

# 2023 SCSG LGI SYMPOSIUM





# Endoscopic Assessment of Colon Polyps: Detecting Malignant vs Pre-Malignant Lesions

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# Disclosures

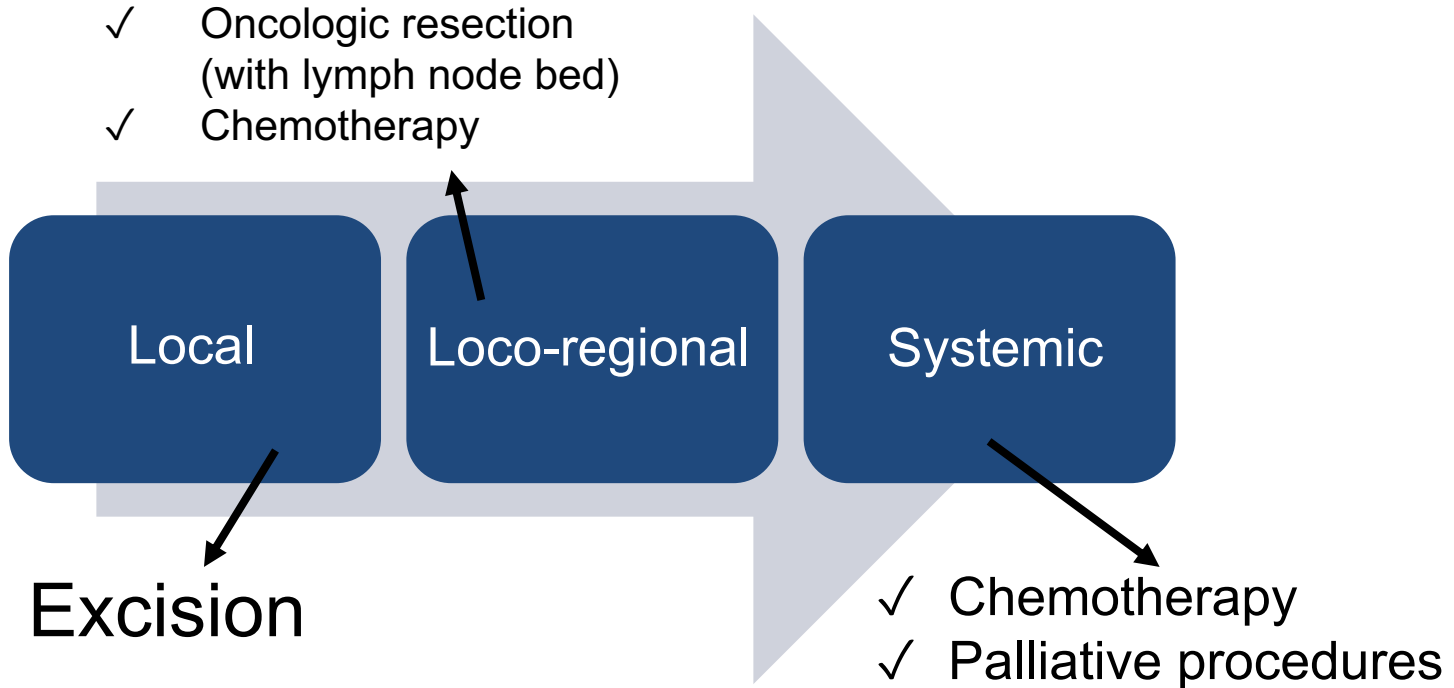


- None relevant

# Objectives

- Review visual assessment of Colon polyps
- Focus on nonpedunculated polyps
- Understand endoscopic clues to malignancy
- Gain an understanding of when to send for advanced tissue resection

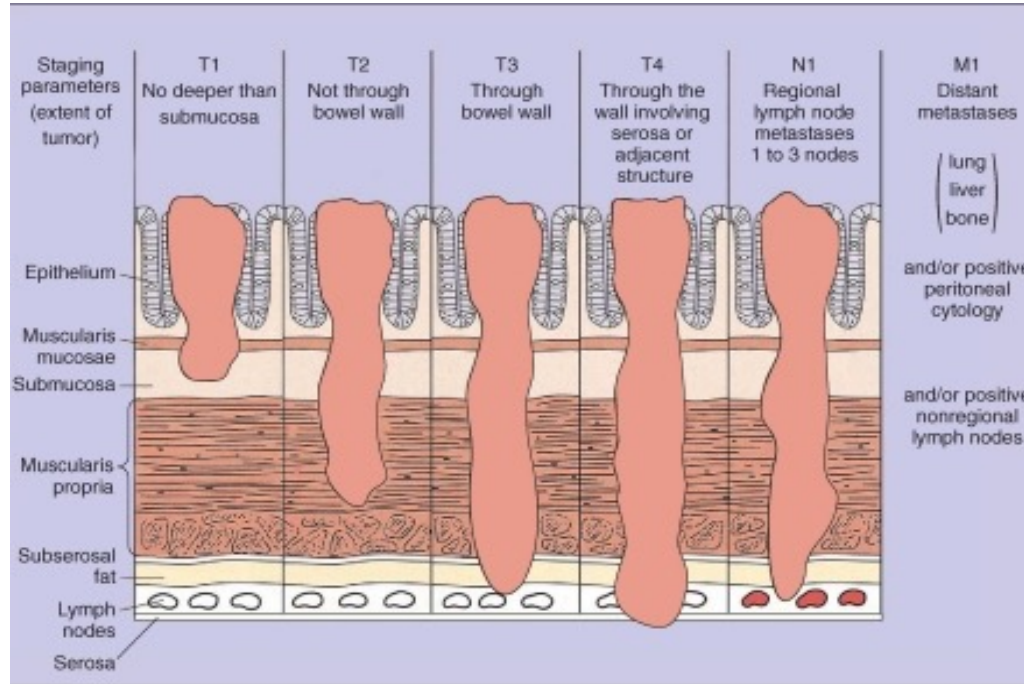
## Progression of neoplasia



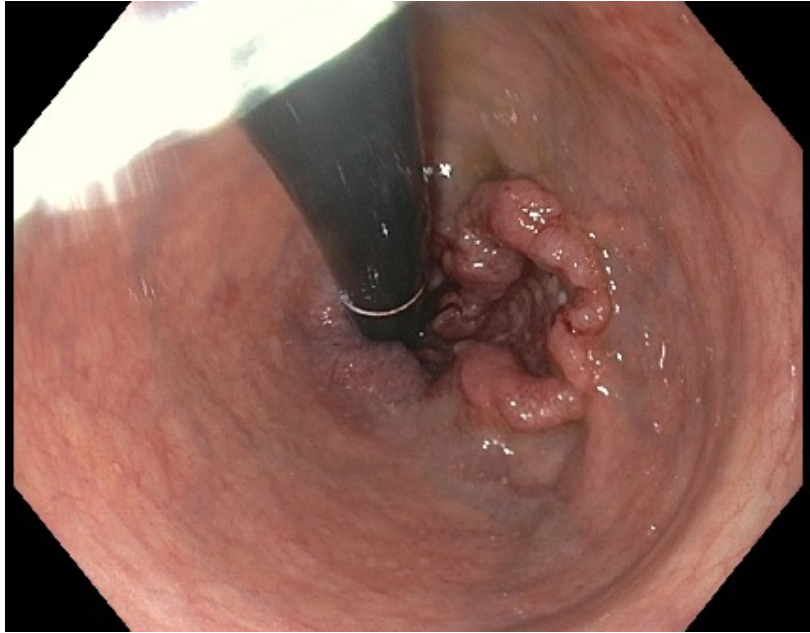
# Risk of Lymph Node Metastasis

- Zero risk with adenomas, sessile serrated, hyperplastic
- Local resection is not curable if there is spread
  - **EMR/ESD**
  - Wedge resection
  - Enucleation
- Endoscopic resection is only appropriate if risk of lymph node or remote metastasis is negligible
  - Precancerous lesions
  - Early cancers within strict criteria
  - Surgical mortality > risk of LN metastasis

