VEQ ANATOMIA PATOLOGICA CICLO 2025: PRESENTAZIONE E COMMENTO DEI RISULTATI DEI PARTECIPANTI

Firenze 05 Febbraio 2026
AOU Careggi NIC 3, Aula Magna

La diagnosi di displasia nel colon-retto

Luca Messerini

Dipartimento di Medicina Sperimentale e Clinica
Sezione di Chirurgie Specialistiche
e di Diagnostica Istopatologica e Molecolare
Università degli Studi di Firenze

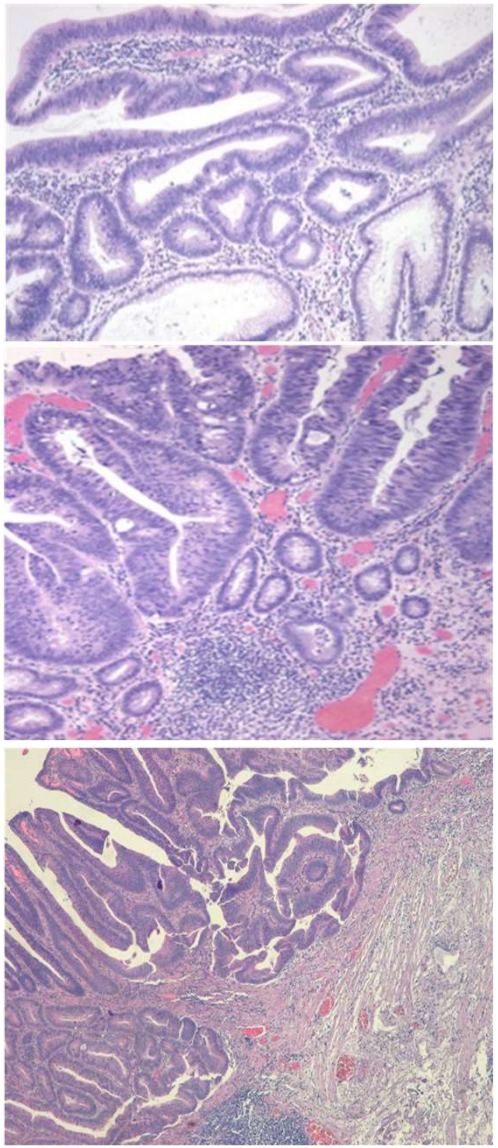
Displasia

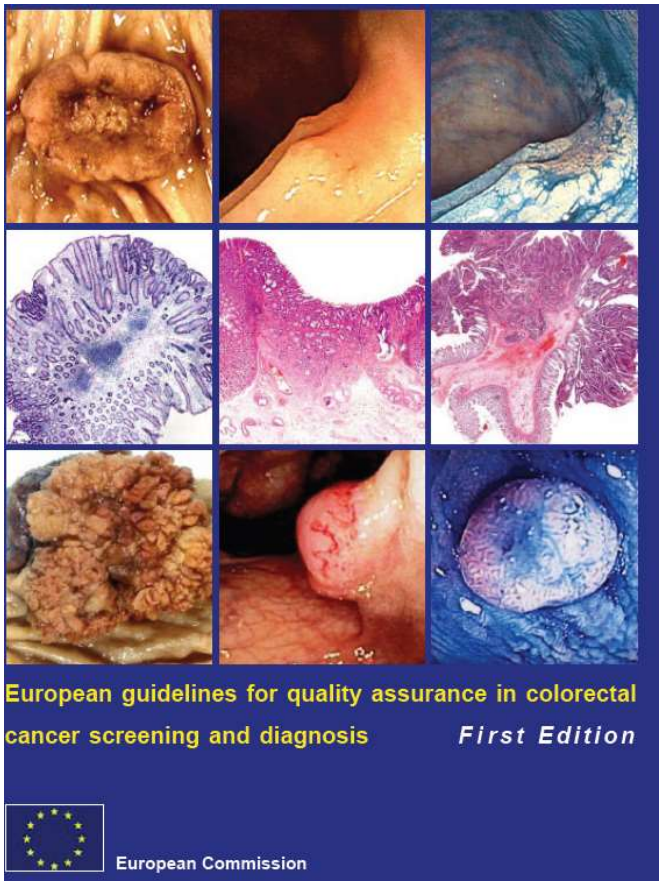
↓ ↑

Alterazioni cito-architetturali dell'epitelio
inequivocabilmente neoplastiche
ma senza documentabile invasione.

↑ ↓

Neoplasia non invasiva
Neoplasia intrapiteliale





1. NO NEOPLASIA:[2]

Vienna Category 1 (Negative for neoplasia)

2. MUCOSAL LOW GRADE NEOPLASIA:

Vienna Category 3 (Mucosal low-grade neoplasia
Low-grade adenoma
Low-grade dysplasia);
Other common terminology
mild and moderate dysplasia;
WHO: low-grade intra-epithelial neoplasia

3. MUCOSAL HIGH GRADE NEOPLASIA:

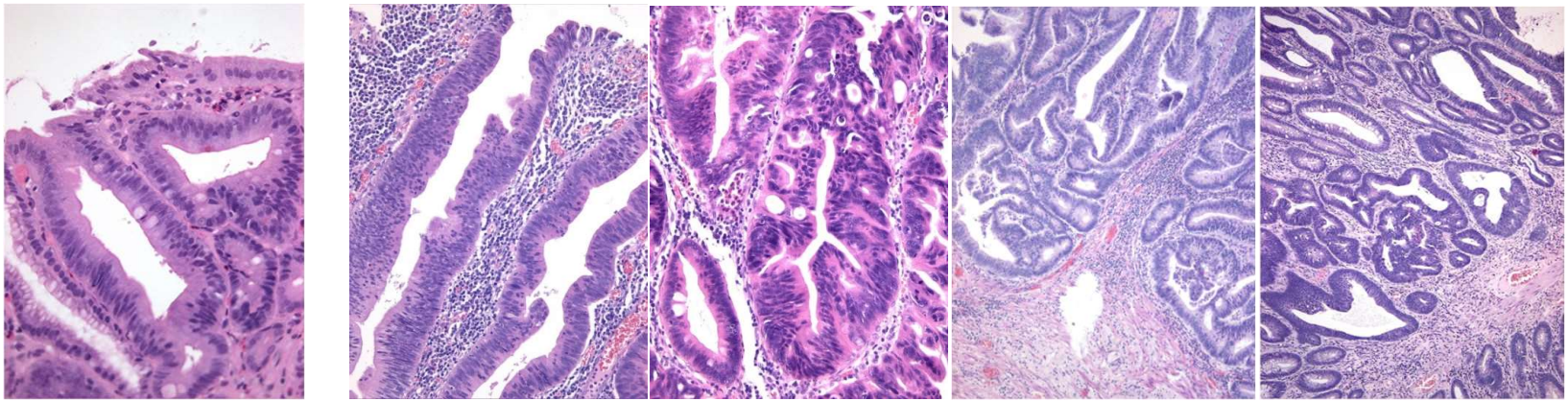
Vienna: Category 4.1–4.4 (Mucosal high grade neoplasia
High-grade adenoma/dysplasia
Non-invasive carcinoma (carcinoma *in situ*)
Suspicious for invasive carcinoma
Intramucosal carcinoma);
Other common terminology
severe dysplasia;
high-grade intraepithelial neoplasia;
WHO: high-grade intraepithelial neoplasia
TNM: pTis

4. CARCINOMA invading the submucosa or beyond:

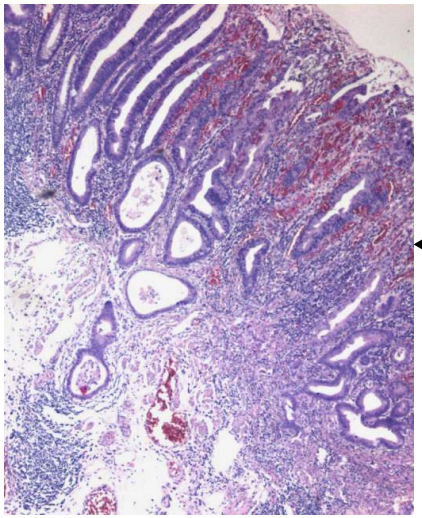
4a. Carcinoma confined to submucosa
Vienna: Category 5 (Submucosal invasion by carcinoma);
TNM: pT1
4b. Carcinoma beyond submucosa
TNM: pT2-T4

Mucosal neoplasia

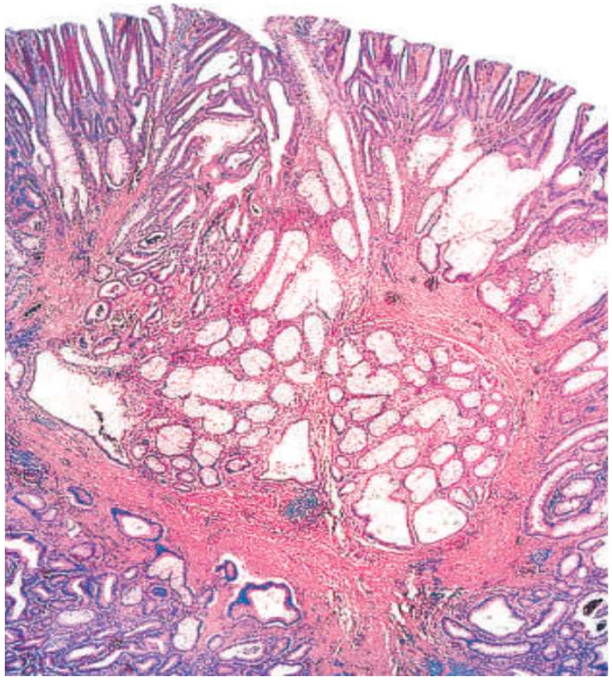
Low-grade ↓ | **High-grade**

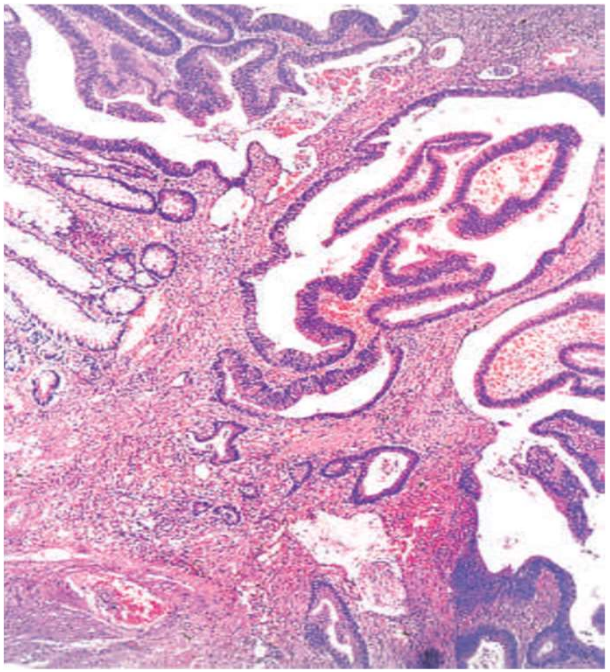


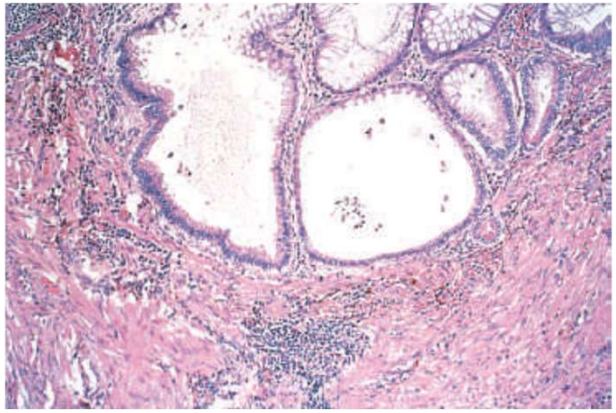
Category 3 LG | Category 4.1 HG | 4.2 ca in situ | 4.3 susp inv | 4.4 intramucosal

