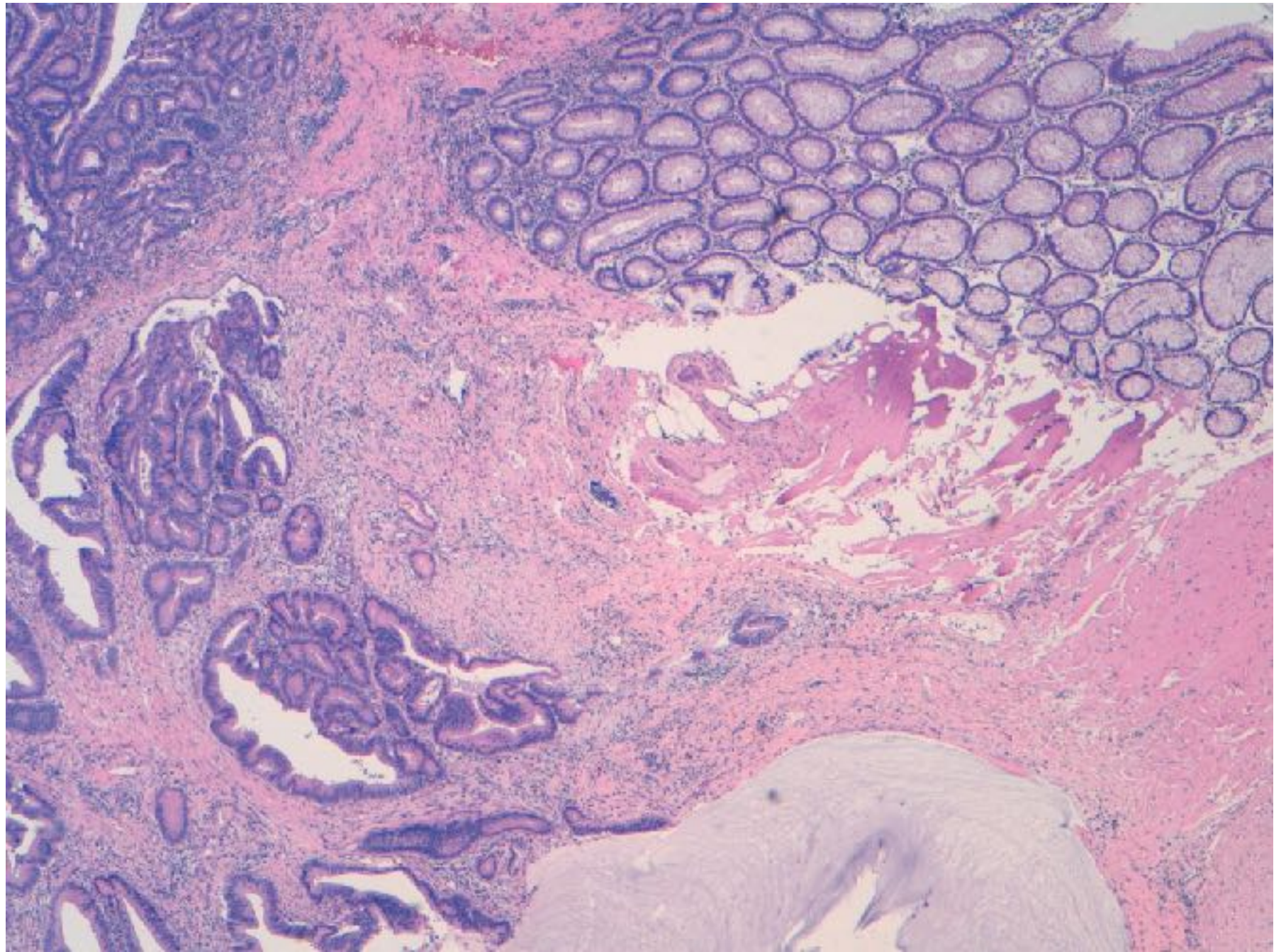












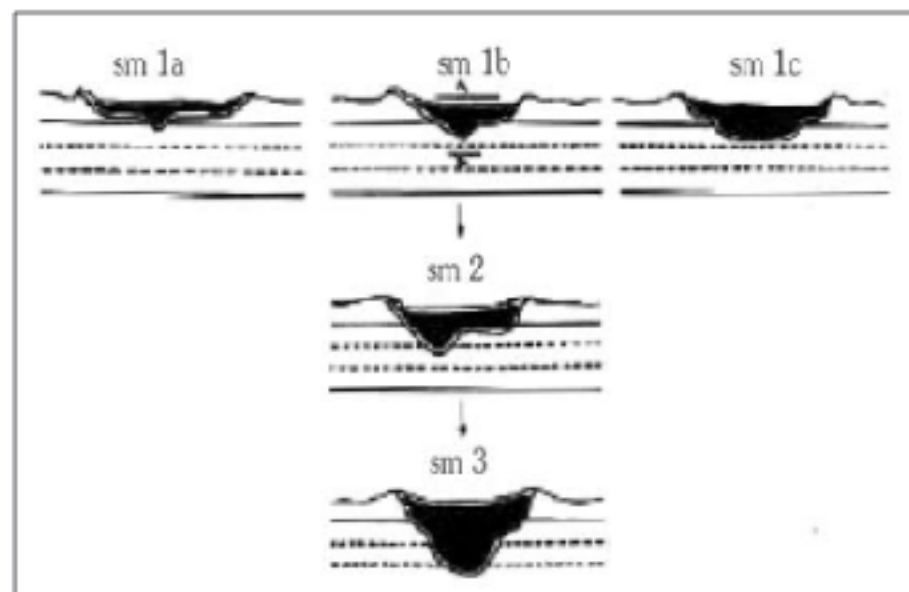


Fig. 2. Kikuchi classification (19).

### Endoscopic resection as unique treatment for early colorectal