# Depth Predicts Lymph Node Metastasis

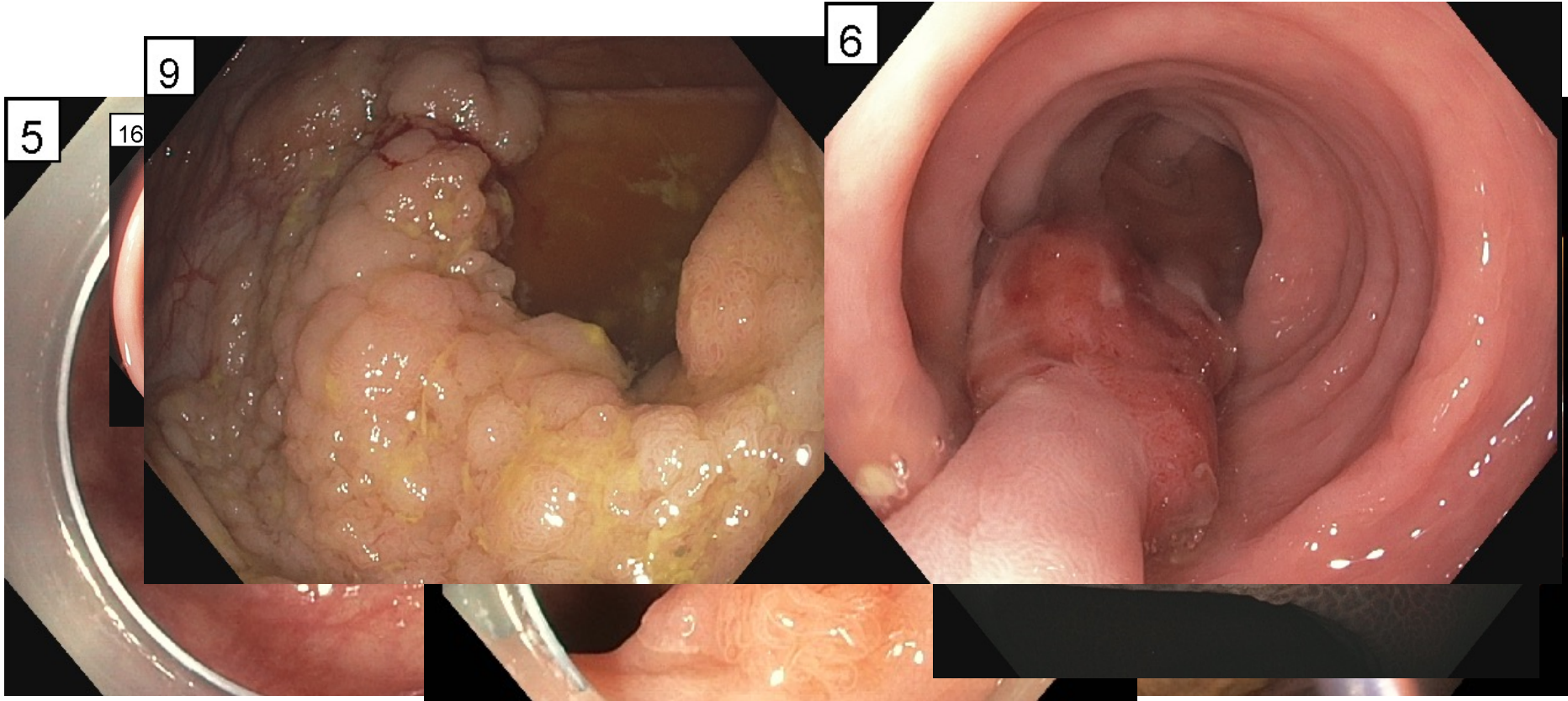


# How Can We Predetermine Depth of Invasion?





# Which Is Likely to Have Lymph Node Metastasis?



# Approach to Endoscopic Assessment

- Appearance
- Morphology
- Surface features

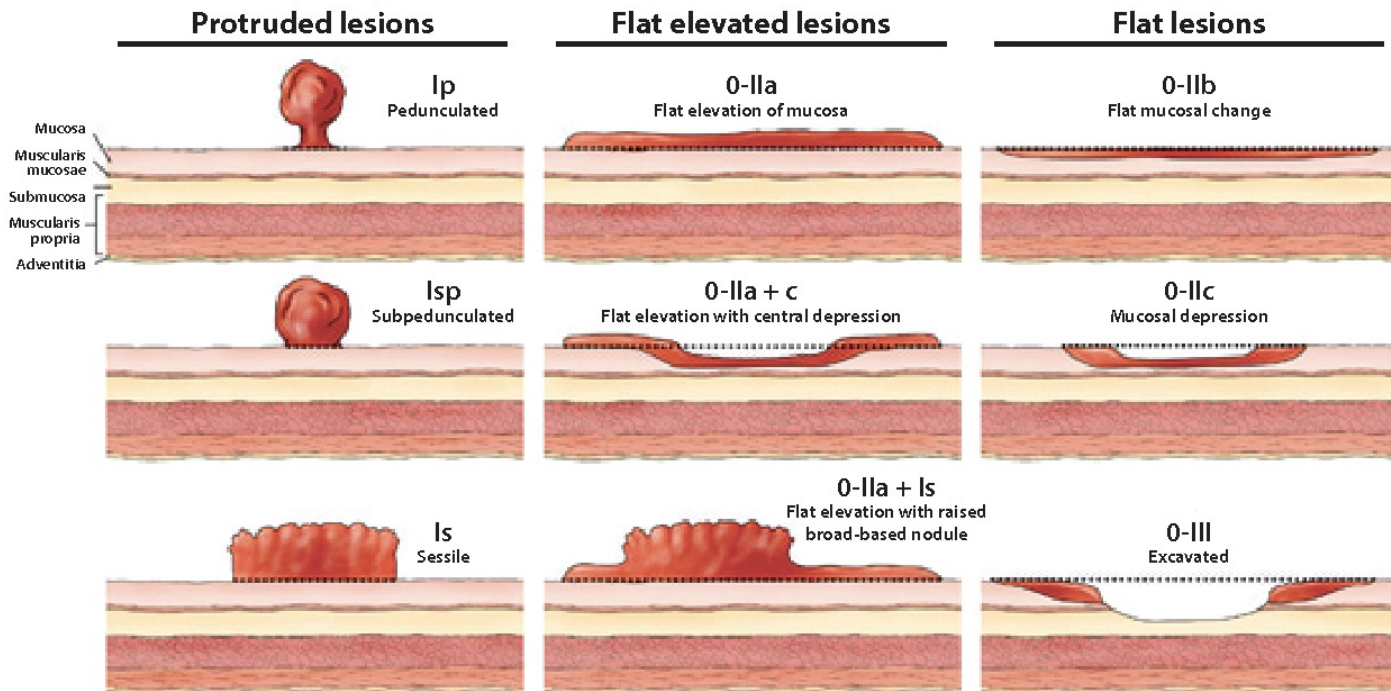
# Appearance: Are There Obvious Features of Invasion?

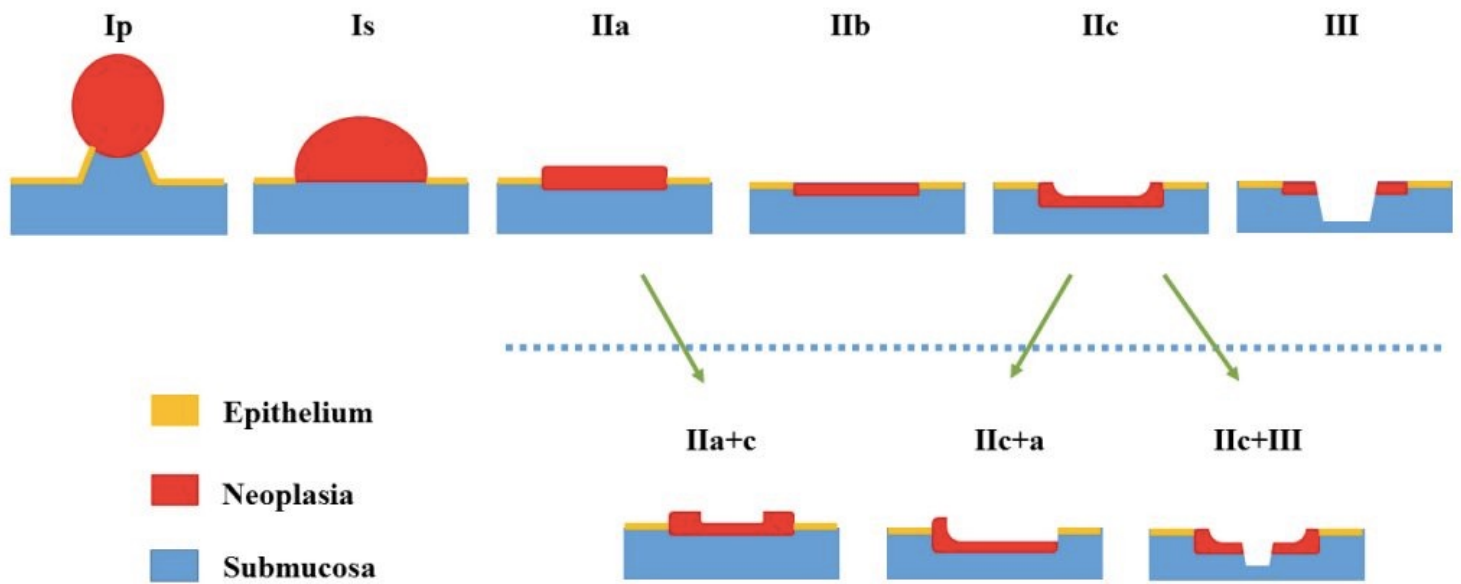
- **Ulcerated**
- Friable
- **Fold convergence/retraction**
- Orange peel appearance
- Rigid/firm (particularly with lumen compromise)
- Dominant Nodule
- Depressed
- Non-granular vs granular
- Obstructing
- **Location**, size, relation to other structures, etc.

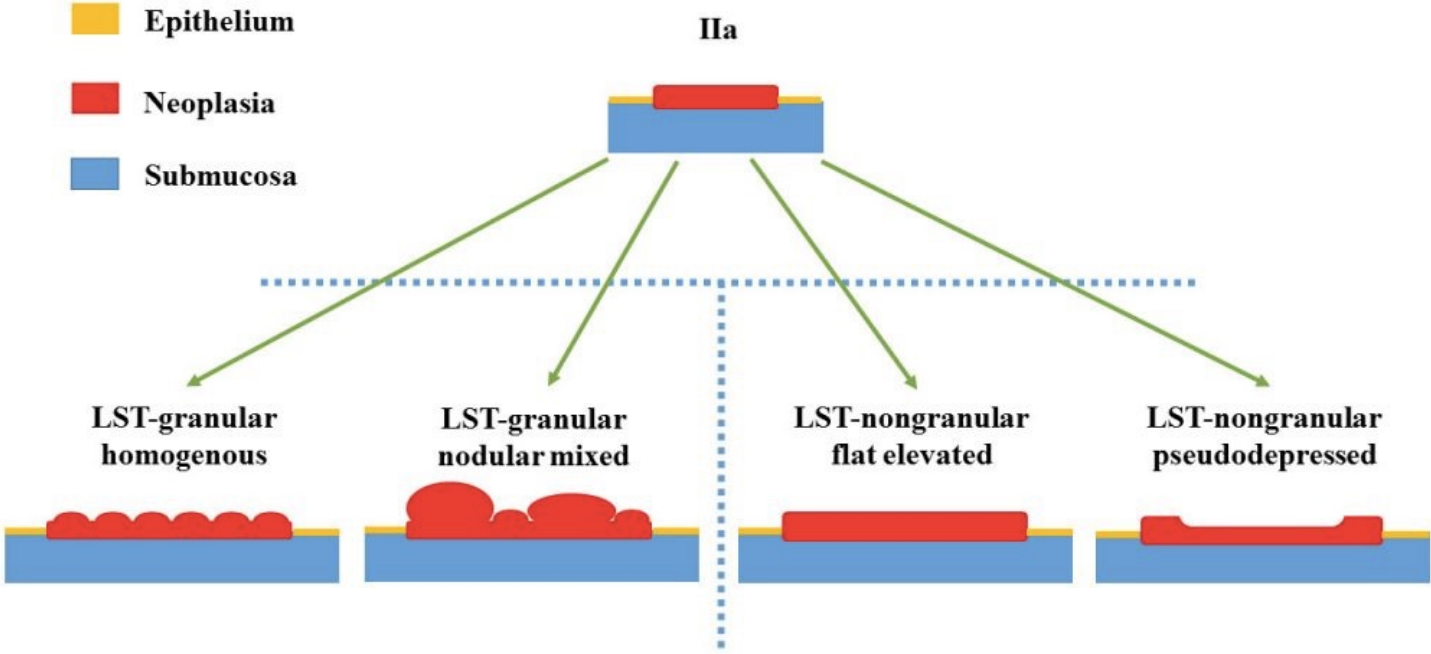
# Morphology: Classify the Shape

- Paris classification
- Pragmatic LST classification

# Morphology Classification












# Morphology Classification

## Risk of Submucosal Invasion

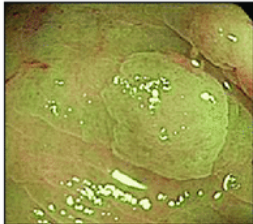
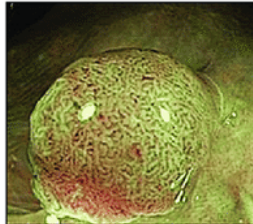
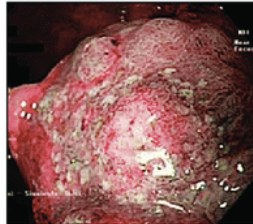
Paris Classification		n	% with SMI
Is		146	7.5
IIa		222	4.1
IIb		9	11.1
IIc or IIa+IIc		22	31.8
IIa+Is		80	6.3



# Surface Features: You're the Endo-Pathologist!

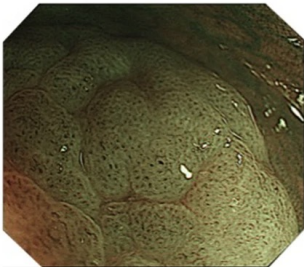
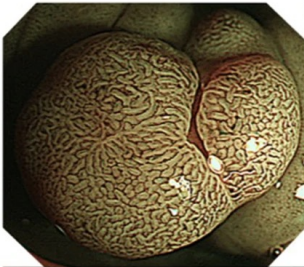
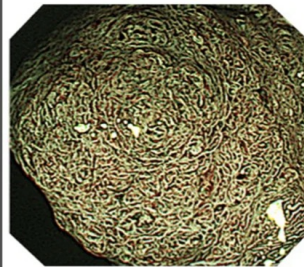
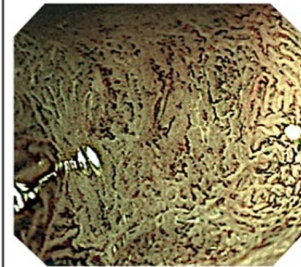
- **NICE**
- **JNET**
- Kudo
- Sano

# NBI International Colorectal Endoscopic

	Type 1	Type 2	Type 3
Color	Same or lighter than background	Browner relative to background (verify that color arises from vessels)	Brown to dark brown relative to background, sometimes patchy whiter areas
Vessels	None or isolated lacy vessels coursing across the lesion	Brown vessels surrounding white structures	Has area(s) with markedly distorted 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	Areas with distortion or absence of pattern
Most likely pathology	Hyperplastic	Adenoma	Deep submucosally invasive cancer
			

# Japan NBI Expert Team

## Japan NBI Expert Team (JNET) classification

NBI	Type 1	Type 2A	Type 2B	Type 3
Vessel Pattern	<ul style="list-style-type: none"> <li>• Invisible*<sup>1</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Regular caliber</li> <li>• Regular distribution (meshed/spiral pattern)*<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Irregular distribution</li> </ul>	<ul style="list-style-type: none"> <li>• Loose vessel areas</li> <li>• Interruption of thick vessels</li> </ul>
Surface Pattern	<ul style="list-style-type: none"> <li>• Regular dark or white spots</li> <li>• Similar to surrounding normal mucosa</li> </ul>	<ul style="list-style-type: none"> <li>• Regular (tubular/branched/papillary)</li> </ul>	<ul style="list-style-type: none"> <li>• Irregular or obscure</li> </ul>	<ul style="list-style-type: none"> <li>• Amorphous areas</li> </ul>
Most likely histology	Hyperplastic polyp/ Sessile serrated polyp	Low grade intramucosal neoplasia* <sup>4</sup>	High grade intramucosal neoplasia* <sup>5</sup> / Superficial submucosal invasive cancer* <sup>3</sup>	Deep submucosal invasive cancer
Examples				

## Risk of Occult Submucosal Invasive Cancer (SMIC) According to Gross Morphology and Location n = 1712



A lesion proximally located (0-IIa) Granular Lesion.  
Overall risk of SMIC 0.7%.