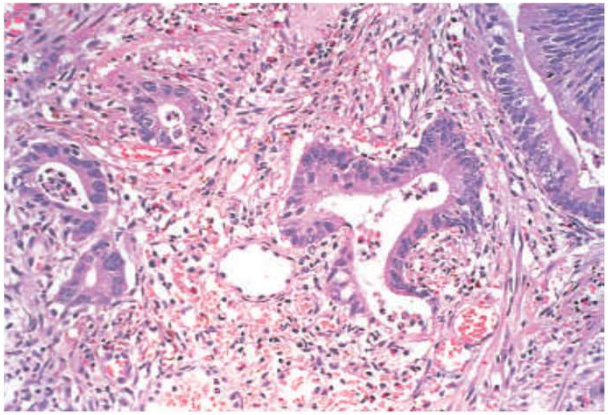


Category 5: submucosal invasion by carcinoma





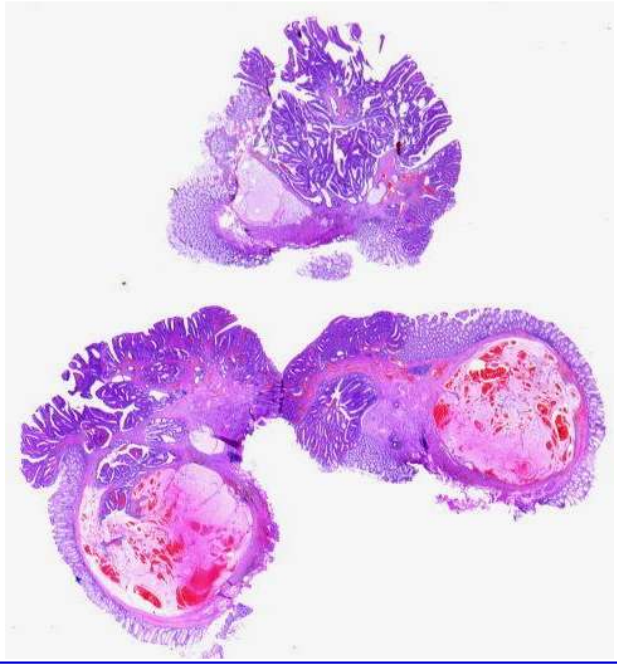


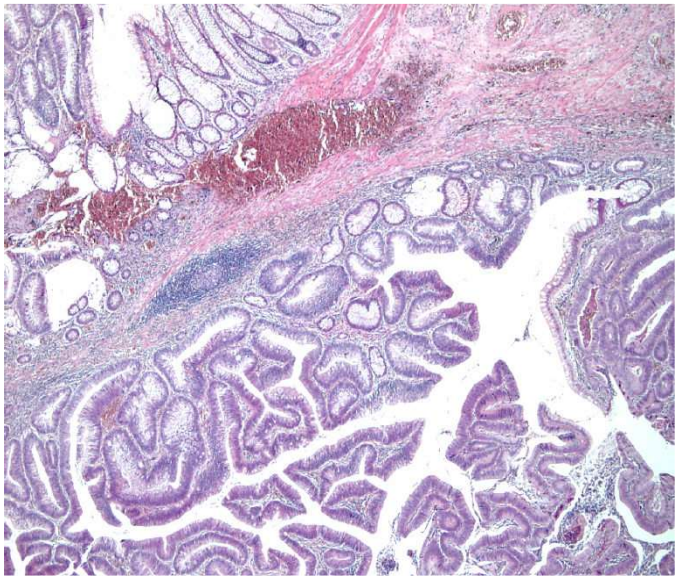


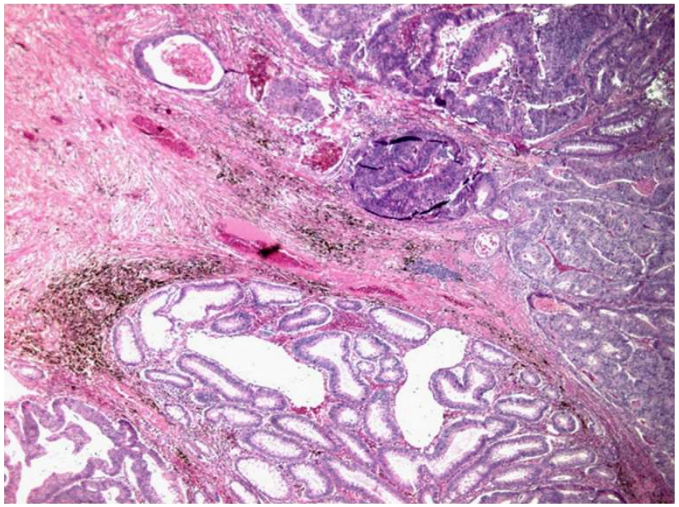
Adenomas with Epithelial Displacement vs. Adenocarcinoma

Feature	Displaced Epithelium	Invasive Adenocarcinoma
Pedunculated shape	Usually present	Present or absent
Architecture	Round, lobular arrangement of crypts	Irregular tortuous crypts
Crypts	Noncomplex	Complex, cribriform, budding
Mucin pools	Round lined by dysplastic epithelium	Irregular, floating cells may be present
Hemosiderin	Usually present	Usually absent
Desmoplasia	Absent	Usually present
Lamina propria around crypts	Usually present	Absent
Communication to surface	Often present	Present or absent
Degree of dysplasia	Similar to polyp surface	Carcinoma-like

Odze R 2023





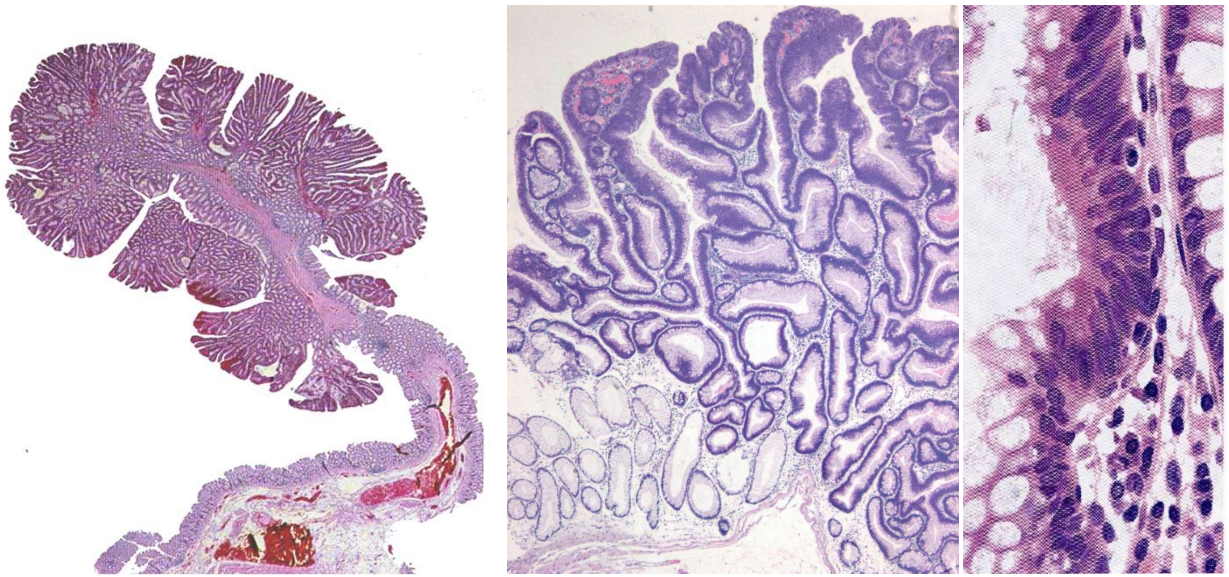


Pseudoinvasione

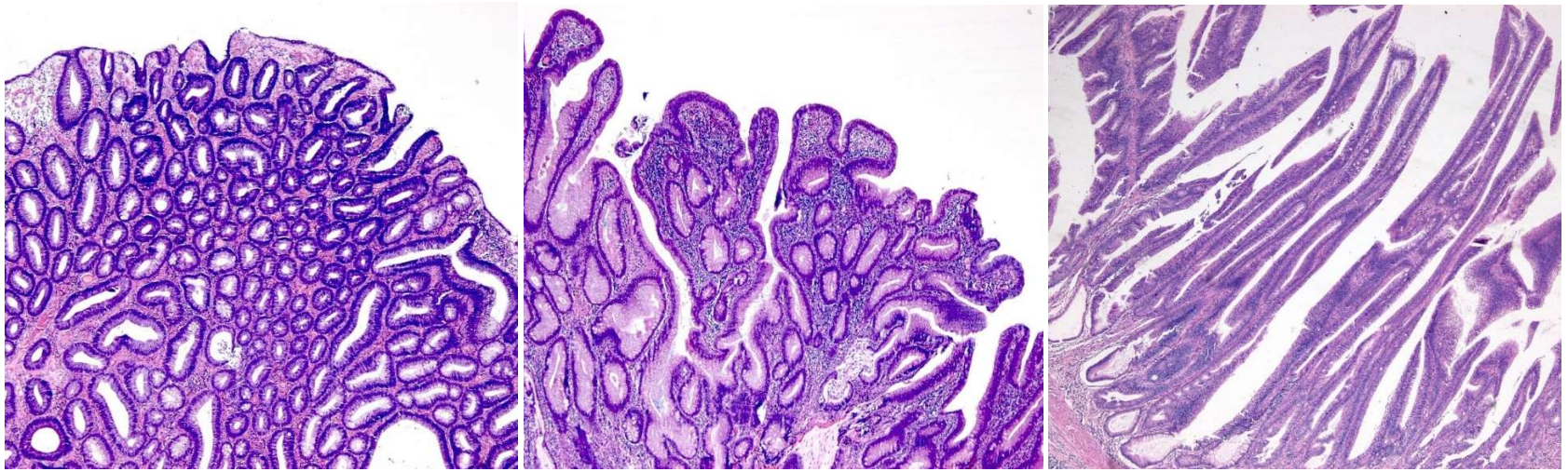
(distopia sottomucosa Risio M)

- ✓ Mantello connettivale attorno alle ghiandole displastiche
- ✓ Assenza di reazione desmoplastica
- ✓ Depositi emosiderinici
- ✓ Stesso grado di displasia nell'adenoma e nella pseudoinvasione

Conventional Adenoma



Conventional adenoma is a benign, premalignant neoplasm composed of dysplastic epithelium.
The descriptor «conventional» distinguishes this from lesions in the serrated pathway (WHO 2019).