cancer

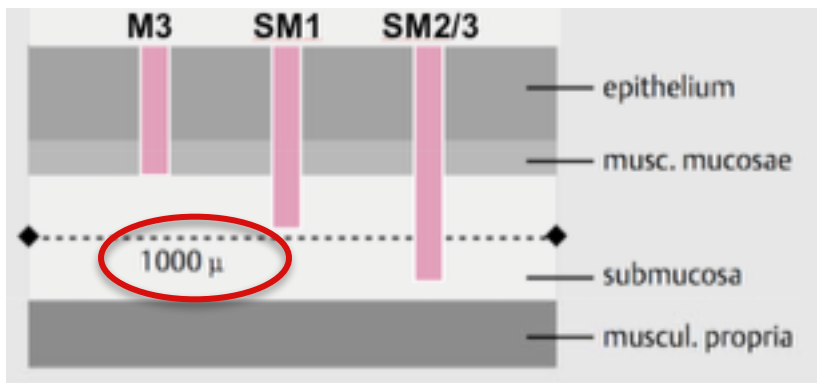
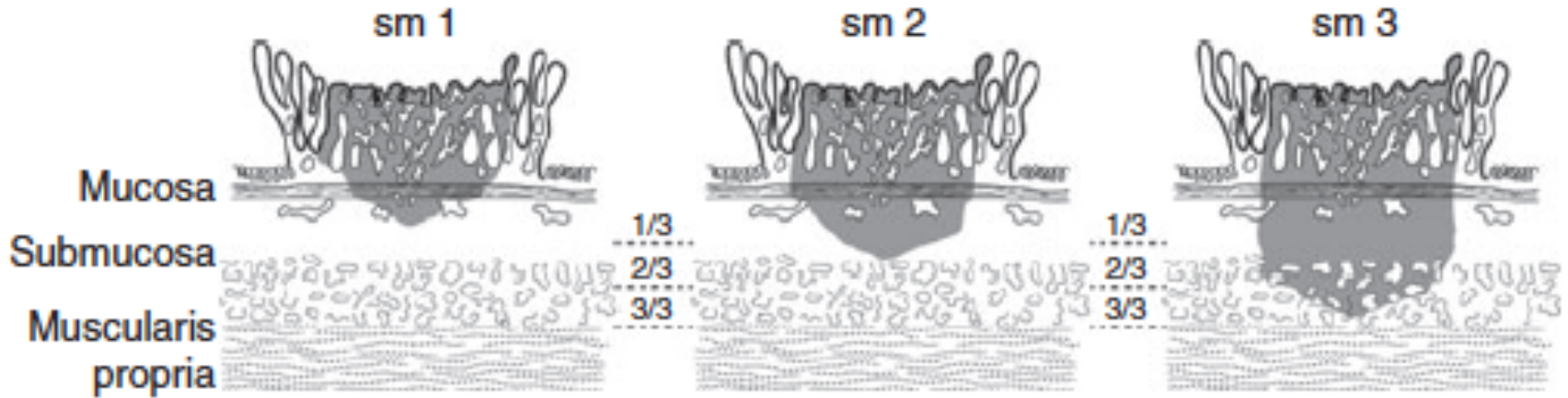
J. Ruiz Tovar<sup>1</sup>, J. Elmeas Miralles<sup>2</sup>, A. Valle<sup>3</sup> and M. Linares<sup>2</sup>