### 0-IIa G

SMIC risk by Paris Type Alone 2.1%  
SMIC risk by Surface Morphology Alone 3.5%

**SMIC Risk 0.8%**

Proximal 0.7% **Very Low Risk**      Distal 1.2% **Low Risk**

### 0-IIa NG

SMIC risk by Paris Type Alone 2.1%  
SMIC risk by Surface Morphology Alone 8.1%

**SMIC Risk 4.2%**

Proximal 3.8%      Distal 6.4%



A proximal (0-IIa) Non-Granular Lesion.  
Overall risk of SMIC 3.8%

### 0-IIa+Is G

SMIC risk by Paris Type Alone 8.4%  
SMIC risk by Surface Morphology Alone 3.5%

**SMIC Risk 7.1%**

Proximal 4.2%      Distal 10.1%

### 0-IIa+Is NG

SMIC risk by Paris Type Alone 8.4%  
SMIC risk by Surface Morphology Alone 8.1%

**SMIC Risk 14.1%**

Proximal 12.7% **High Risk**      Distal 15.9% **High Risk**



A rectal (0-IIa) 0-IIa+Is Granular Lesion.  
Overall risk of SMIC 10.1%



A proximal (0-IIa) 0-IIa+Is Non-Granular Lesion.  
Overall risk of SMIC 12.7%

### 0-Is G

SMIC risk by Paris Type Alone 6.0%  
SMIC risk by Surface Morphology Alone 3.5%

**SMIC Risk 3.7%**

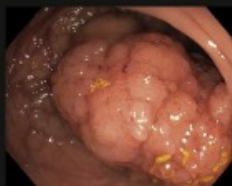
Proximal 2.3% **Low Risk**      Distal 5.7%

### 0-Is NG

SMIC risk by Paris Type Alone 6.0%  
SMIC risk by Surface Morphology Alone 8.1%

**SMIC Risk 15.3%**

Proximal 12.3% **High Risk**      Distal 21.4% **Very High Risk**



A sigmoid colon (0-Is) 0-Is Granular Lesion.  
Overall risk of SMIC 5.7%



An ascending colon (proximal) 0-Is Non-Granular Lesion.  
Overall risk of SMIC 12.3%

# Sessile Serrated Lesions

- Flat, often subtle and difficult to detect
- Mucosa cap
- NICE1, JNET1 pattern
- Chromoendoscopy with acetic acid helps
- Heterogenous, nodular morphology predicts higher grade histology, dysplasia
- Resection should be careful to ensure complete

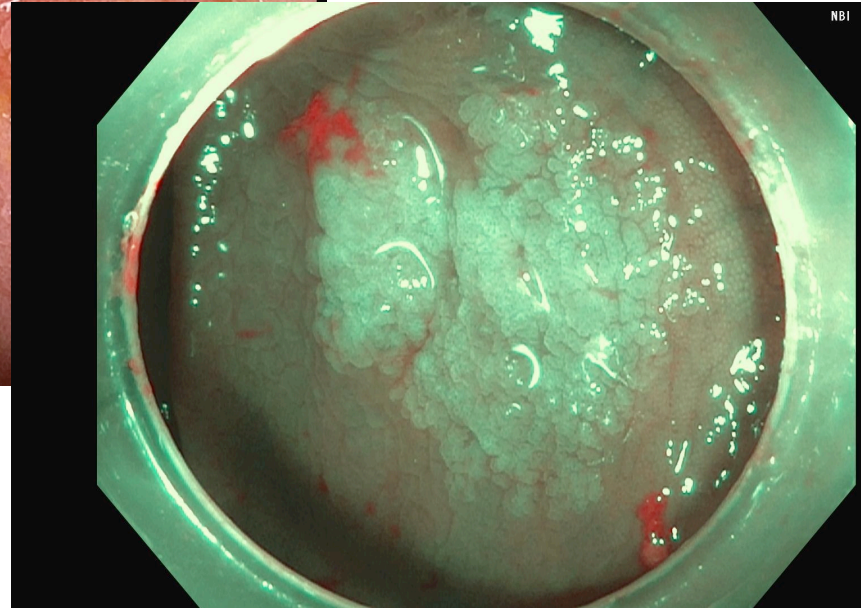
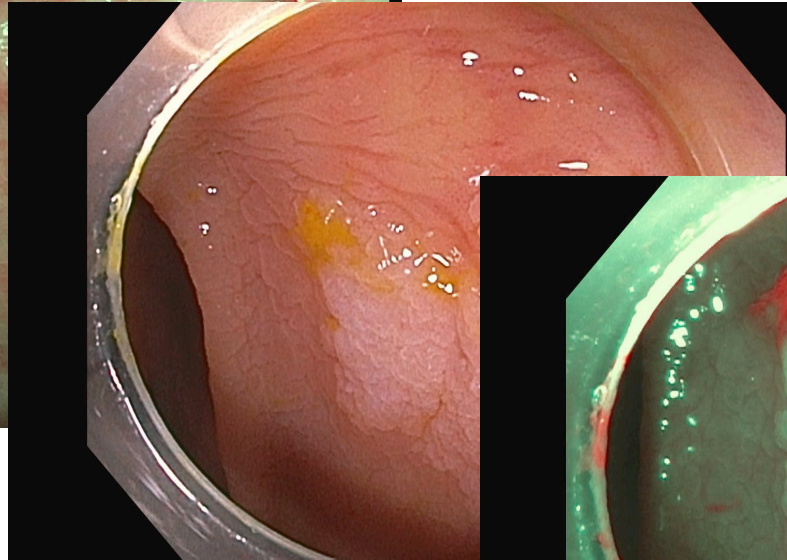
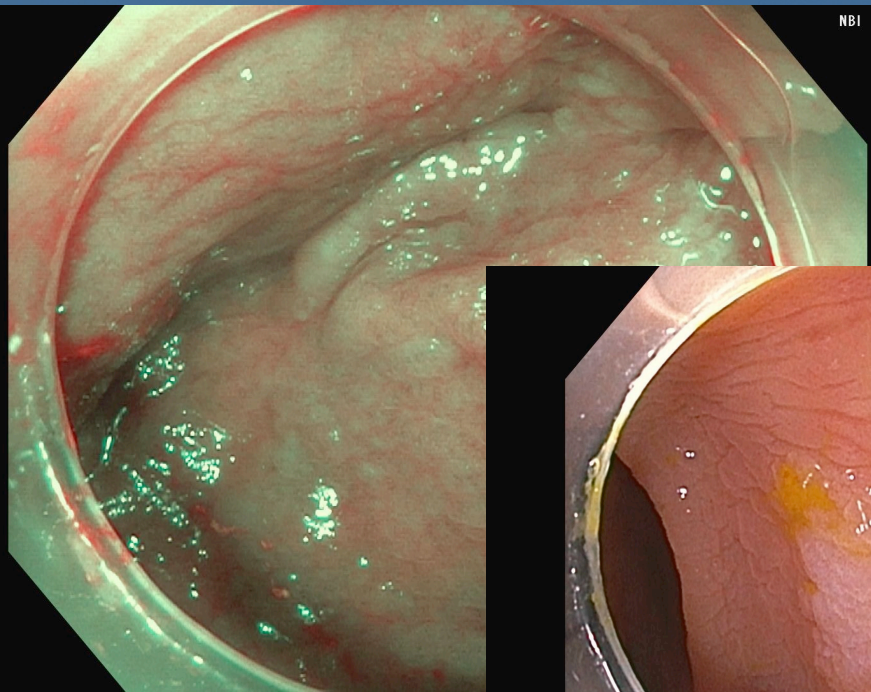
# Conclusions

- Structured, logical assessment of polyps should be routine
- Assessment can predict histology and optimize treatment pathways
- Should be able to reliably distinguish hyperplasia vs adenoma vs cancer