Subtyping of conventional adenomas

-Tubular (villous component ≤ 25%)

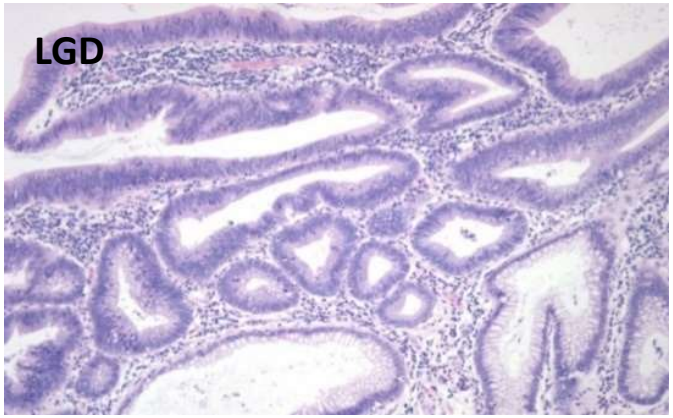
-Tubulovillous (villous component >25% ≤75%

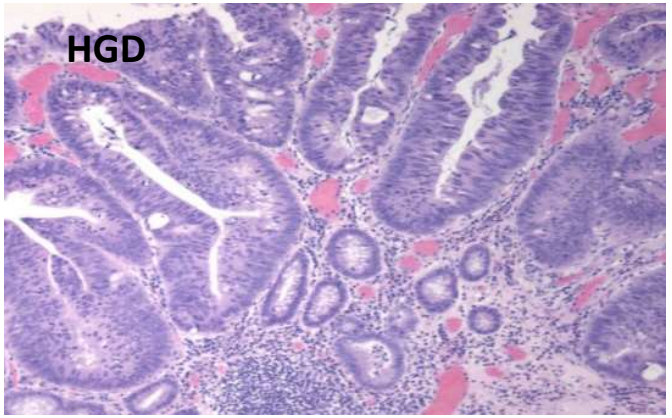
-Villous (villous component >75%)

WHO 2019

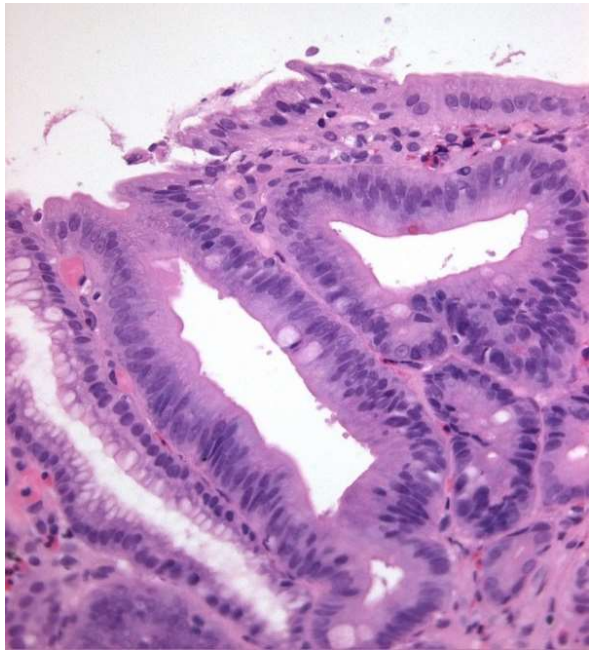
Grading of adenomas

For dysplasia grading of conventional adenomas we used a two-tiered stratification into low-grade and high-grade, although there is a high level of interobserver variability.
WHO 2019





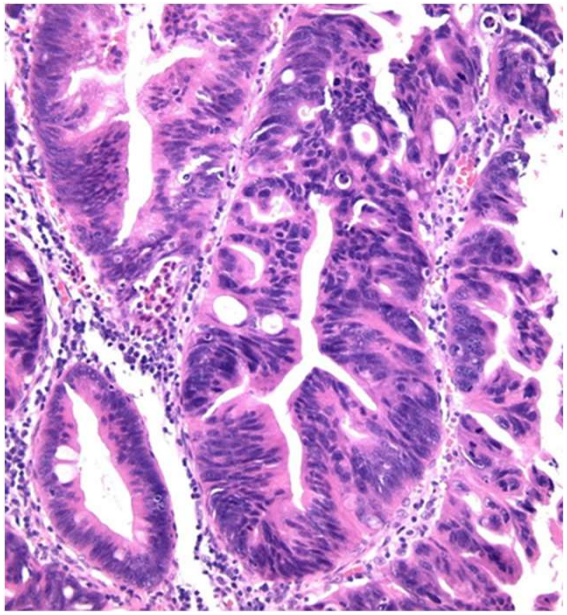
Low-grade dysplasia is defined by the presence of architecturally non-complex crypts containing nuclei that are pseudostratified, or partially stratified, such that the cell nuclei reach only the lower half of the cell cytoplasm.



The crypts are arranged in a parallel configuration **without** significant back-to-back configuration, cribriforming, or complex budding.

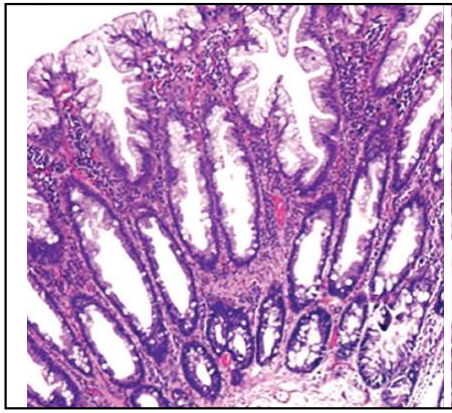
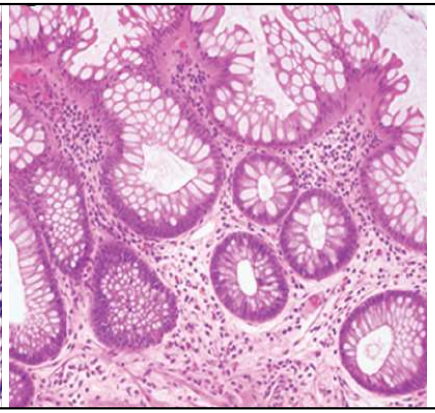
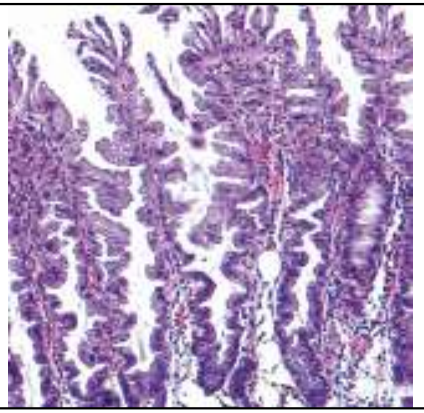
Odze R 2023

High-grade dysplasia is defined by marked pseudostratification, or stratification, of neoplastic nuclei that extend toward the luminal half of the cells and usually contain significant pleomorphism, increased mitotic activity, atypical mitoses, and marked loss of polarity.

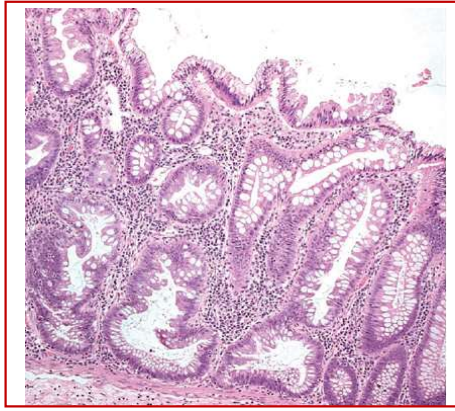
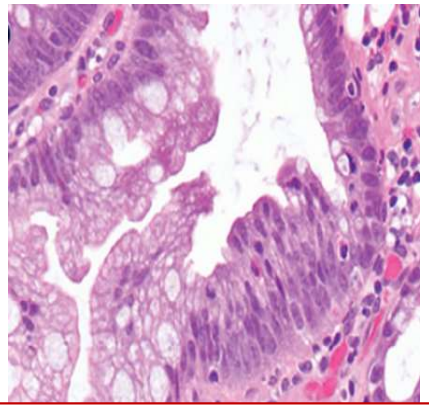
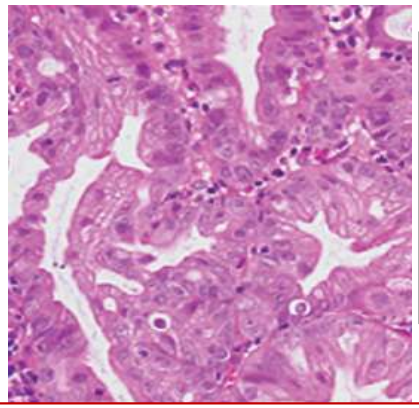


Architectural changes such as back-to- back gland configuration and cribriforming may also be observed.

Odze R 2023

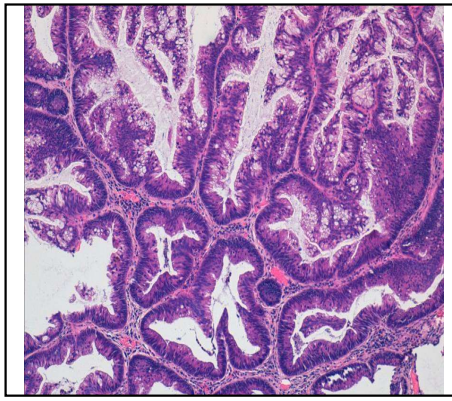
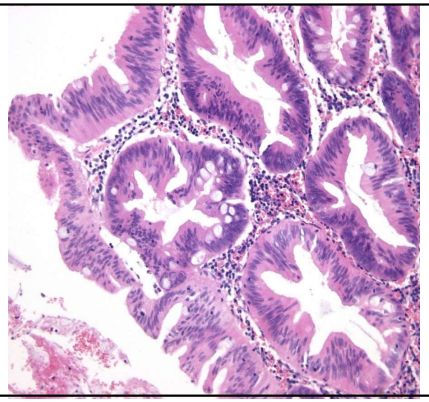
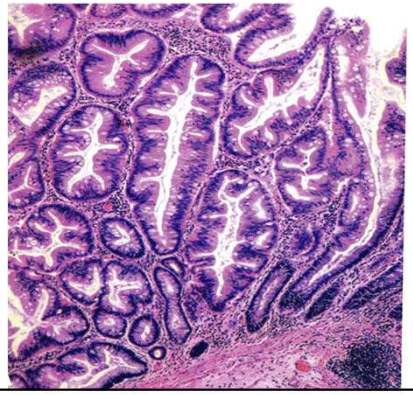