<sup>1</sup>Division of General Surgery and <sup>2</sup>Proctology, Hospital General de Asturias, Asturias, Spain; <sup>3</sup>Service of General Surgery and Digestive Diseases, Hospital Universitario de Galdakao, Galdakao, Spain

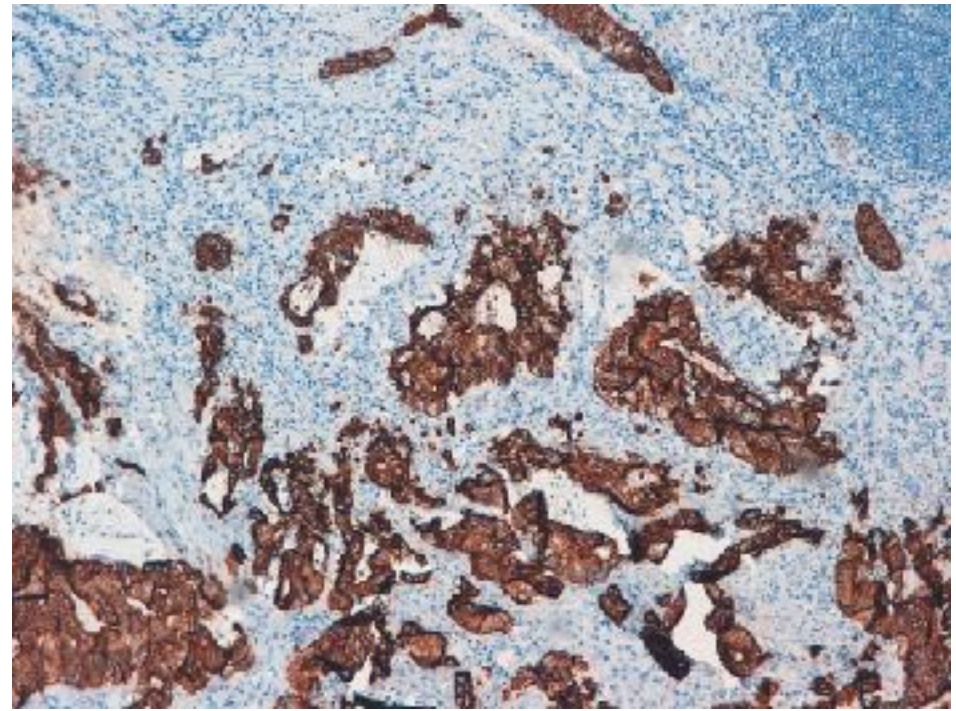
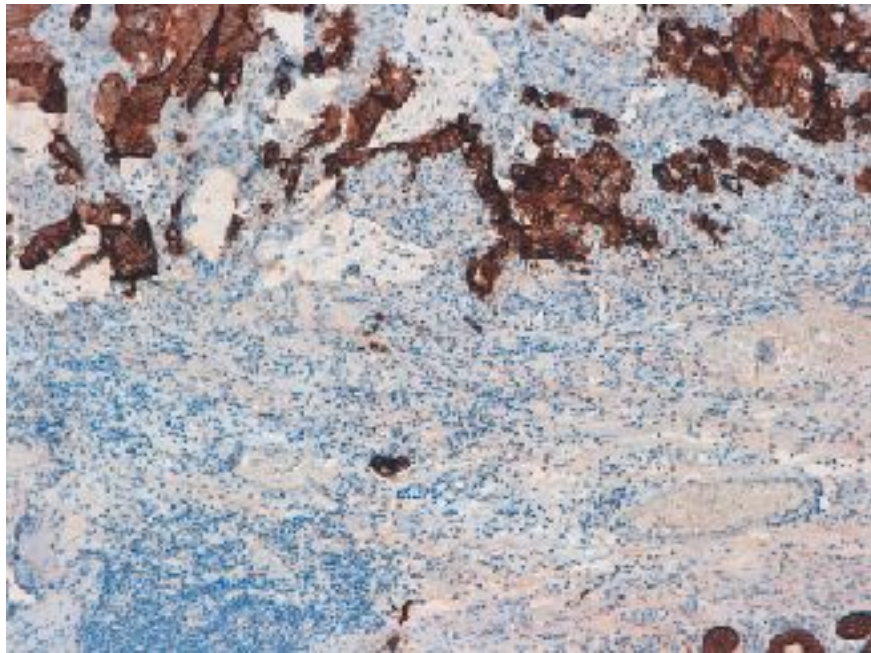
**Table IV. Submucosal invasion classification in early colorectal cancer by Kikuchi (19)**