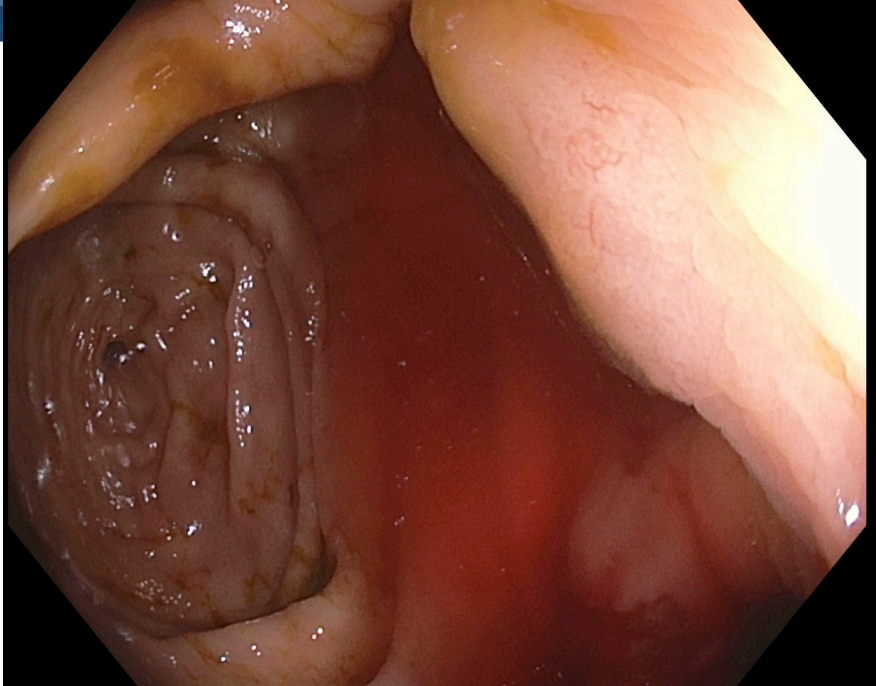
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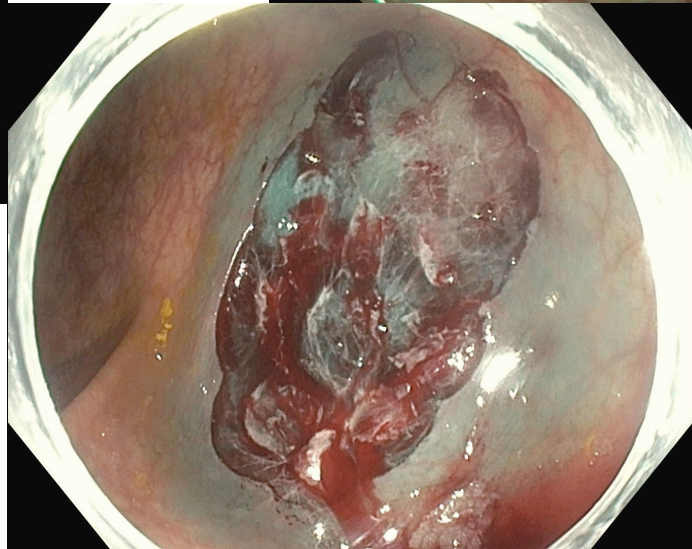
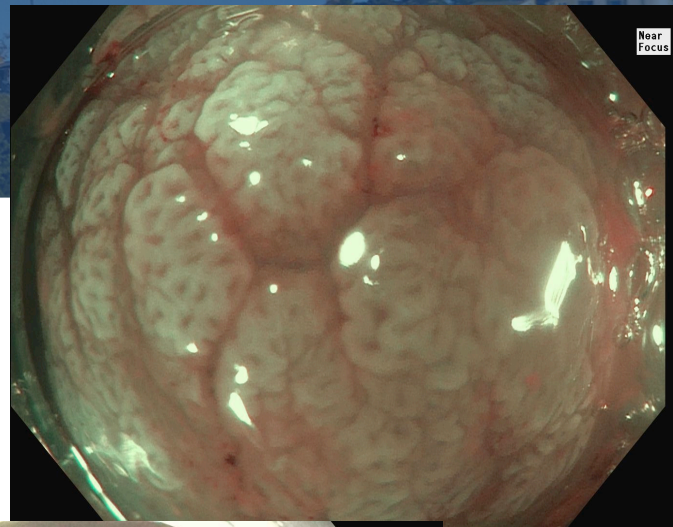
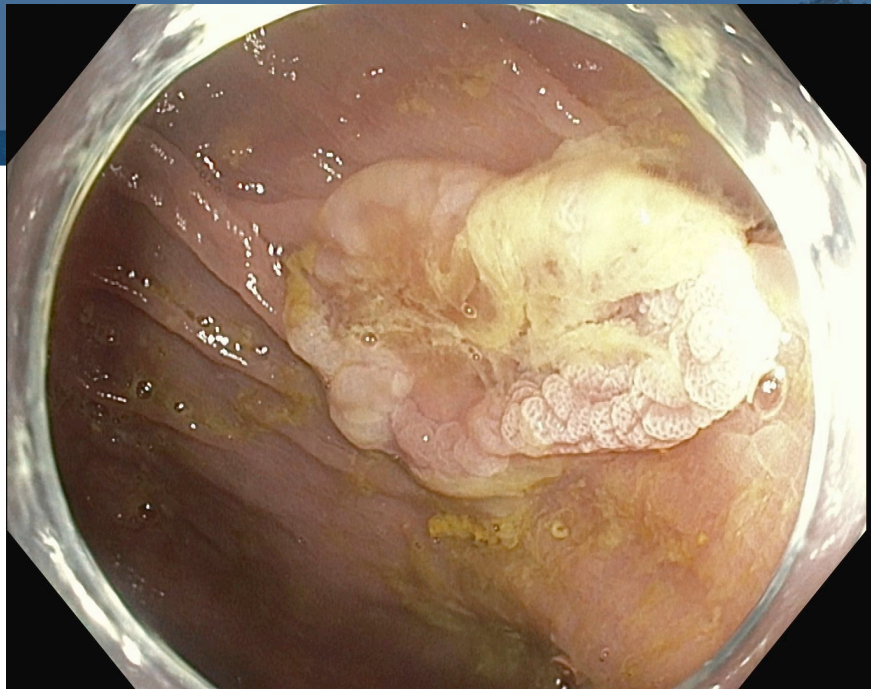
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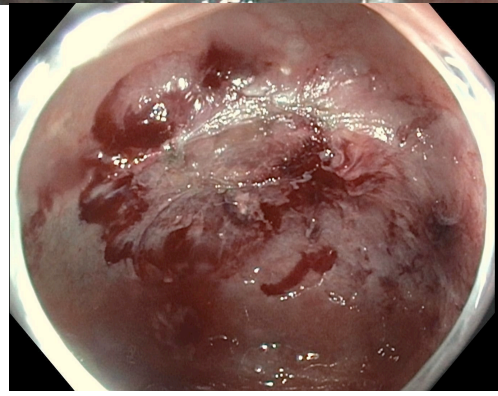
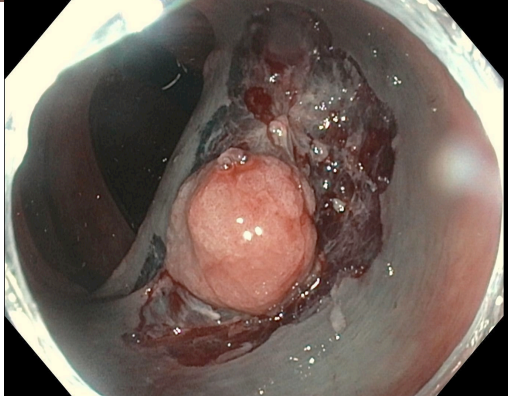
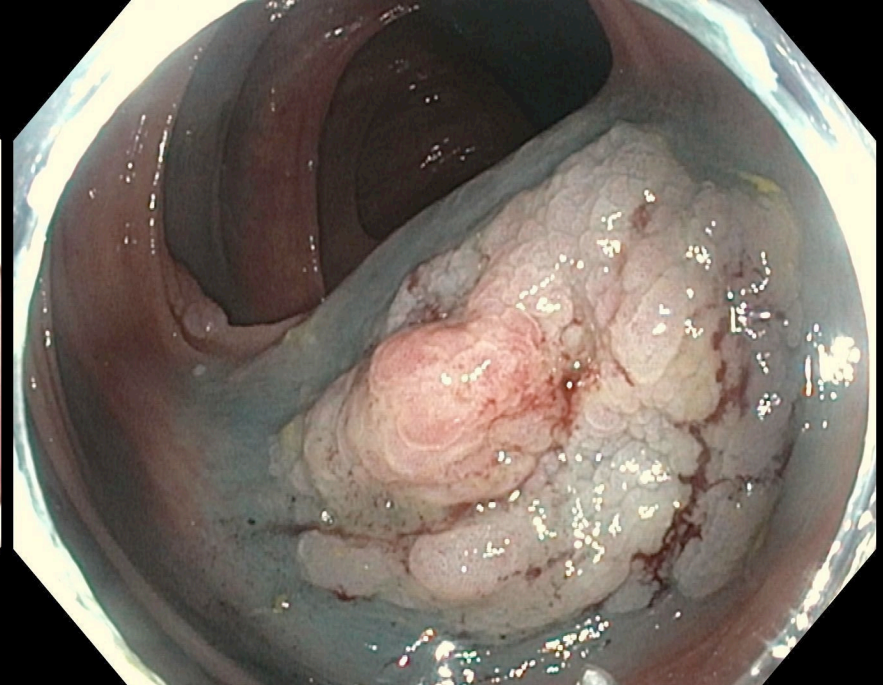
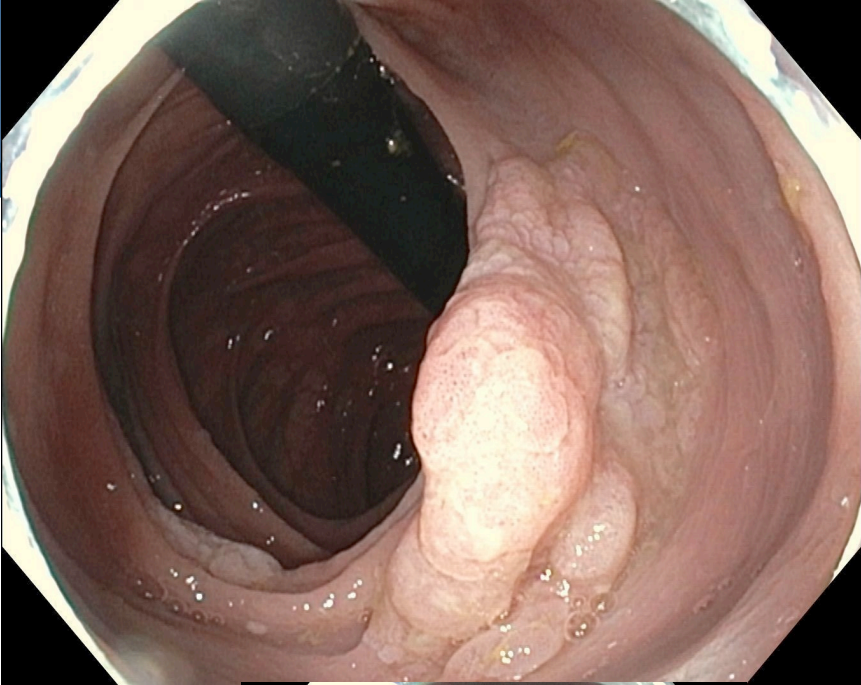