Polipo iperplastico
architettura serrata
displasia: no

Lesione serrata sessile

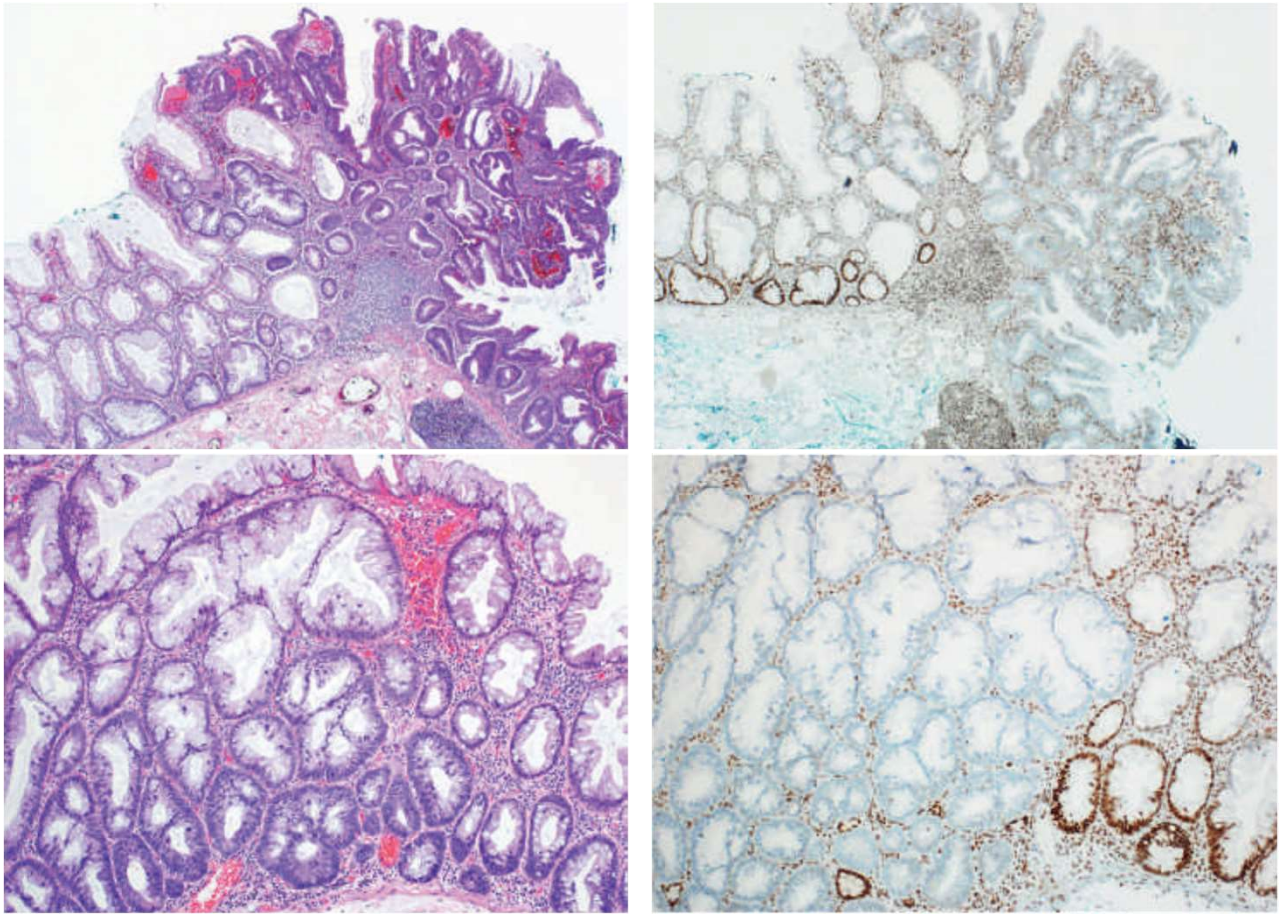
displasia: possibile
-intestinale
-serrata

Adenoma serrato tradizionale

displasia:
sempre presente

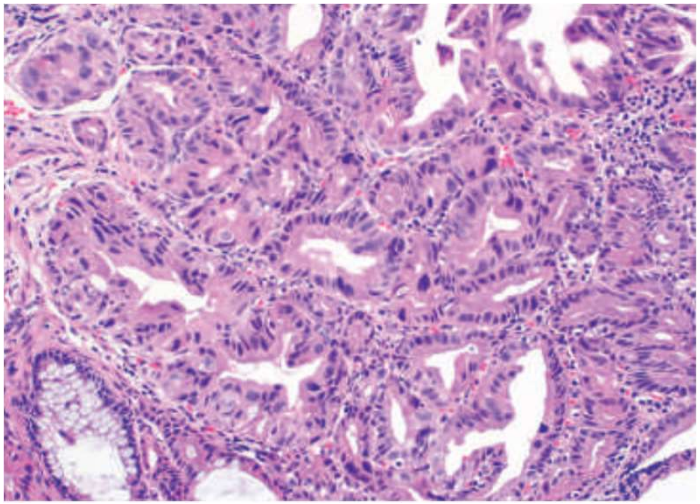
Intestinal-type dysplasia

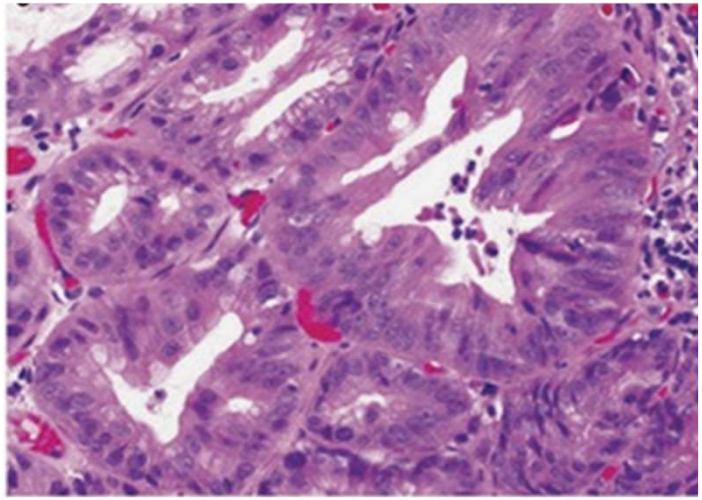


Crypt branching, crypt elongation, villous architecture;elongated,cigar-shaped hyperchromatic nuclei that resemble low-grade dysplasia in conventional adenomas

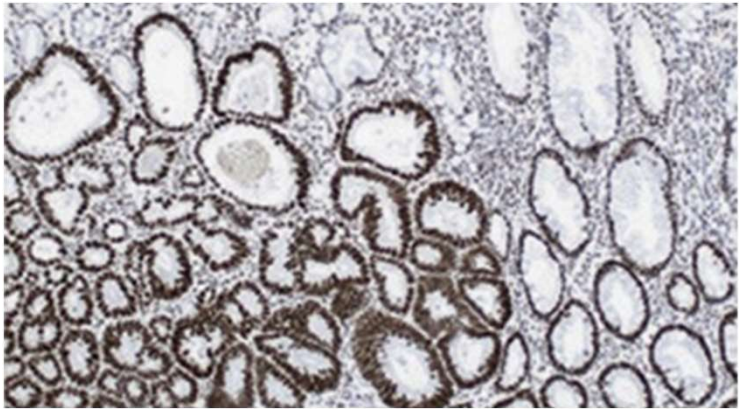
loss of MLH1 expression

Serrated dysplasia

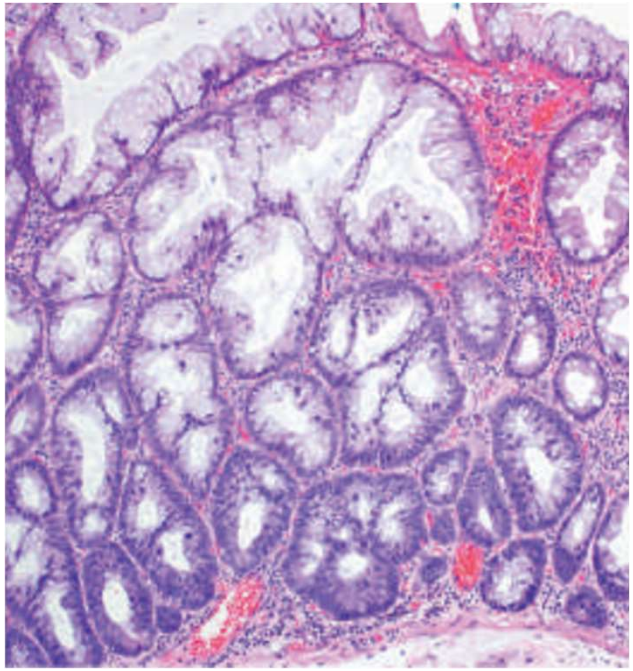


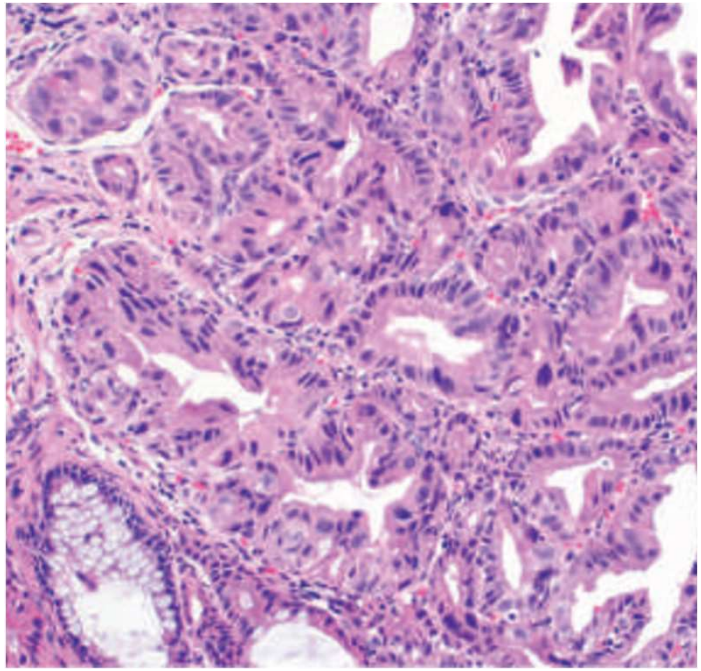


Architectural complexity and tightly packed glands composed of epithelial cells with prominent cytoplasmic eosinophilia, luminal serration, enlarged nuclei and prominent nucleoli



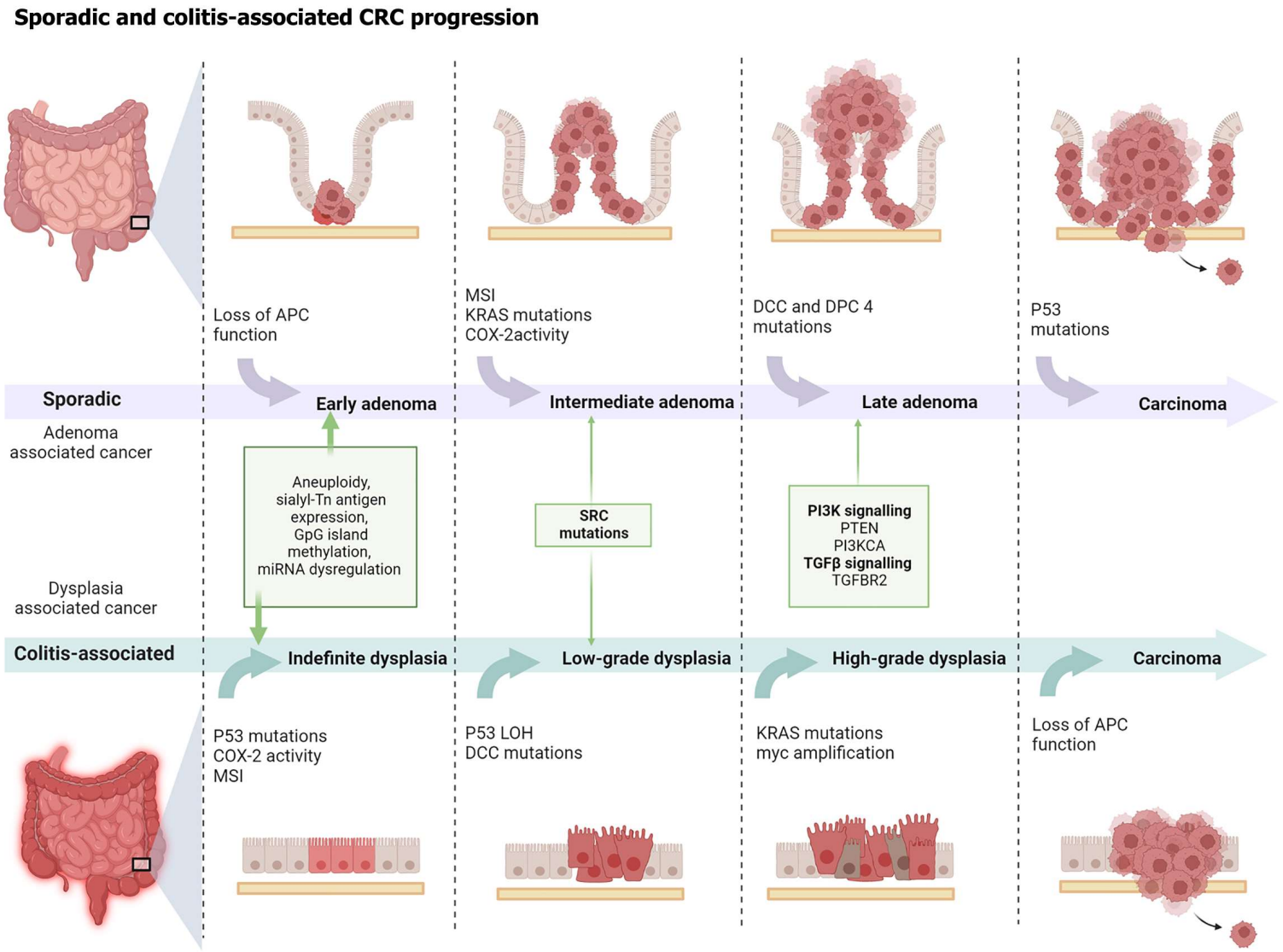
MLH1 is normally preserved in this type of dysplasia