<i>Sm 1</i>	Superior third of the submucosa
<i>Sm 1a</i>	Submucosal invasion under $\frac{1}{4}$ of the tumoral width
<i>Sm 1b</i>	Submucosal invasion between $\frac{1}{4}$ and $\frac{1}{2}$ of the tumoral width
<i>Sm 1c</i>	Horizontal affection of the superior third of the submucosa over $\frac{1}{2}$ of the tumoral width
<i>Sm 2</i>	Medium third of the submucosa
<i>Sm 3</i>	Inferior third of the submucosa

# Clasificación de Kikuchi de la profundidad de invasión de la submucosa de pólipos sésiles



	n/N	%
sm1	1/147	<1
sm2	7/105	6
sm3	10/71	14

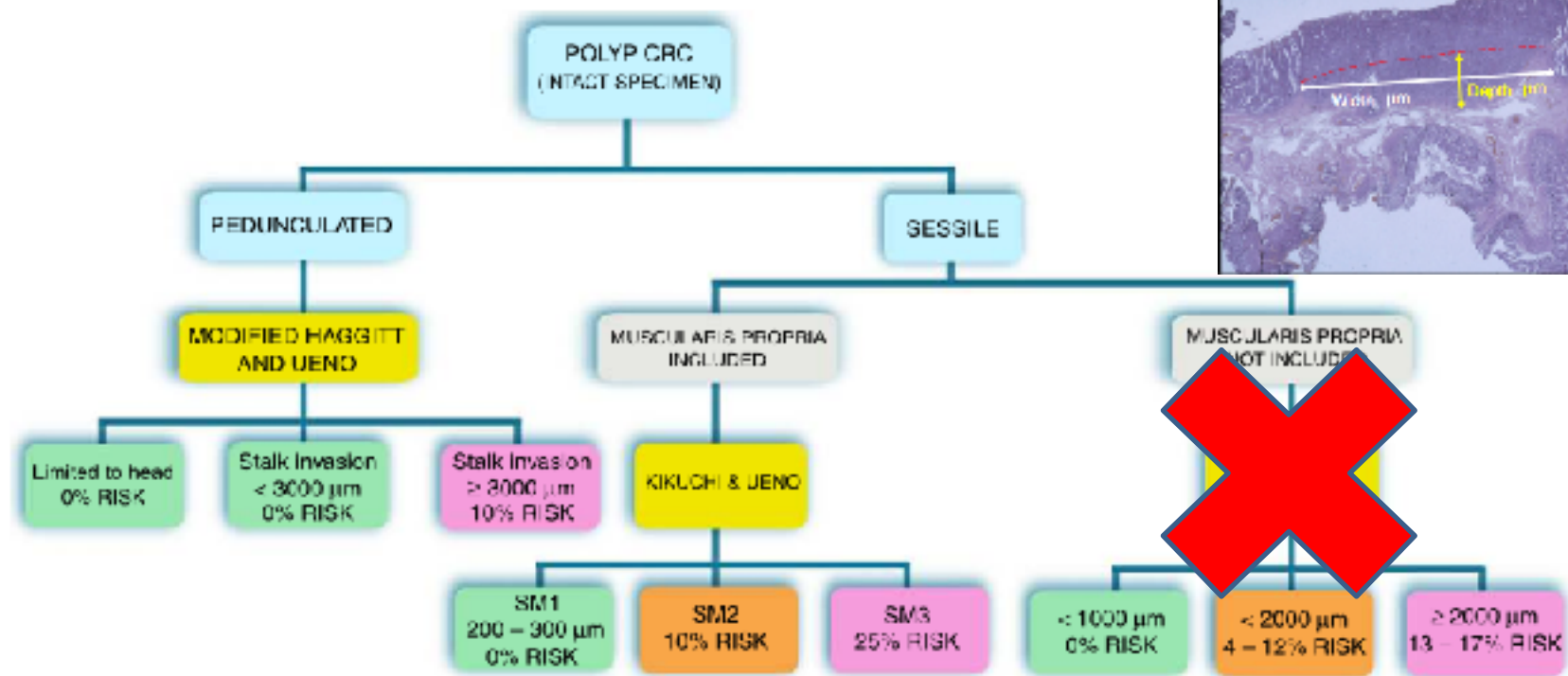
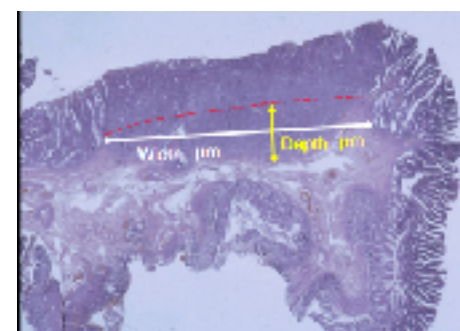