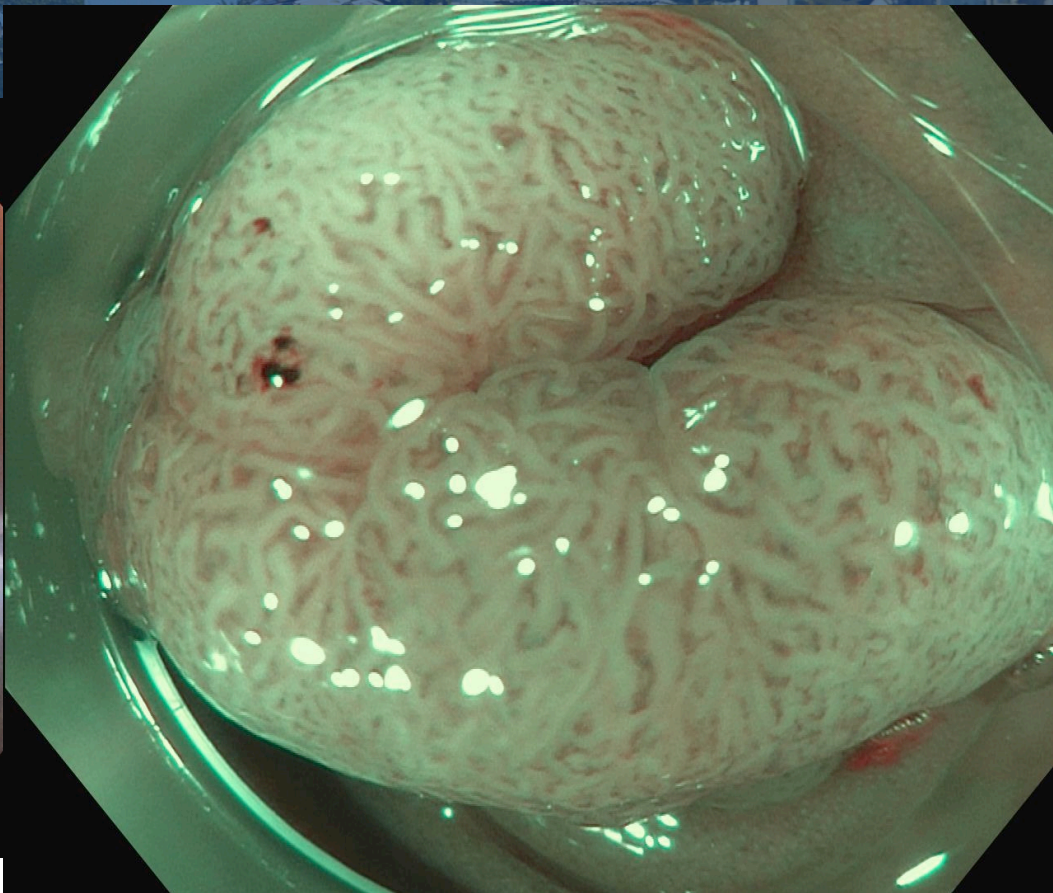


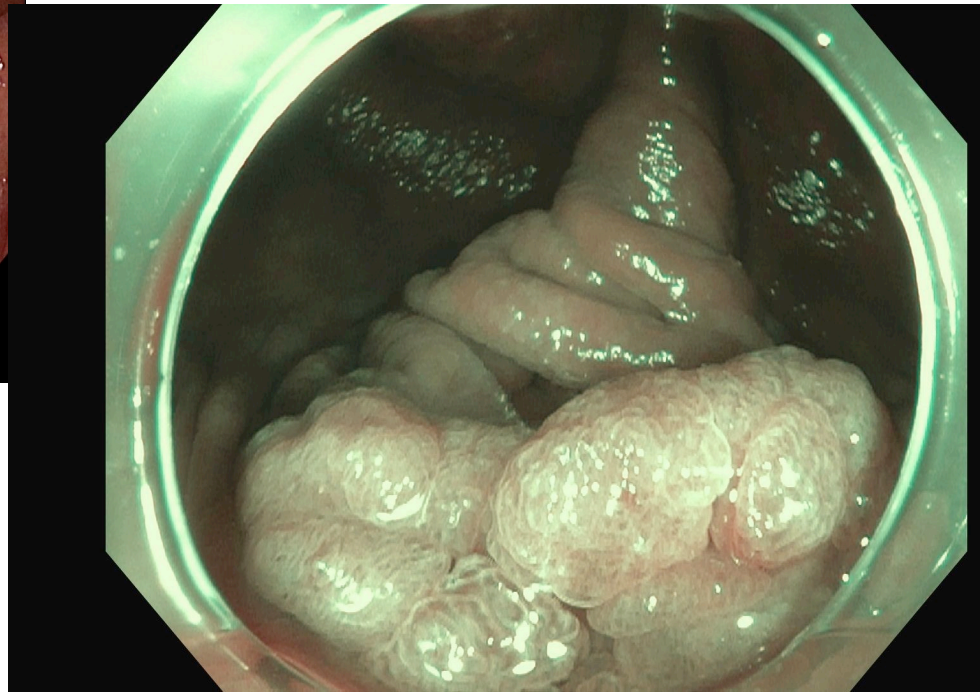
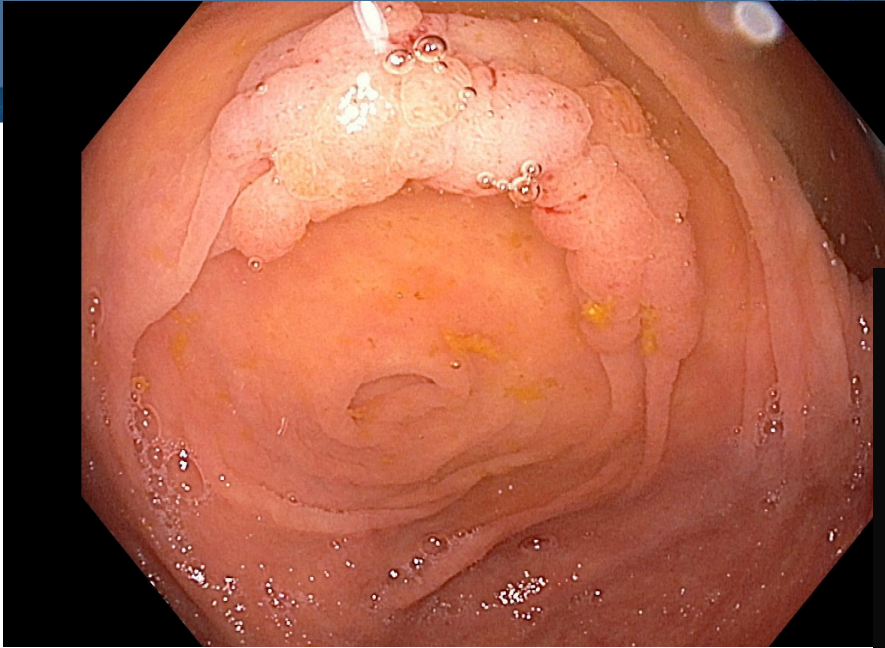


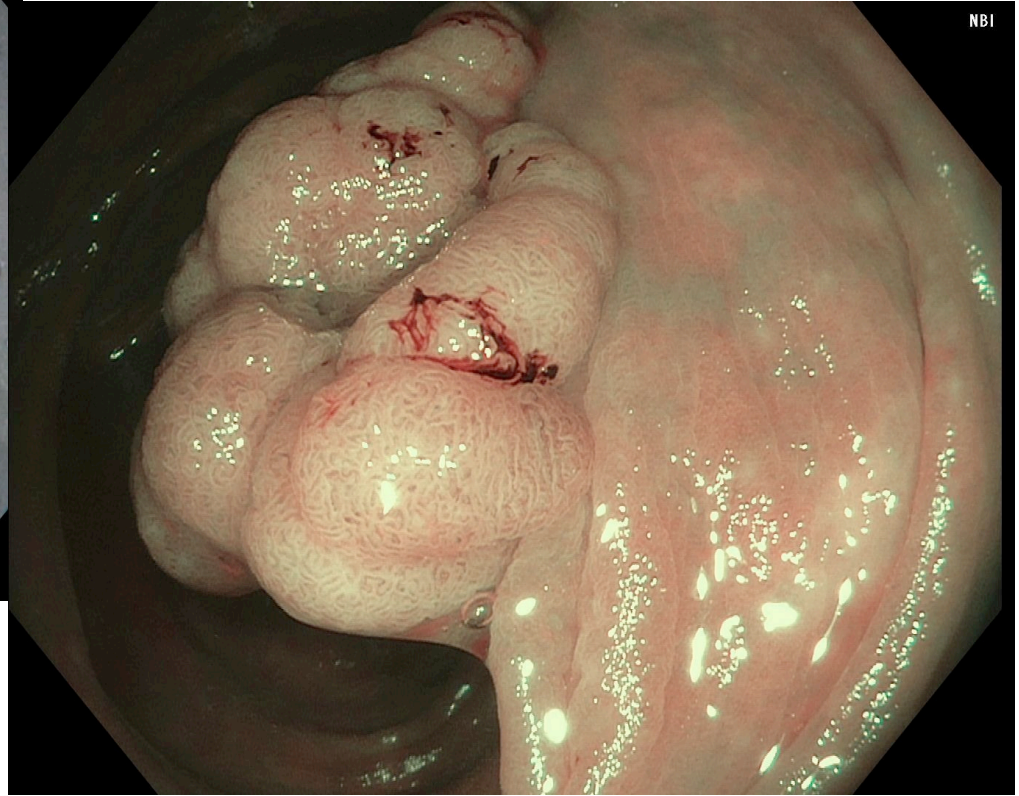
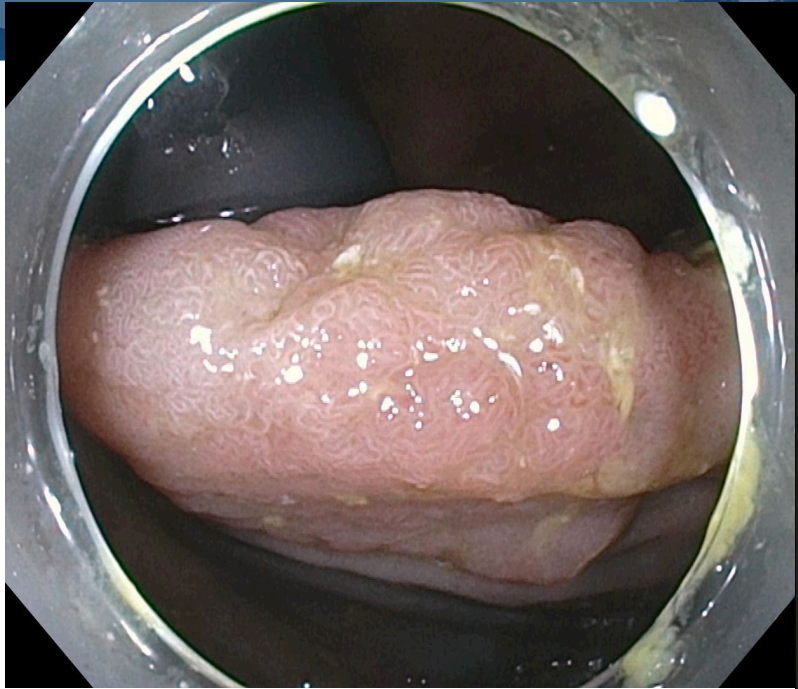




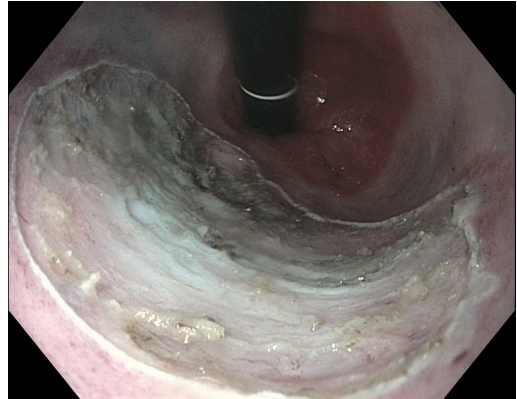
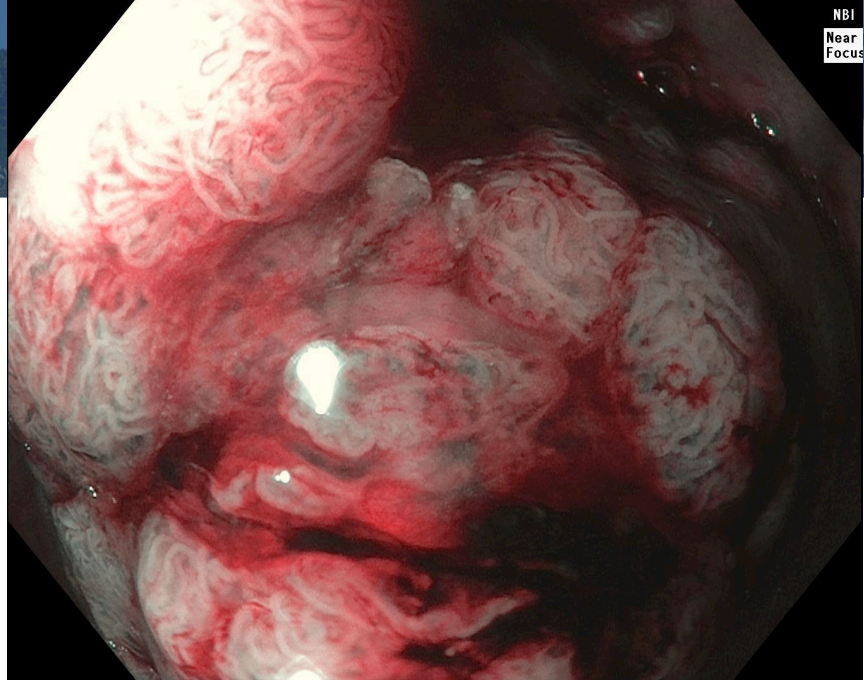
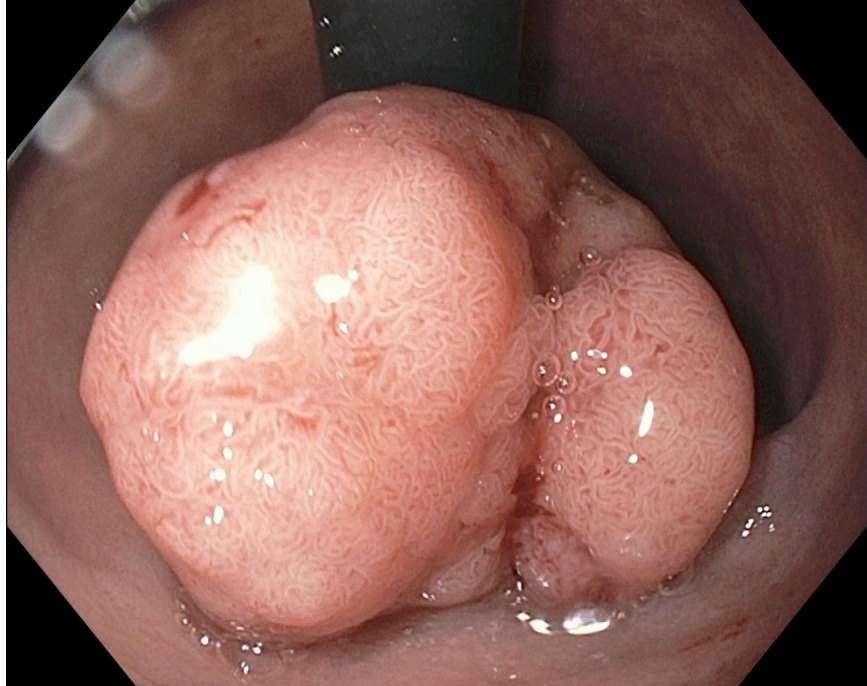