Stratification of dysplasia into low-grade vs. high-grade **is not recommended** (WHO 2019)

Two general types occur: serrated dysplasia and intestinal-type dysplasia.
However, until more follow-up and natural history data
are obtained, **it is not necessary to grade or morphologically subclassify the type of dysplasia for clinical purposes (Odze R 2023)**



World J Gastrointest Oncol. Oct 15, 2025; 17(10)

Gastroenterology 2015;148:639–651

CONSENSUS STATEMENT

SCENIC International Consensus Statement on Surveillance and Management of Dysplasia in Inflammatory Bowel Disease

Loren Laine,[1,2] Tonya Kaltenbach,[3] Alan Barkun,[4] Kenneth R. McQuaid,[5] Venkataraman Subramanian,[6] and Roy Soetikno,[3] for the SCENIC Guideline Development Panel

Table 1. Terminology for Reporting Findings on Colonoscopic Surveillance of Patients With Inflammatory Bowel Disease (modified from Paris Classification[15])

Term	Definition
Visible dysplasia	Dysplasia identified on targeted biopsies from a lesion visualized at colonoscopy
Polypoid	Lesion protruding from the mucosa into the lumen ≥2.5 mm
Pedunculated	Lesion attached to the mucosa by a stalk
Sessile	Lesion not attached to the mucosa by a stalk: entire base is contiguous with the mucosa
Nonpolypoid	Lesion with little (<2.5 mm) or no protrusion above the mucosa
Superficial elevated	Lesion with protrusion but <2.5 mm above the lumen (less than the height of the closed cup of a biopsy forceps)
Flat	Lesion without protrusion above the mucosa
Depressed	Lesion with at least a portion depressed below the level of the mucosa
General descriptors	
Ulcerated	Ulceration (fibrinous-appearing base with depth) within the lesion
Border	
Distinct border	Lesion's border is discrete and can be distinguished from surrounding mucosa
Indistinct border	Lesion's border is not discrete and cannot be distinguished from surrounding mucosa
Invisible dysplasia	Dysplasia identified on random (non-targeted) biopsies of colon mucosa without a visible lesion

Inflammatory bowel-disease associated dysplasia

Unequivocal neoplastic alteration of the intestinal epithelium that remains confined within the basement membrane in which it originated

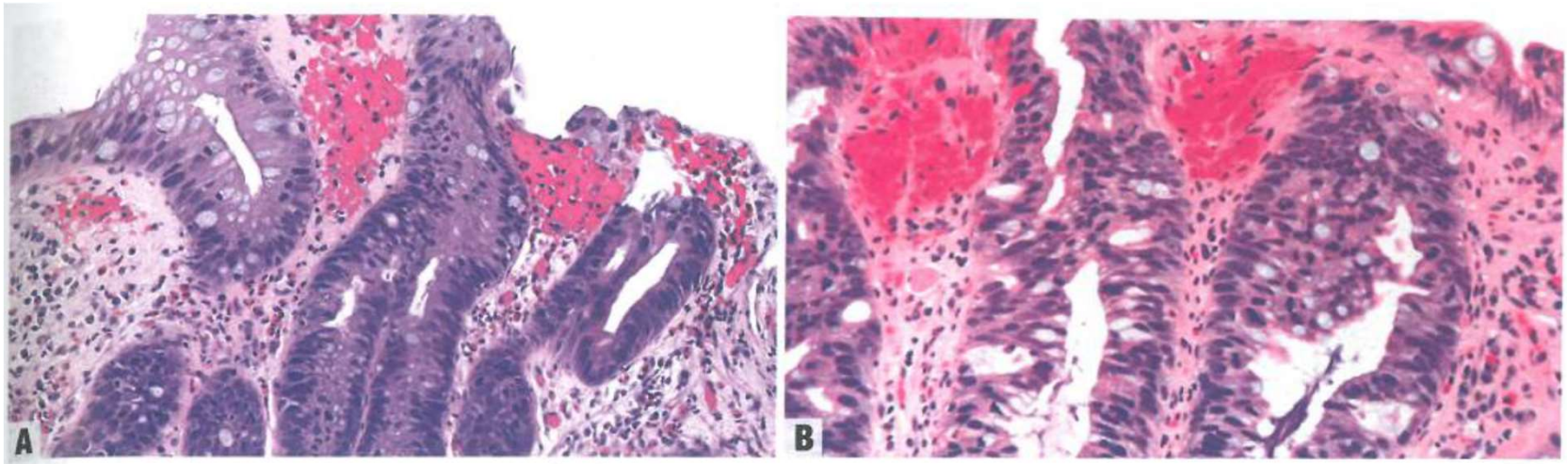


Fig. 6.20 Dysplasia, intestinal type. **A** Low-grade dysplasia. Slender, hyperchromatic, crowded nuclei are aligned along the cell bases and extend to the epithelial surface; goblet cells are sparse and their mucin vacuoles are frequently small. **B** High-grade dysplasia. Hyperchromatic, pleomorphic nuclei are stratified haphazardly within the cytoplasm.

WHO 2019

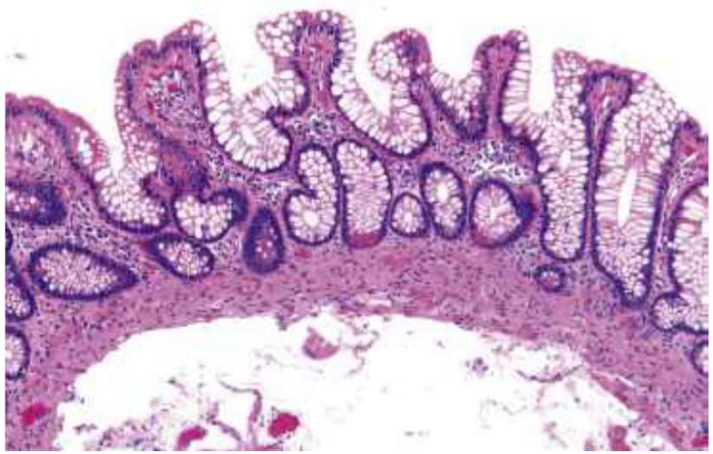
Dysplasia in inflammatory bowel disease: standardized classification with provisional clinical applications

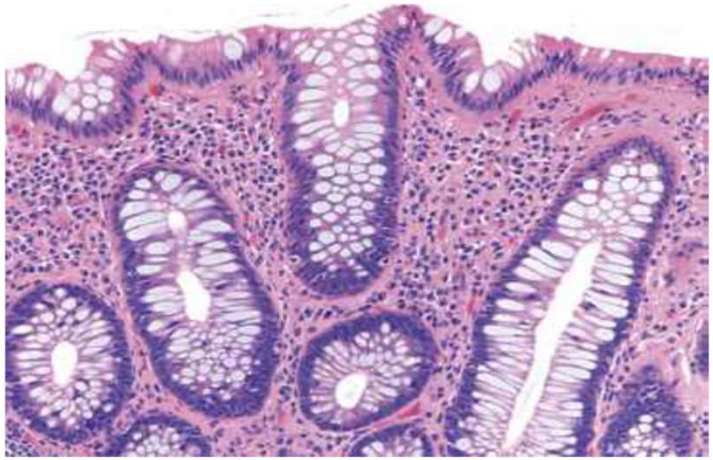
R H Riddell, H Goldman, D F Ransohoff, H D Appelman, C M Fenoglio, R C Haggitt, C Ahren, P Correa, S R Hamilton, B C Morson, et al.

- **Negative for dysplasia**
- **Indefinite for dysplasia**
- **Low grade dysplasia**
- **High grade dysplasia**