Citoqueratina (AE1/AE3)

# The Ueno method for substaging pT1 colorectal adenocarcinoma by depth and width measurement: an interobserver study

**L. M. Wang\***, **R. Guy†**, **E. Fryer\***, **C. Kartsonaki‡**, **P. Gill\***, **C. Hughes\***, **A. Szuts\***, **R. Perera\***, **R. Chetty\*** and **N. Mortensen†**

\*Department of Cellular Pathology, John Radcliffe Hospital, University of Oxford, Headington, Oxford, UK. †Department of Colorectal Surgery, Churchill Hospital, University of Oxford, Headington, Oxford, UK and JCR-UK/MRC Oxford Institute for Radiation Oncology, Department of Oncology, John Radcliffe Hospital, University of Oxford, Headington, Oxford, UK



**Figure 5** Proposed algorithm for the reporting of polyp CRCs by depth of submucosal invasion to allow better substaging and risk stratification.

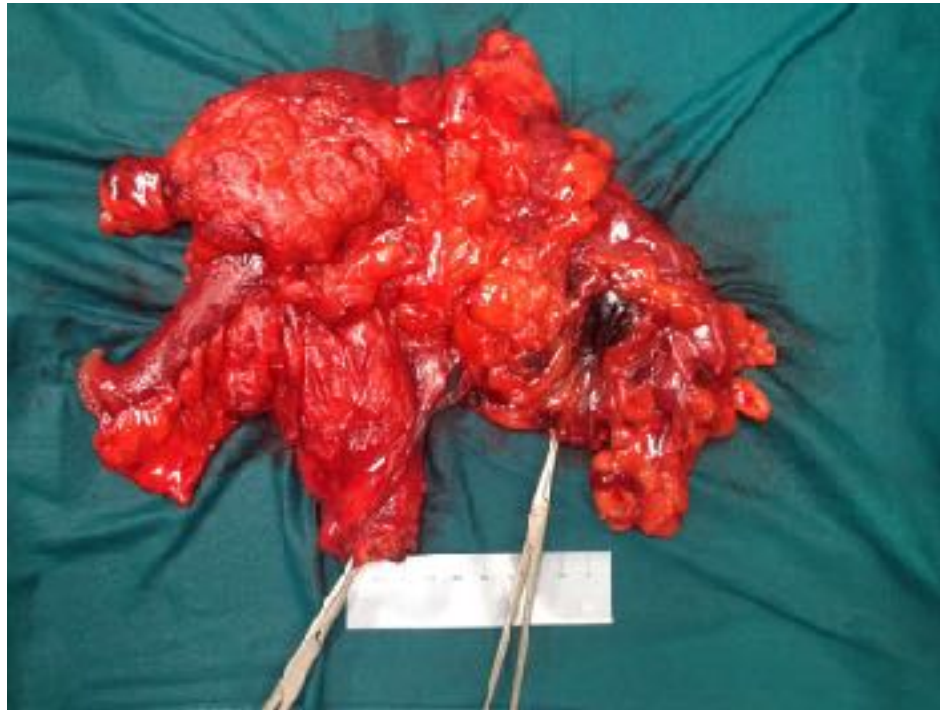
## CRITERIOS HISTOLÓGICOS EN UN INFORME AP EN PÓLIPO-CÁNCER en EXCISION DE PARED COMPLETA (TEO):