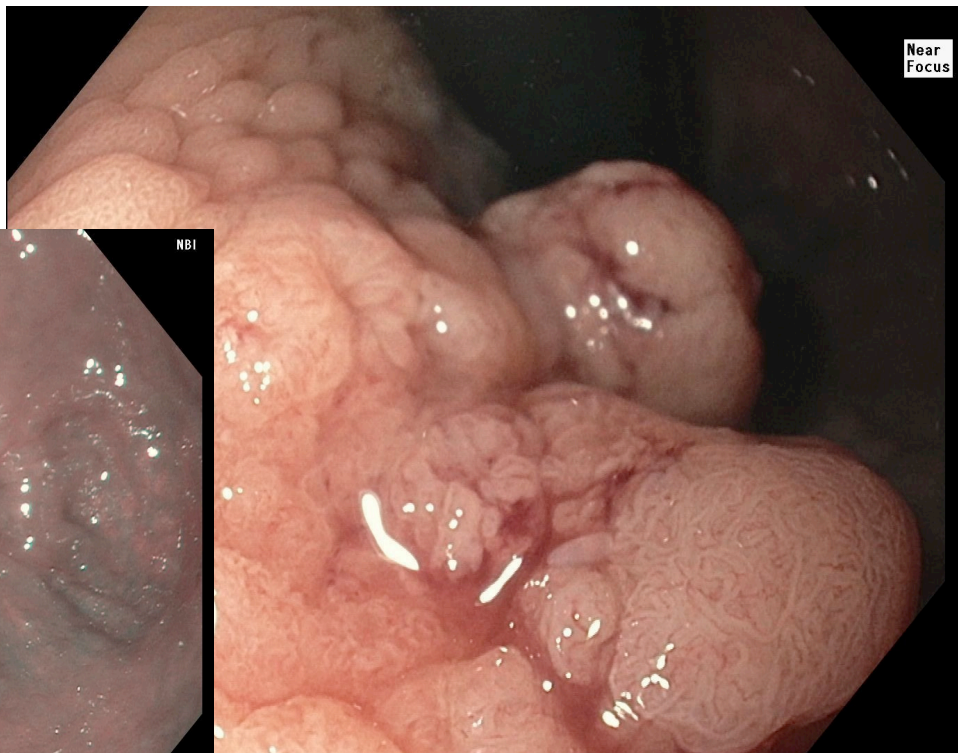
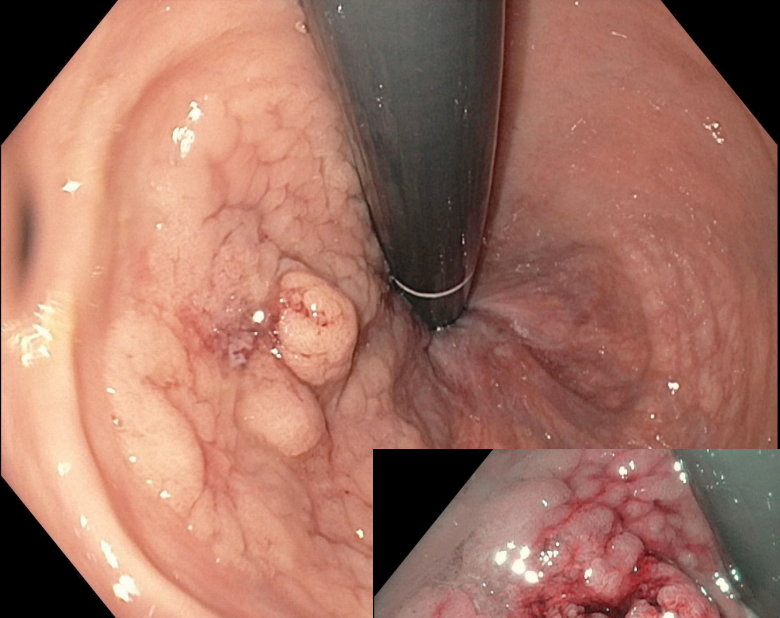




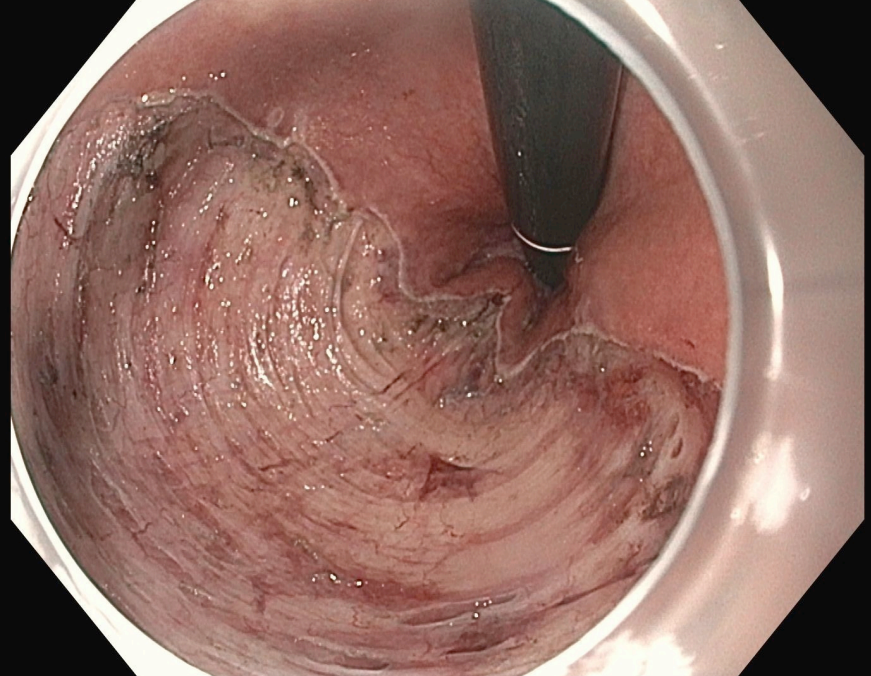
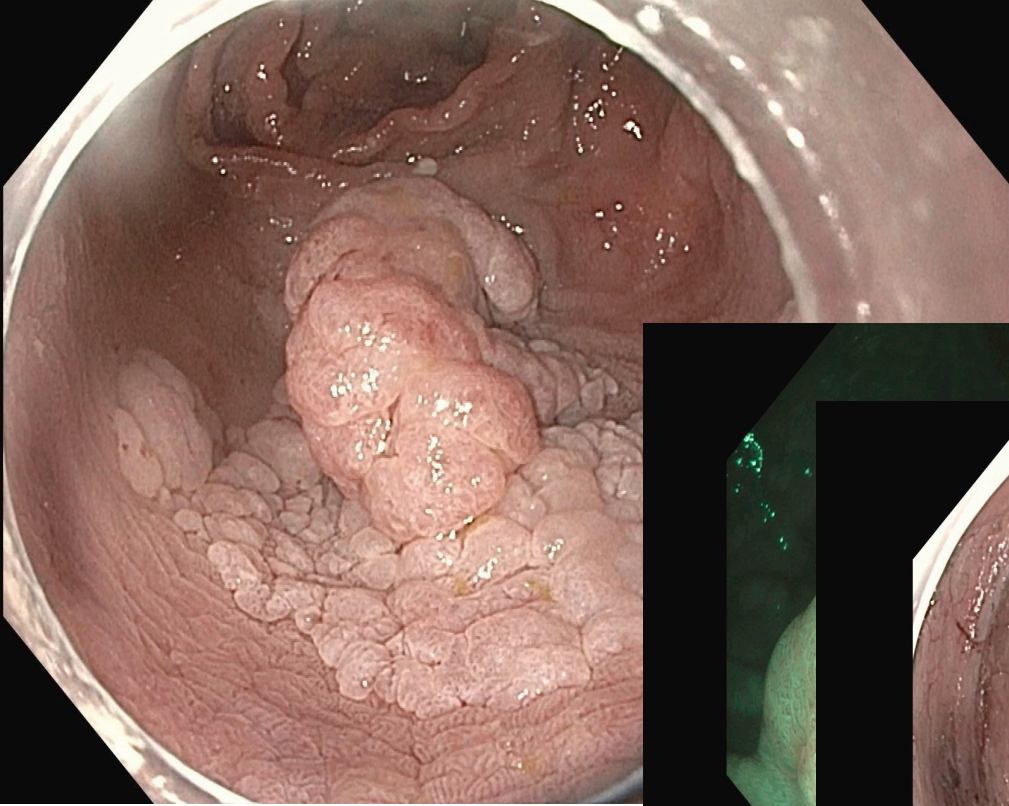


# Focal HGD

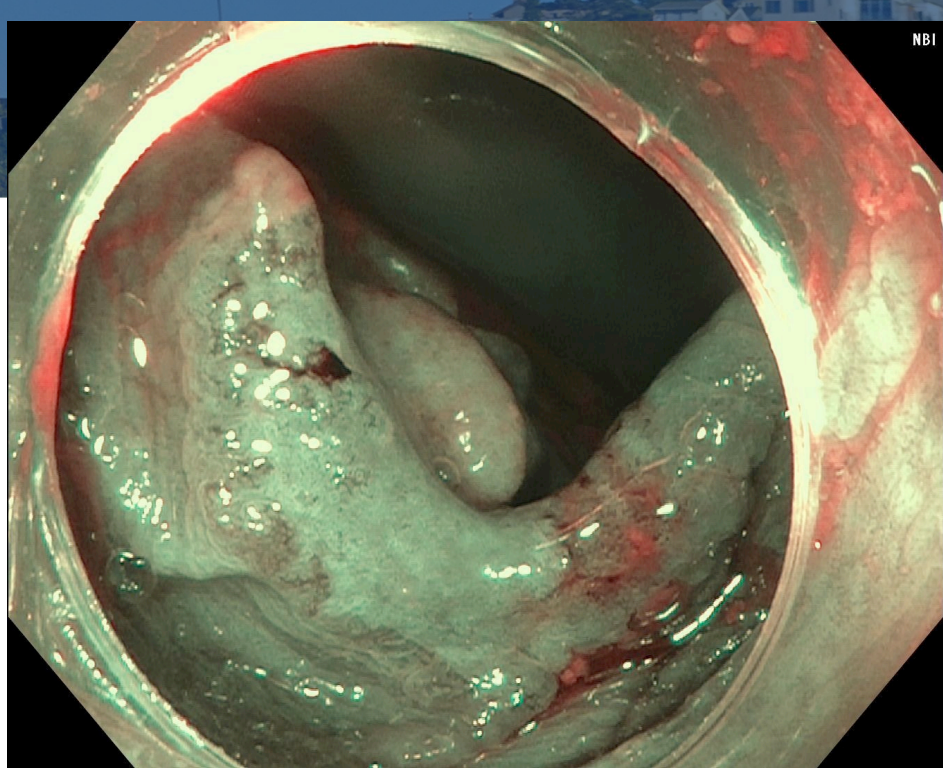
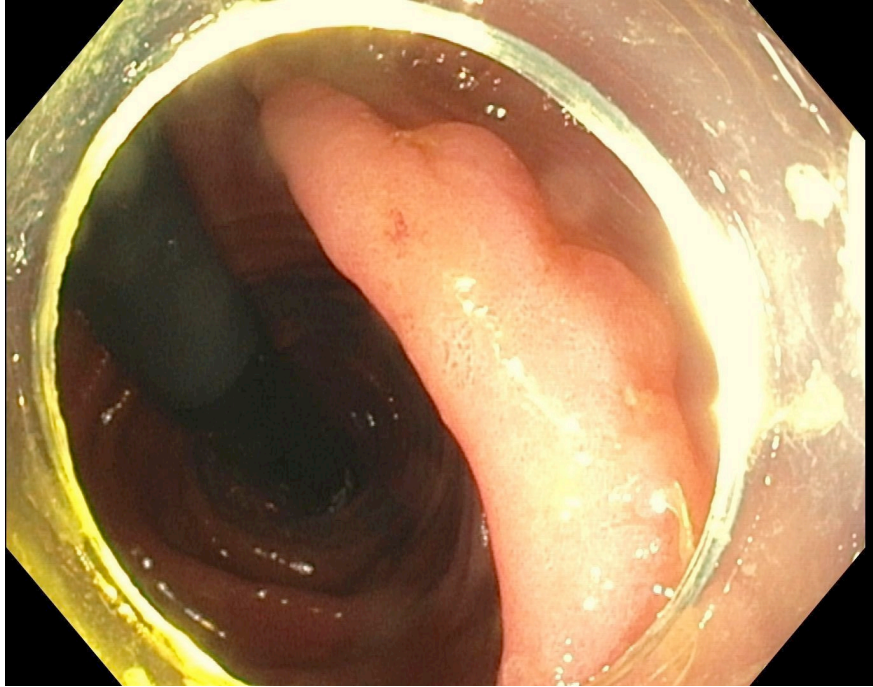
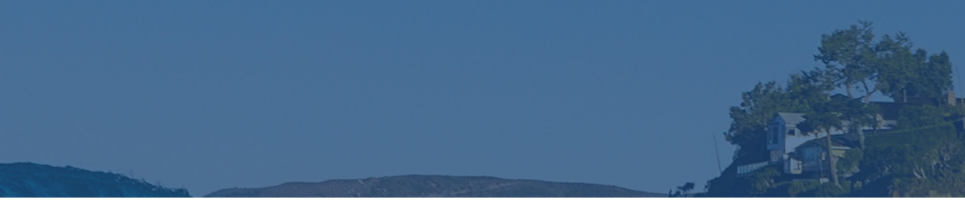