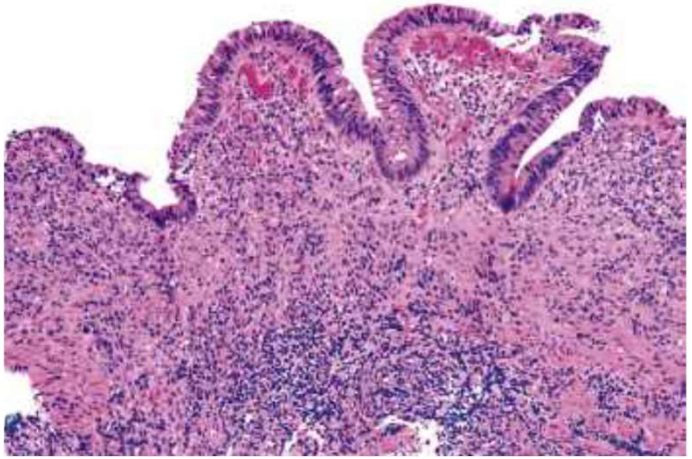
Hum Pathol 1983 Nov;14(11):931-68

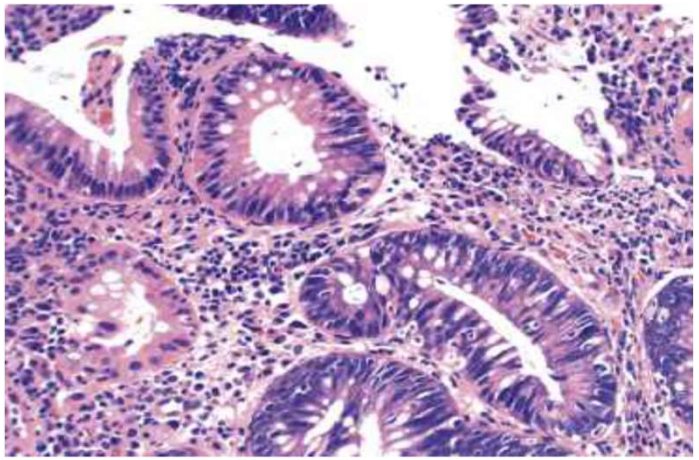
Negative for dysplasia



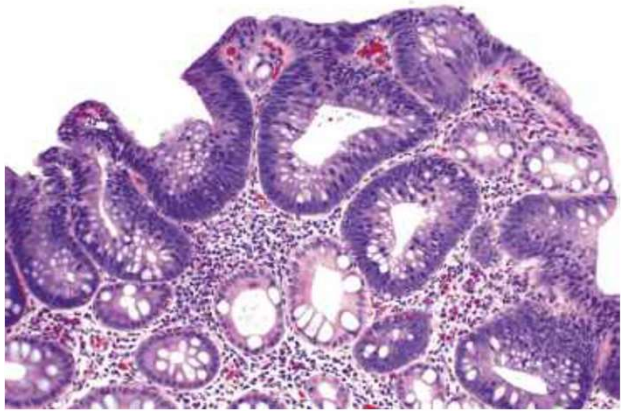


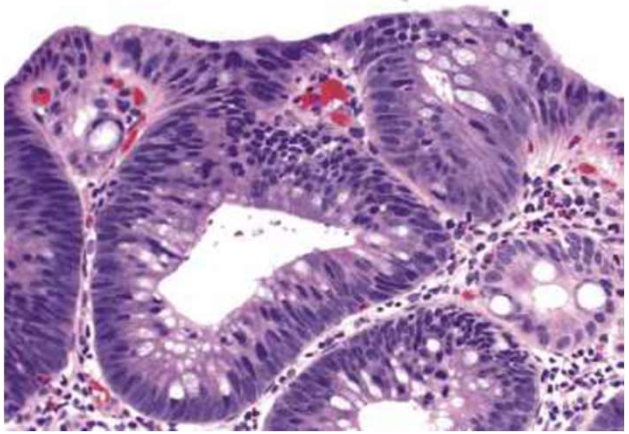
Indefinite for dysplasia



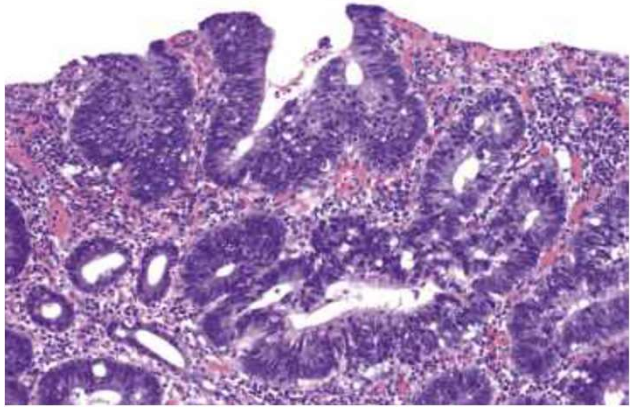


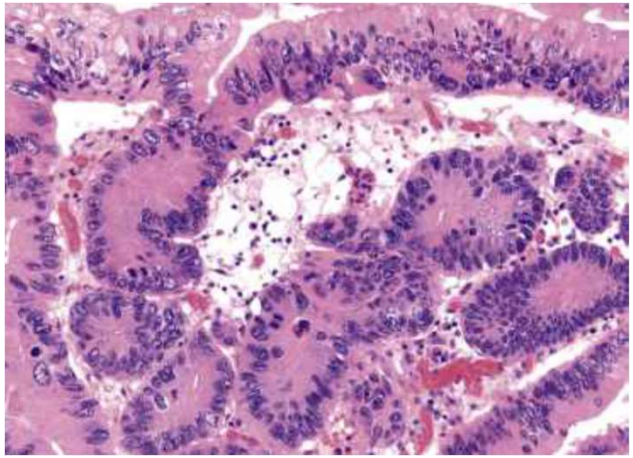
Low grade dysplasia



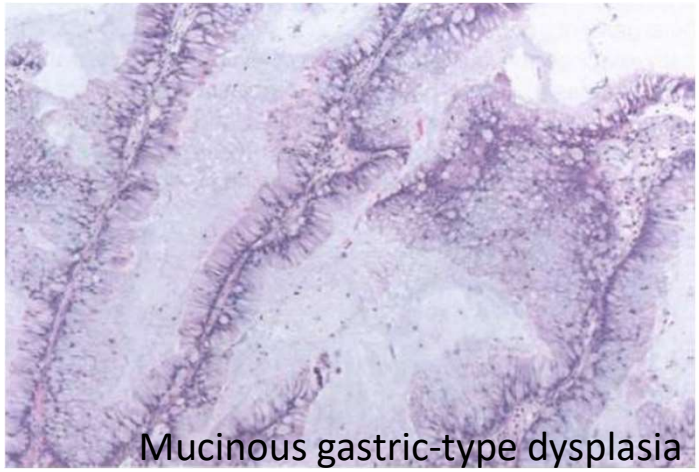


High grade dysplasia

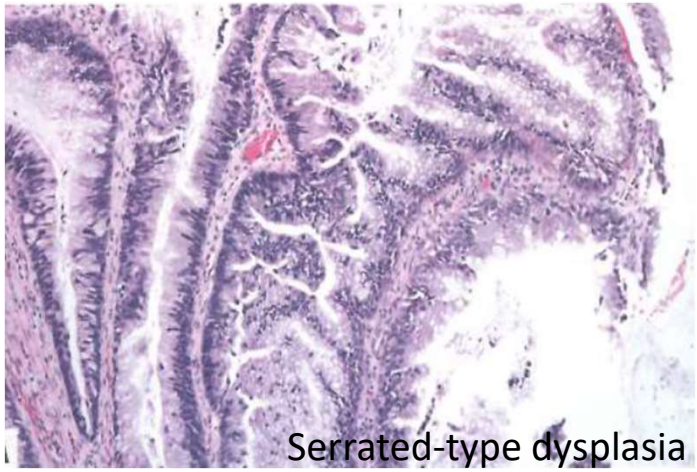




The most common morphological subtypes of dysplasia in IBD include the intestinal (adenomatous) and serrated types (WHO 2019)



Mucinous gastric-type dysplasia

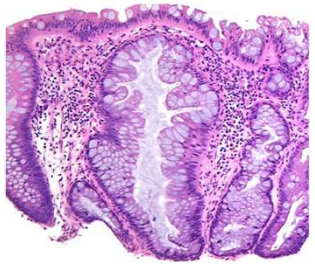


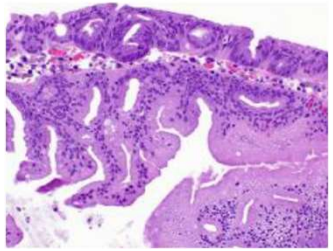
Serrated-type dysplasia

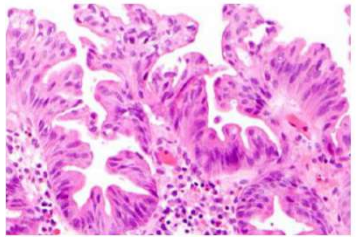
PATTERNS OF NON-CONVENTIONAL DYSPLASIA

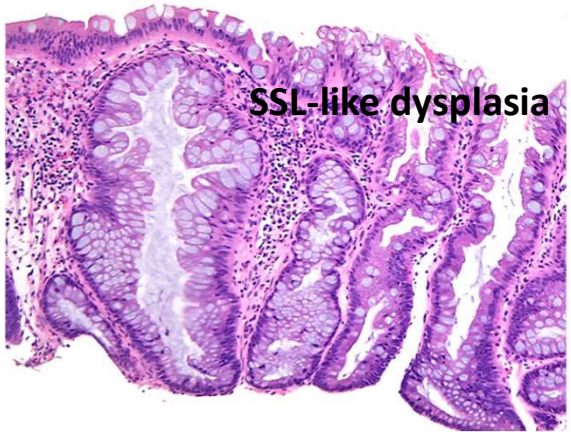
- ➢Hypermucinous
- ➢Goblet cell deficient (or eosinophilic)
- ➢Dysplasia with increased Paneth cell differentiation
- ➢Crypt cell (or terminal epithelial differentiation)
- ➢Traditional serrated adenoma-like
- ➢Sessile serrated adenoma-like
- ➢Serrated-NOS

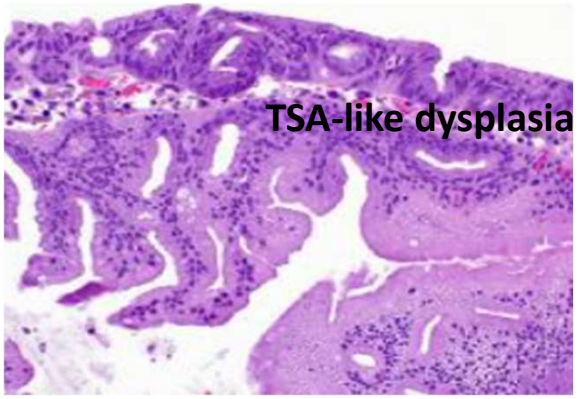
	Sessile Serrated Lesion-like Dysplasia	Traditional Serrated Adenoma-like Dysplasia	Serrated Dysplasia, Not Otherwise Specified
Characteristic morphologic features	Dilatation and/or lateral spread of the crypt base (ie, dilated L-shaped or inverted T-shaped crypts)	Ectopic crypts and intensely eosinophilic cytoplasm	Complex serrated profile without definite features of sessile serrated lesion-like dysplasia or traditional serrated adenoma-like dysplasia
Incidence (% of all dysplastic lesions)	Rare (1%)	Rare (1%)	Rare (< 1%)
Most common location	Right colon	Left colon	Unknown
Association with PSC	Rare	Rare	Unknown
Endoscopic appearance	Usually polypoid/ visible	Usually polypoid/ visible	Usually polypoid/visible
Mean size (cm)	1.2	1.2	Unknown
Most common histologic architecture	Tubular	Tubulovillous/ villous	Unknown
Risk for advanced neoplasia compared with conventional dysplasia	Similar	Similar	Unknown
Molecular alterations	*TP53*, *BRAF*	Aneuploidy, *KRAS*, *BRAF*	Unknown