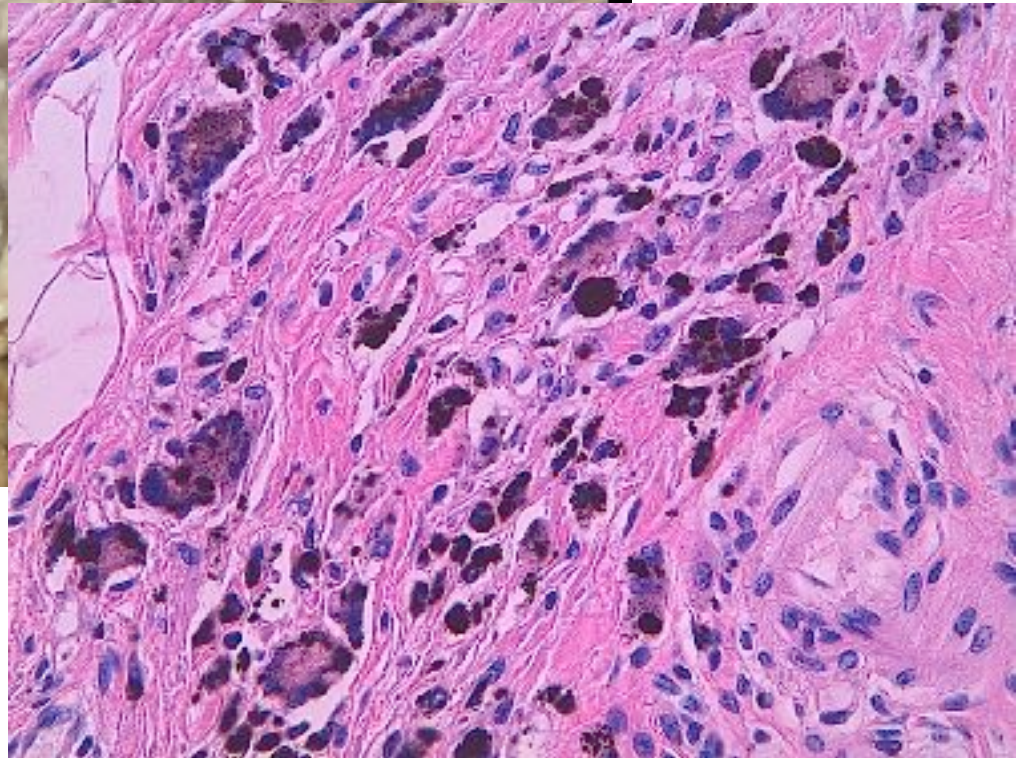
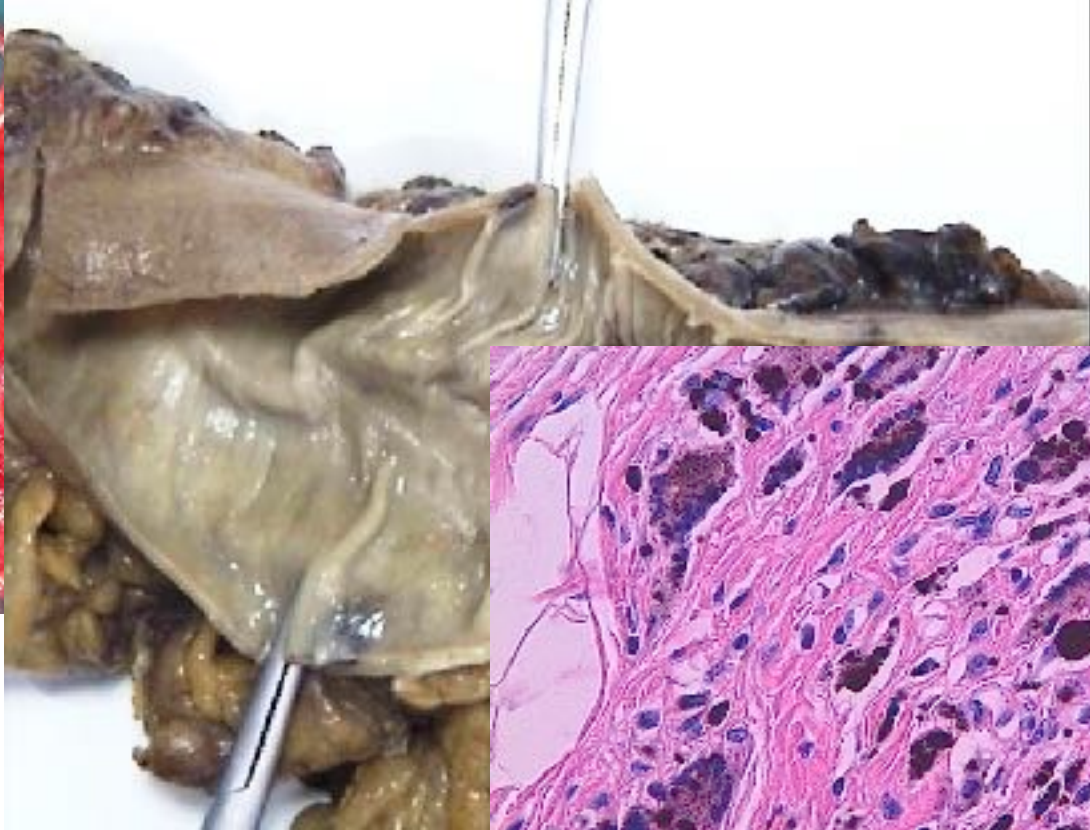
- *TIPO Y GRADO HISTOLÓGICO (componente mucinoso)*
- *NIVEL DE KIKUCHI (en T1)*
- *pT*
- *MARGEN RESECCIÓN (distancia en mm.) > 1 MM.*
- *PROFUNDIDAD Y AMPLITUD DE COMPONENTE INVASOR EN MM (ÁREA SI SE PUEDE)*
- *PRESENCIA Y CUANTIFICACIÓN DE TUMOR BUDDING Y NIDOS CELULARES SOLIDOS (POBREMENTE DIFERENCIADOS)*
- *PRESENCIA DE EMBOLIZACIÓN TUMORAL VASCULAR (linfáticos o vasos sanguíneos)*