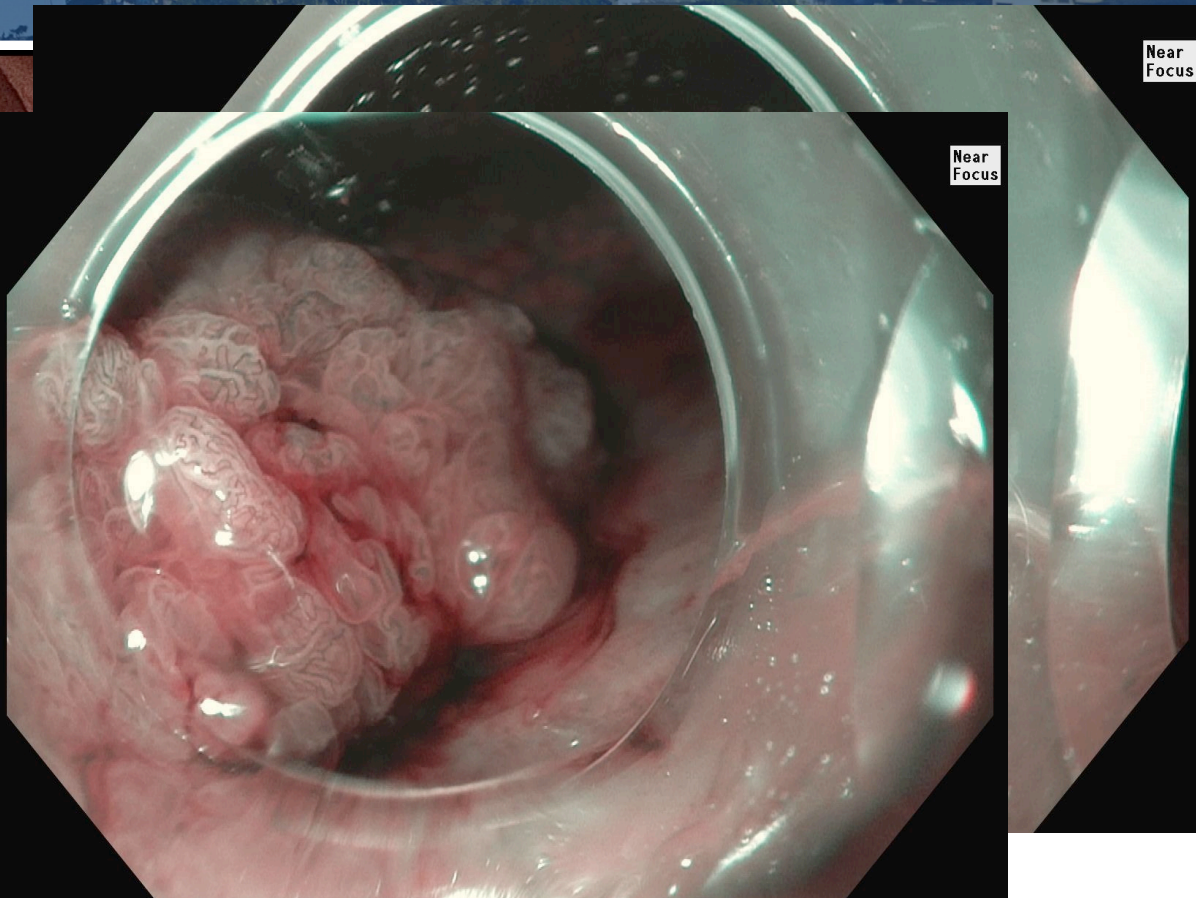
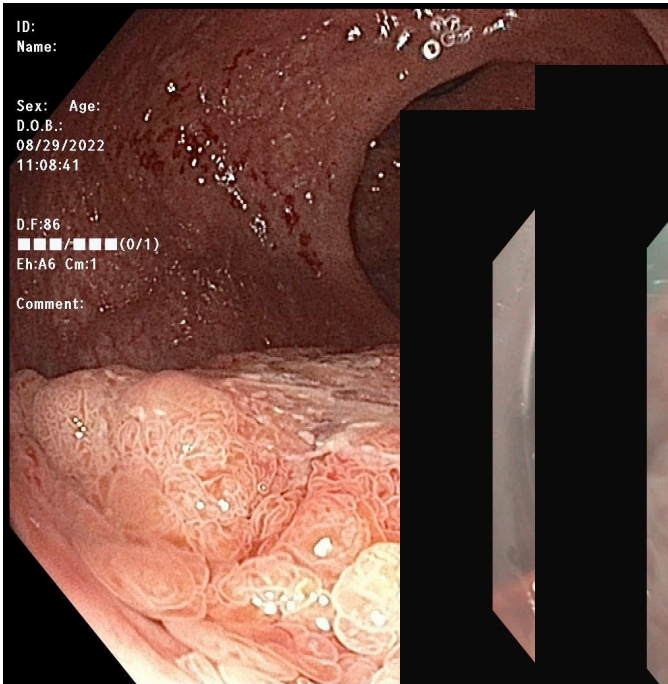


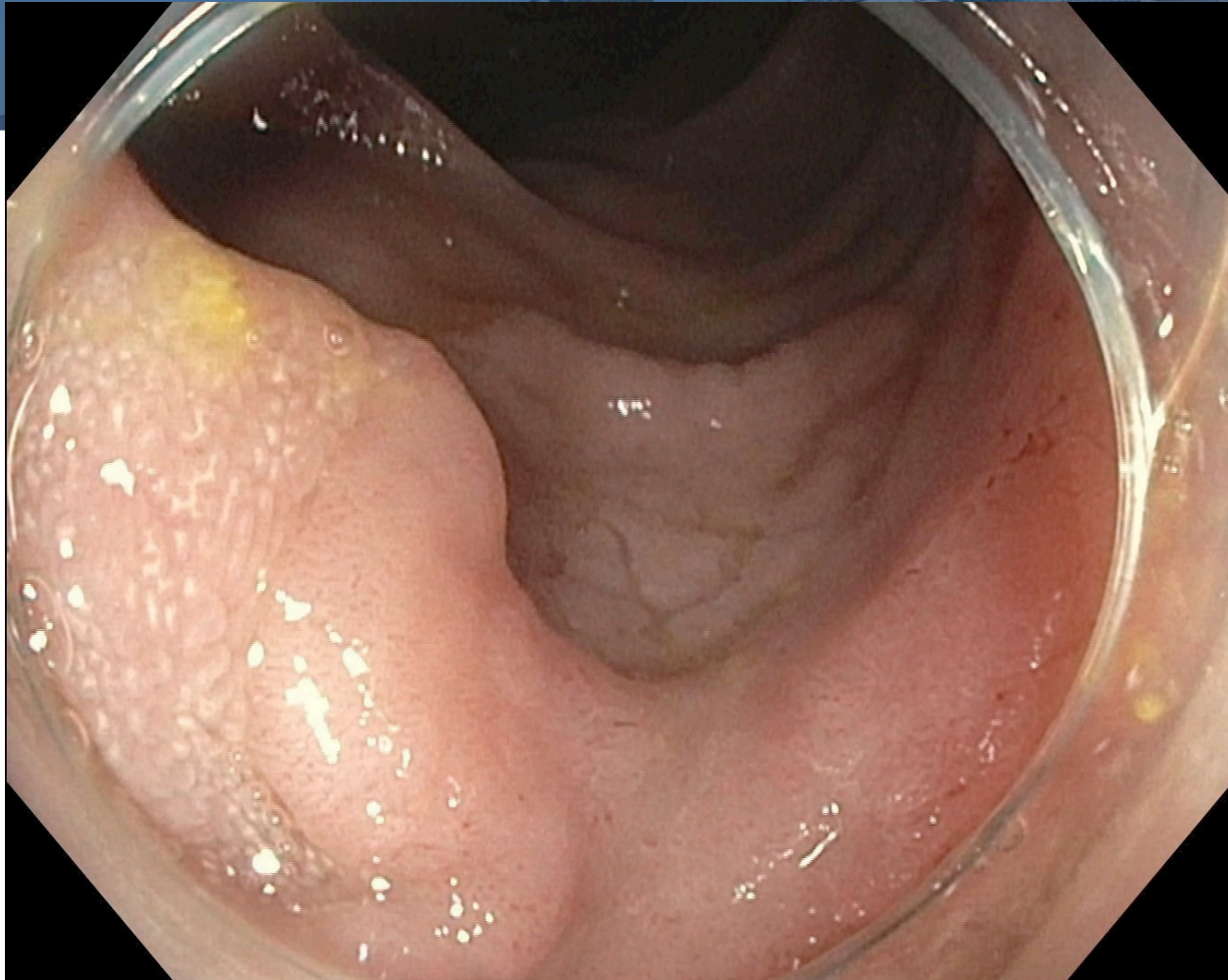


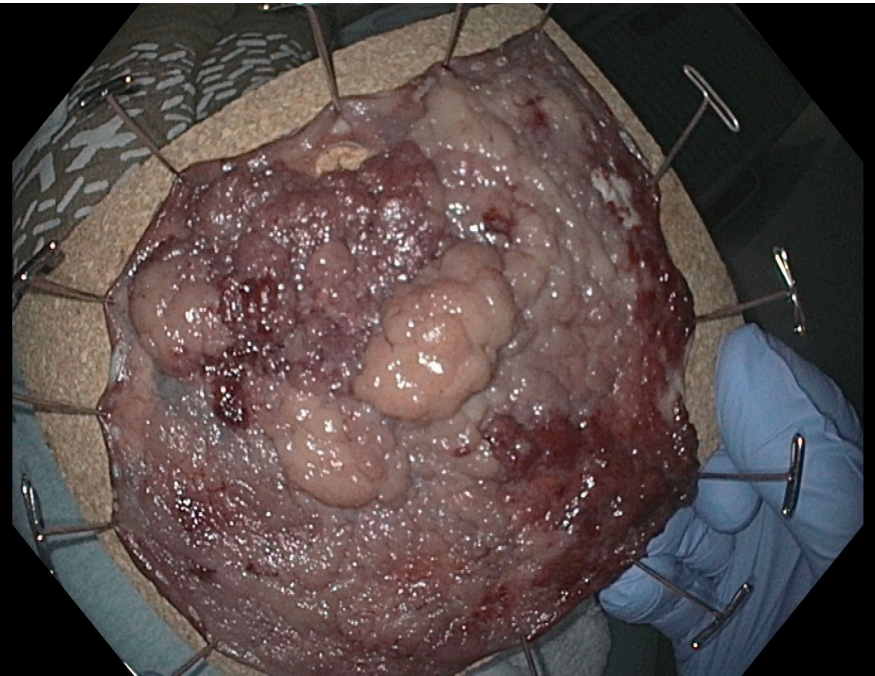
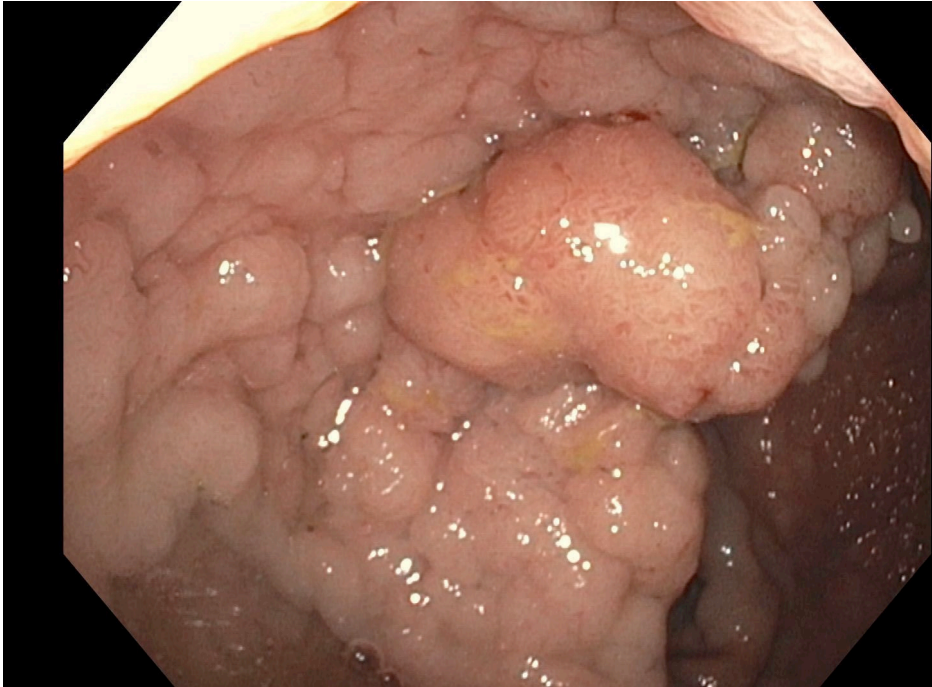
Near  
Focus