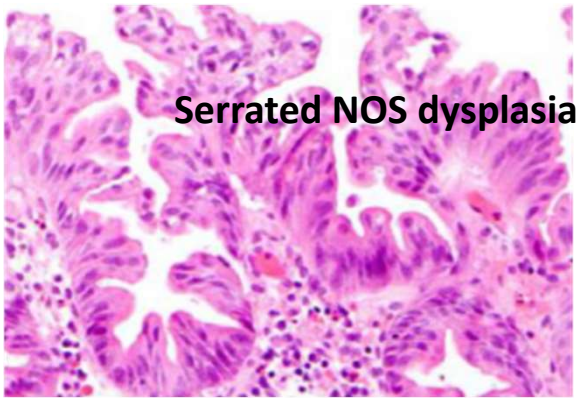


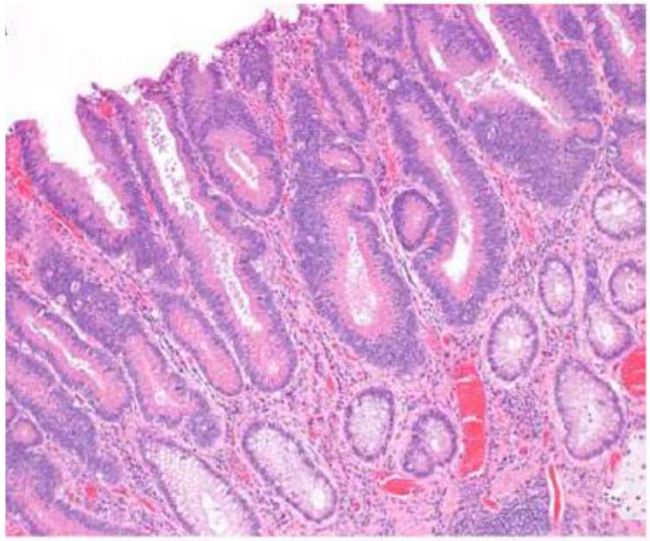


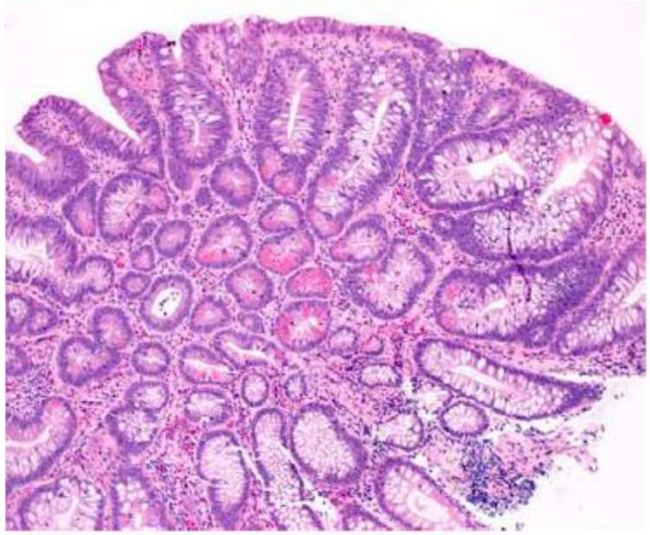




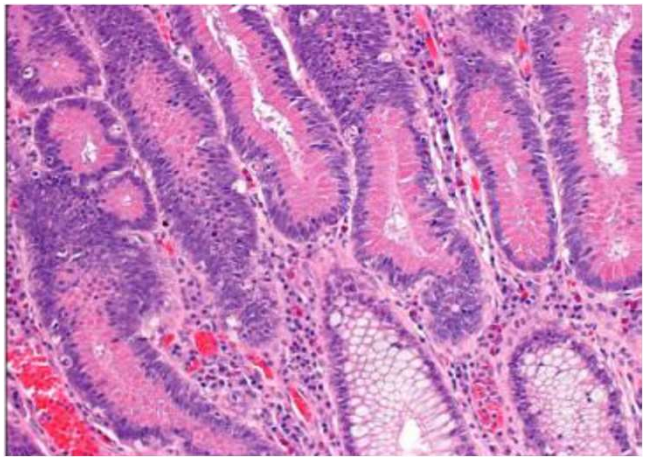




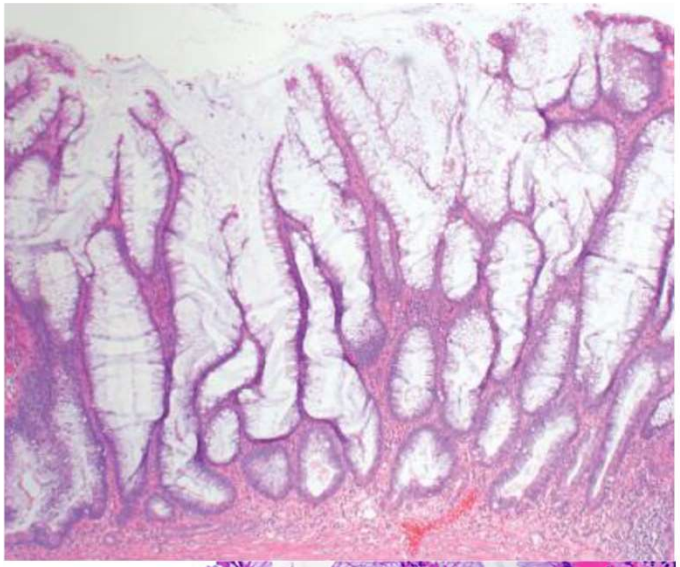


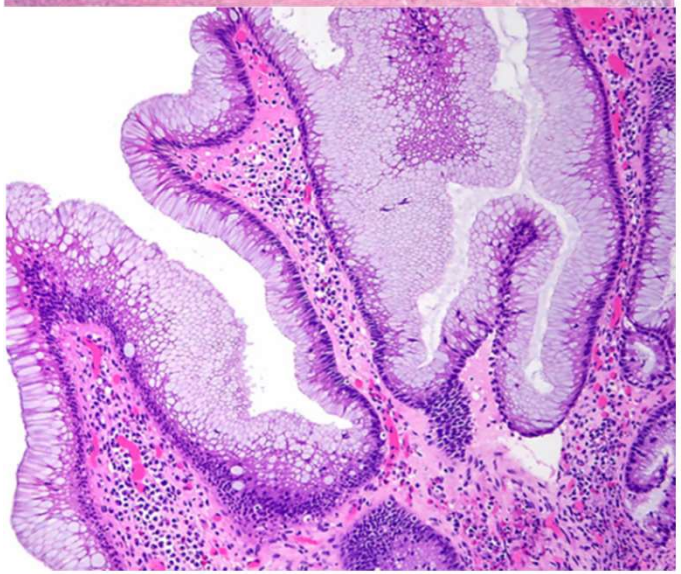


	Dysplasia With Increased Paneth Cell Differentiation
Characteristic morphologic features	Increased Paneth cell differentiation involving at least 2 contiguous dysplastic crypts in 2 different foci
Incidence (% of all dysplastic lesions)	Common (13%)
Most common location	Right colon
Association with PSC	Rare
Endoscopic appearance	Usually polypoid/visible
Mean size (cm)	1.0
Most common histologic architecture	Tubular
Risk for advanced neoplasia compared with conventional dysplasia	Similar
Molecular alterations	Aneuploidy

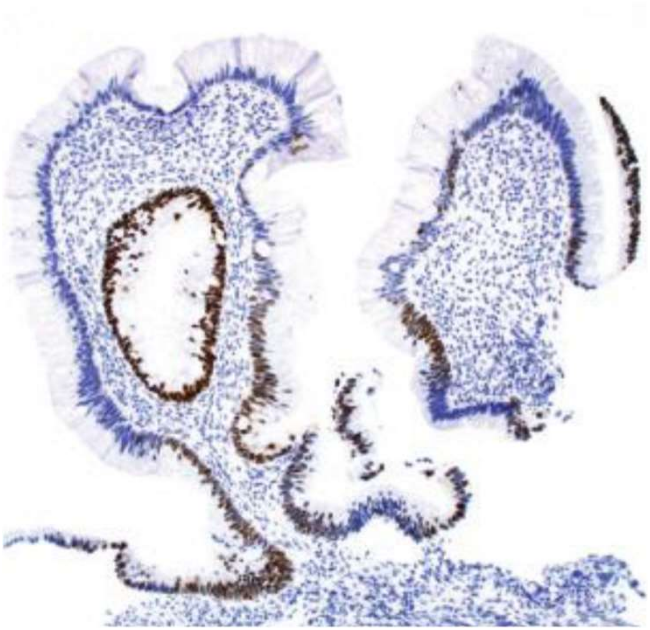


Paneth cells differentiation involving at least two contiguous dysplastic cripts in two different foci

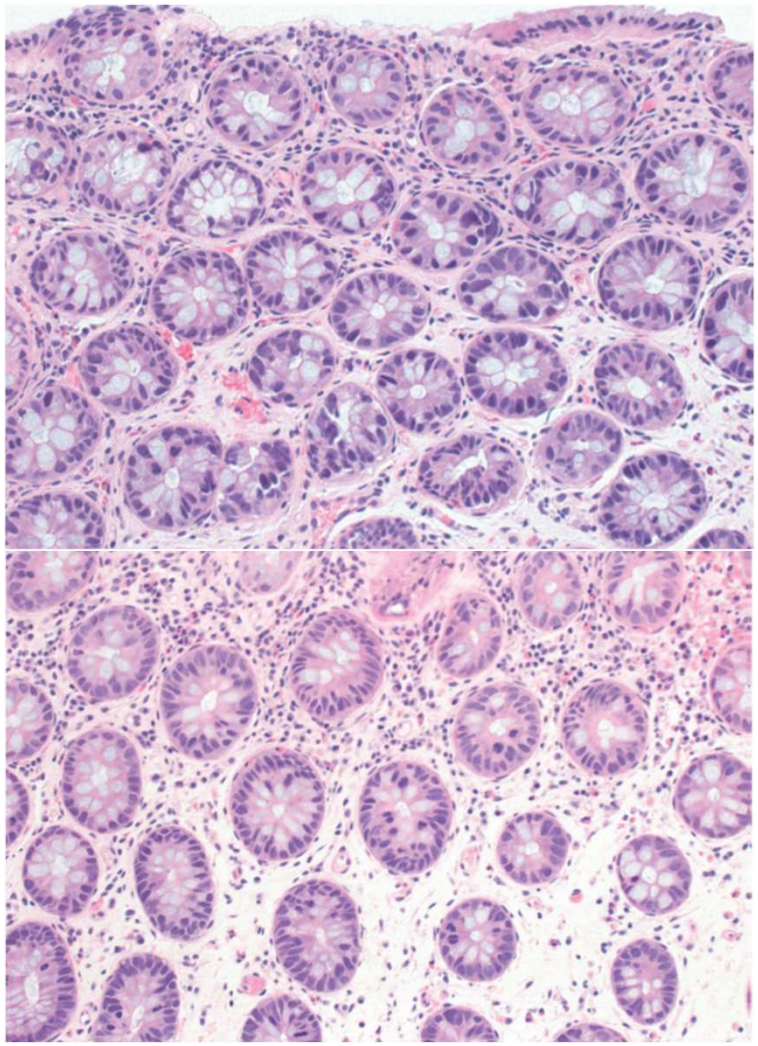




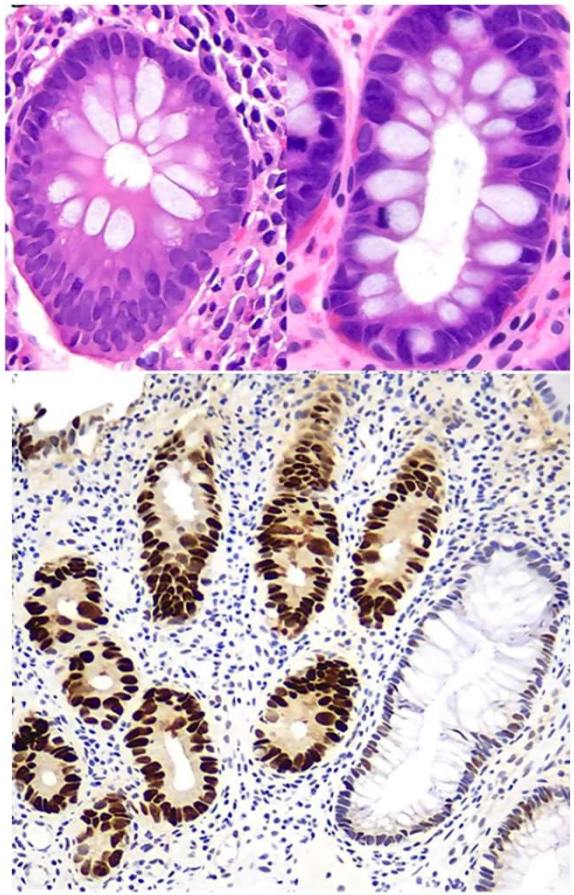
	Hypermucinous Dysplasia
Characteristic morphologic features	Tall, prominent mucinous cells with typically mild nuclear atypia
Incidence (% of all dysplastic lesions)	Rare (2%)
Most common location	Left colon
Association with PSC	Common
Endoscopic appearance	Often polypoid/visible
Mean size (cm)	2.1-2.5
Most common histologic architecture	Tubulovillous/villous
Risk for advanced neoplasia compared with conventional dysplasia	Higher
Molecular alterations	Aneuploidy, *KRAS*, *TP53*