Parámetros	Resección endoscópica	TEO
Tipo y grado histológico	Sí	Sí
Clasificación de Haggitt	Sí	No
Clasificación de Kikuchi	No	Sí
Margen de resección	Si se puede siempre	Sí
pT	Si margen >1mm (pT1)	Sí
Profundidad y amplitud del componente invasor	Si se puede siempre	Sí
Presencia y cuantificación de tumor budding y grupos indiferenciados	Sí	Sí
Presencia de embolización vascular y linfática	Sí	Sí



# PIEZA QUIRÚRGICA







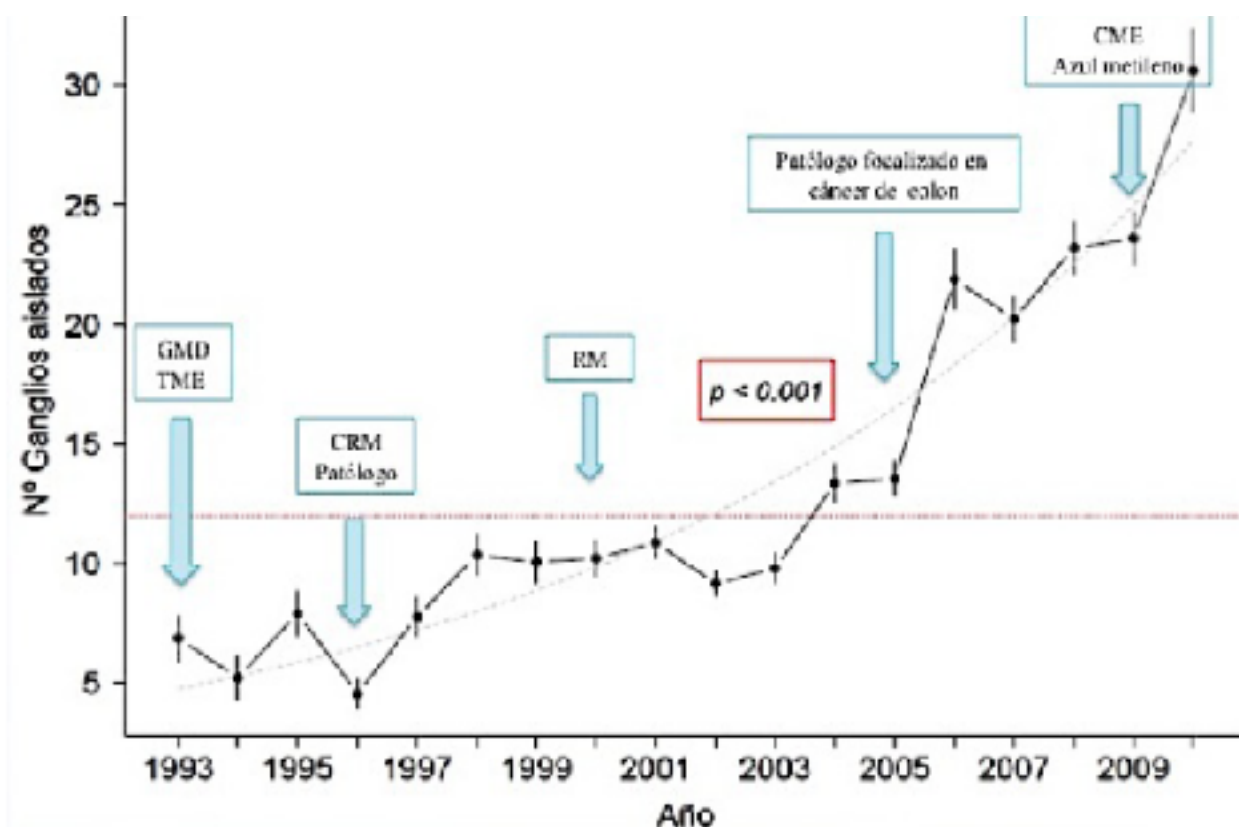


Figura 31. Evolución en el tiempo de la cantidad de ganglios aislados y los avances claves en el grupo multidisciplinar de cirugía colorrectal.

*GMD: grupo multidisciplinar de cáncer colomrectal; TME: escisión total de mesorrecto, CRM: margen circunferencial de recto, RM: resonancia magnética; CME: escisión completa del mesocolon; Azul metileno: inyección ex vivo de azul de metileno en la pieza quirúrgica.*

*Línea de puntos roja: indica el nº de ganglios 12, considerado como límite para considerar una cirugía de calidad.*

*Línea de puntos gris: marca la tendencia de la media del nº de ganglios*

## CRITERIOS HISTOPATOLÓGICOS EN UN INFORME AP EN PÓLIPO-CÁNCER en EXCISION DE PIEZA QUIRÚRGICA COMPLETA

- Resección de mesorrecto y mesocolon adecuada.
- Aislar un número de adenopatías superior a 12.
- Inclusión de la zona tatuada de la mucosa colónica para descartar restos tumorales.

**MUCHAS GRACIAS POR  
VUESTRA ATENCIÓN**



## Area of submucosal invasion and width of invasion predicts lymph node metastasis in pT1 colorectal cancers.

Toh EW<sup>1</sup>, Brown P, Morris E, Botterill J, Quirke P.

**LIMITATIONS:** This is a retrospective study and is limited by its small sample size.

**CONCLUSION:** This study has shown that the width and area of submucosal invasion are potential predictors of lymph node metastasis and superior to the depth of invasion. Together with the other qualitative phenotypic features, these quantitative factors could be used to decide the most appropriate treatment for pT1 cancers.