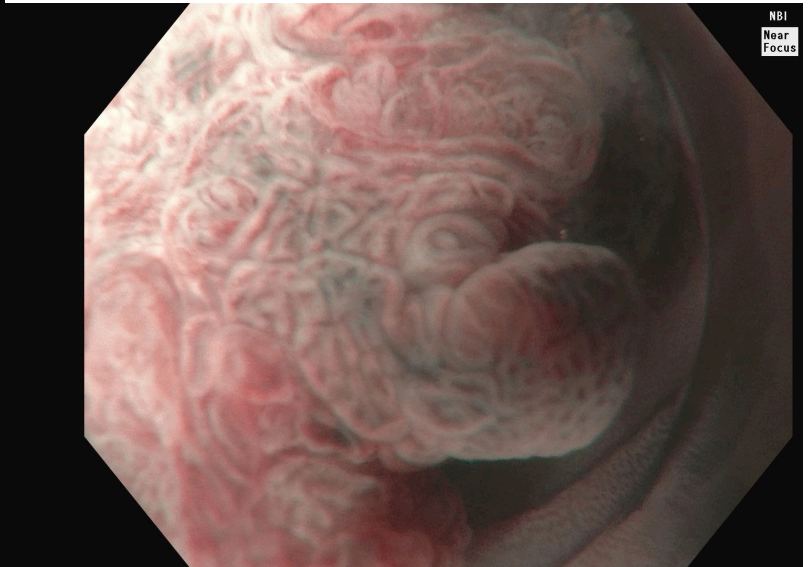
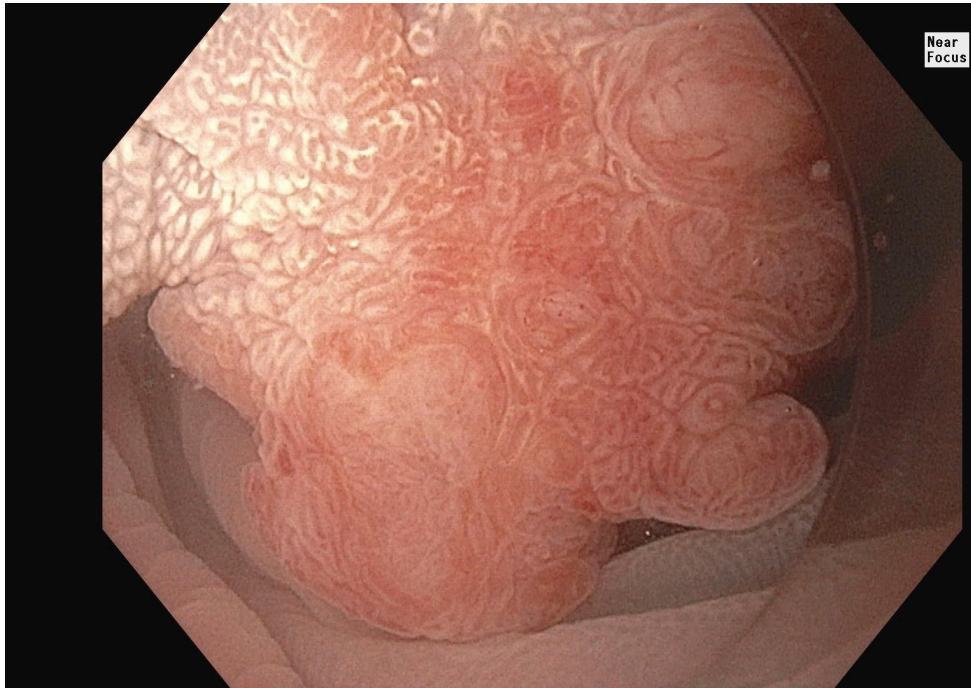


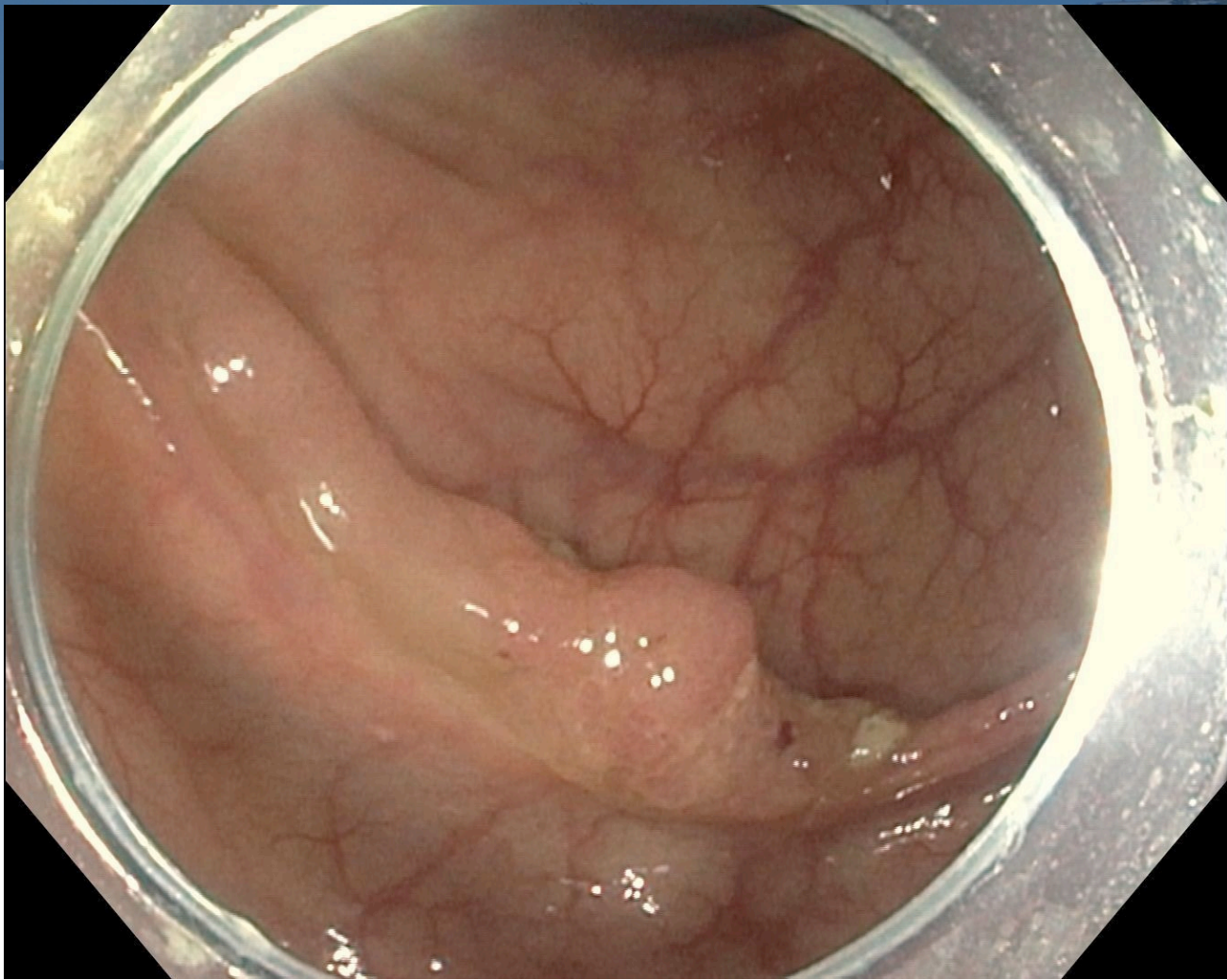
# Rectal Lesion on Screening; 45F; Focal adenoCA



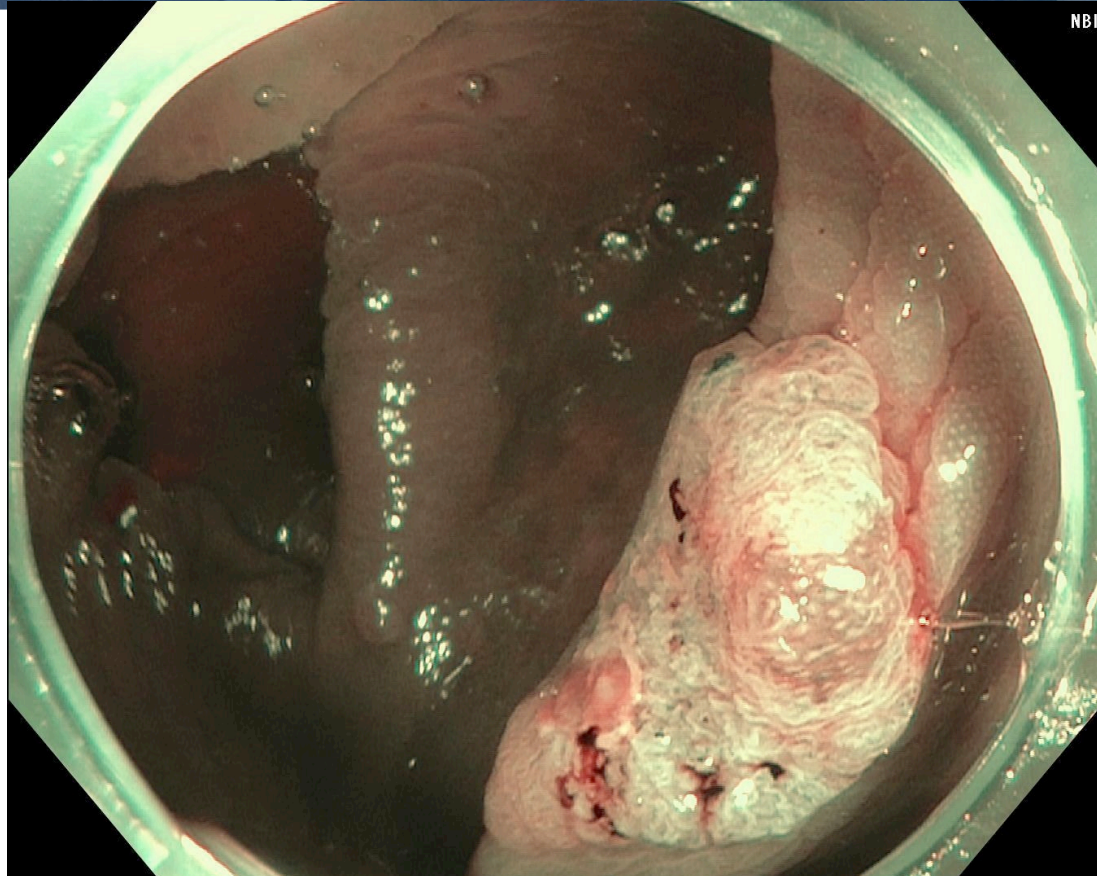








# Elderly Patient, Ascending Colon; Aenmia





# 1.4cm T2 Lesion