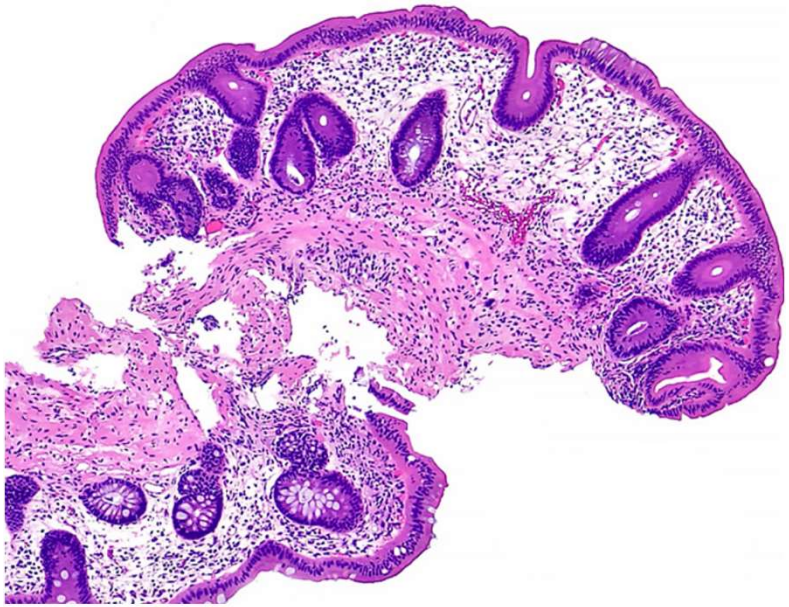
P53+ nel 33% dei casi

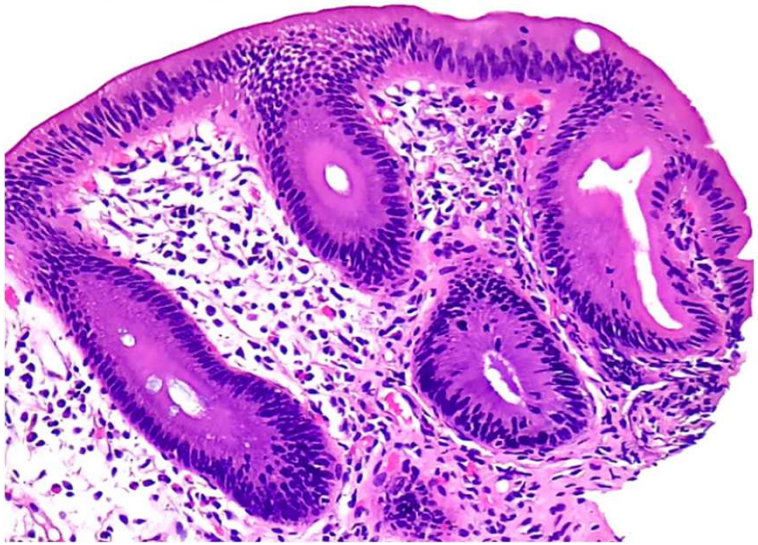


	Crypt Cell Dysplasia
Characteristic morphologic features	Crowded, mildly enlarged, round-to-oval or slightly elongated, nonstratified nuclei limited to the crypt base
Incidence (% of all dysplastic lesions)	Rare (4%)
Most common location	Left colon
Association with PSC	Common
Endoscopic appearance	Usually flat/invisible
Mean size (cm)	Not applicable
Most common histologic architecture	Flat
Risk for advanced neoplasia compared with conventional dysplasia	Higher
Molecular alterations	Aneuploidy, *TP53*, *KRAS*

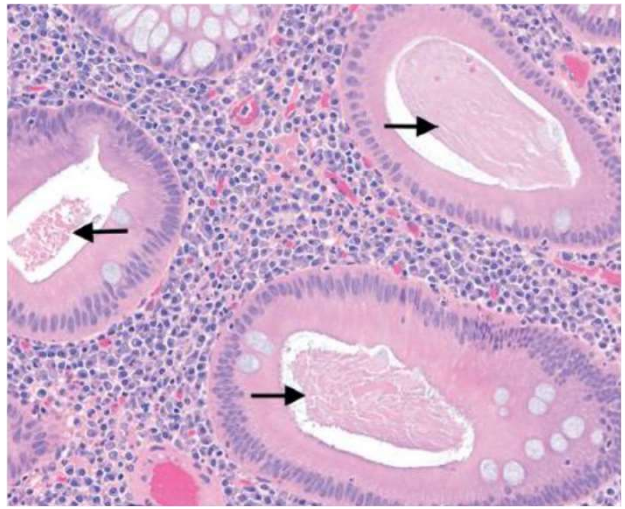


P53+ nel 65% dei casi





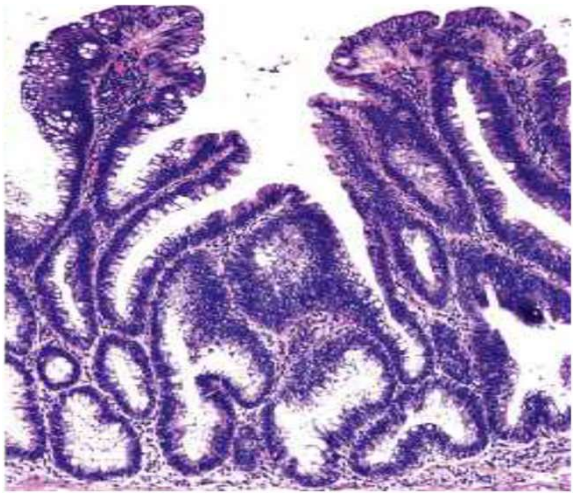
	Goblet Cell Deficient Dysplasia
Characteristic morphologic features	Complete or near-complete absence of goblet cells
Incidence (% of all dysplastic lesions)	Rare (3%)
Most common location	Equally common in both right and left colon
Association with PSC	Not uncommon
Endoscopic appearance	Often flat/ invisible
Mean size (cm)	1.7-1.9 (when visible)
Most common histologic architecture	Tubular
Risk for advanced neoplasia compared with conventional dysplasia	Higher
Molecular alterations	Aneuploidy, *PIK3CA*, *TP53*, *KRAS*

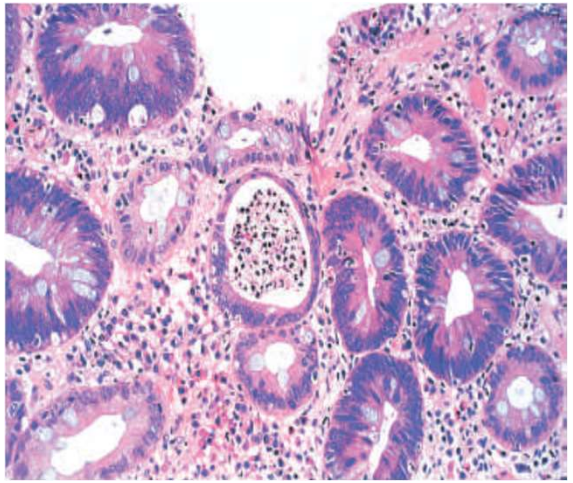


P53+ 20-30%

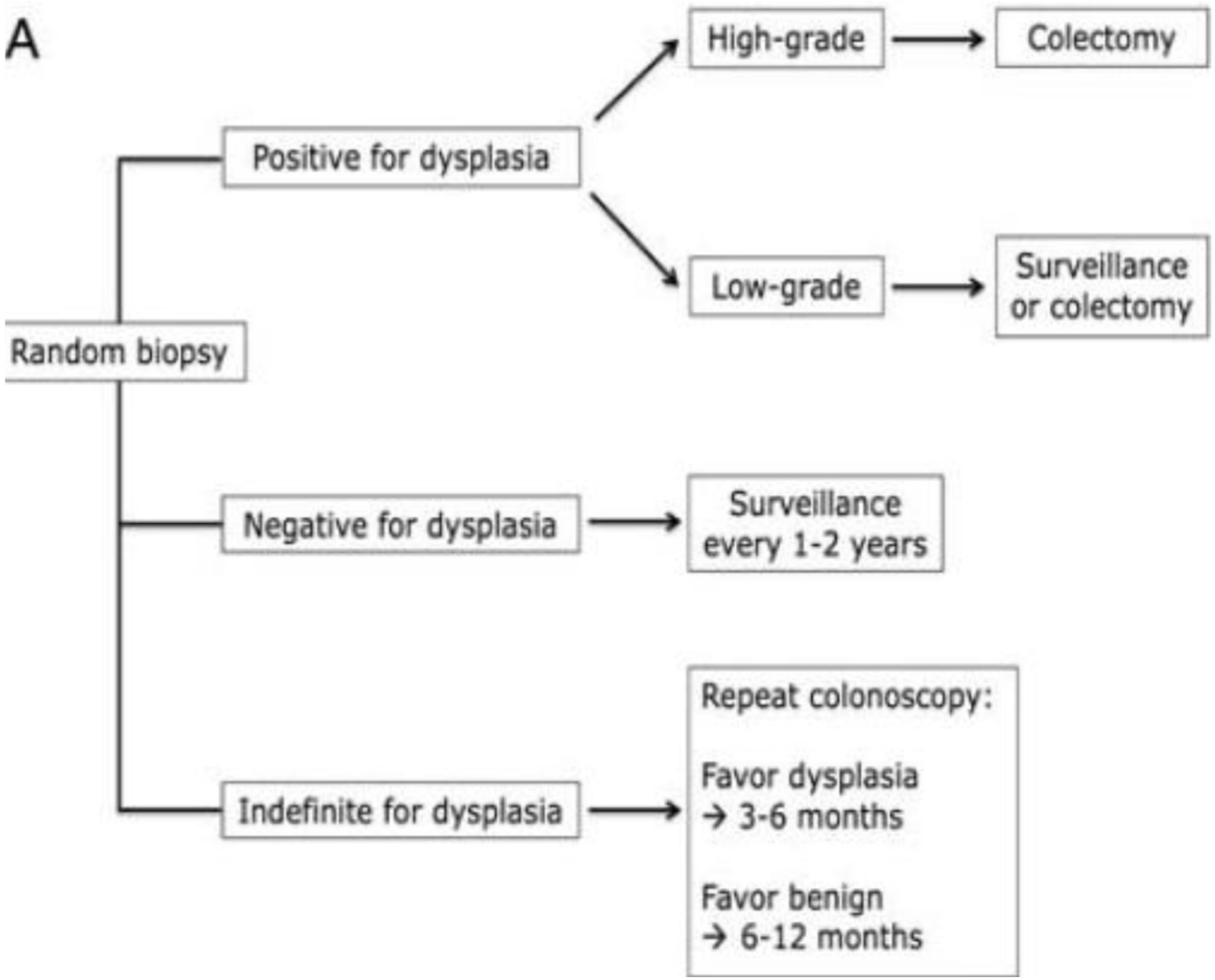
PATTERNS OF NON-CONVENTIONAL DYSPLASIA IN INFLAMMATORY BOWEL DISEASE

Features	Hypermucinous dysplasia	Crypt cell dysplasia	Goblet cell deficient dysplasia	Dysplasia with increased Paneth cell differentiation	Sessile serrated lesion-like dysplasia	Traditional serrated adenoma-like	Serrated dysplasia NOS
Endoscopy	invisible	invisible	invisible /polypoid	visible	visible	visible	visible
Size cm.	2.1	NA	1.9	1	1.2	1.2	NA
PSC	common	common	not uncommon	rare	rare	rare	NA
Risk of HGD or CRC compared with conventional dyspl.	higher	higher	higher	similar	similar	similar	NA
Molecular alteration	KRAS,P53	KRAS,P53	KRAS,P53	aneuploidy	BRAF,P53	BRAF,KRAS	NA
Incidence (% of dysplastic lesions)	2%	4%	3%	13%	1%	1%	<1%





Features	Sporadic adenoma	IBD visible dysplasia
Non-dysplastic and dysplastic crypts	usually assent	usually present
Top down dysplasia	usually present	usually absent
Bottom up dysplasia	usually absente	usually present
P53+	usually absent	usually present
β-catenin+ (nuclear)	usually prominent	usually absent



Choi et al. Adv Anat Pathol 2022