

**THE BIG, AWKWARD, FLAT POLYP THAT CAN'T
BE REMOVED WITH A (SINGLE) SNARE — THE
CASE FOR EMR AND ESD**

Surgical Oncology
Network meeting
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DISCLOSURES

None

OBJECTIVES

Appreciate the importance of endoscopic diagnosis of lateral spreading lesions (LST)

Describe the process of endoscopic submucosal dissection

Identify the role of EMR and ESD in LSTs

COLORECTAL CANCER EPIDEMIOLOGY

Third most common cancer in both men and women

Screening colonoscopy decreases mortality in CRC¹

Colonoscopy identifies early lesions

- Adenomatous polyps
- Early invasive disease

¹Zauber AG, et al. N Engl J Med; 2012; 366: 687

POLYP MORPHOLOGY

Majority of polyps can be removed by cold snare (<10mm)

Pedunculated polyp

Sessile polyp

- Location
- Size
- Surface morphology
- Vascular pattern

DECISION POINT

When does a sessile adenoma harbor significant risk of invasive disease?

Do I want to remove this large polyp piecemeal?

- Risk of adenoma recurrence
- Suboptimal positioning
- Frequent monitoring post resection

Dependent on polyp morphology

PARIS CLASSIFICATION

Consensus document on describing polyp morphology

Enables the endoscopist to describe benign lesions

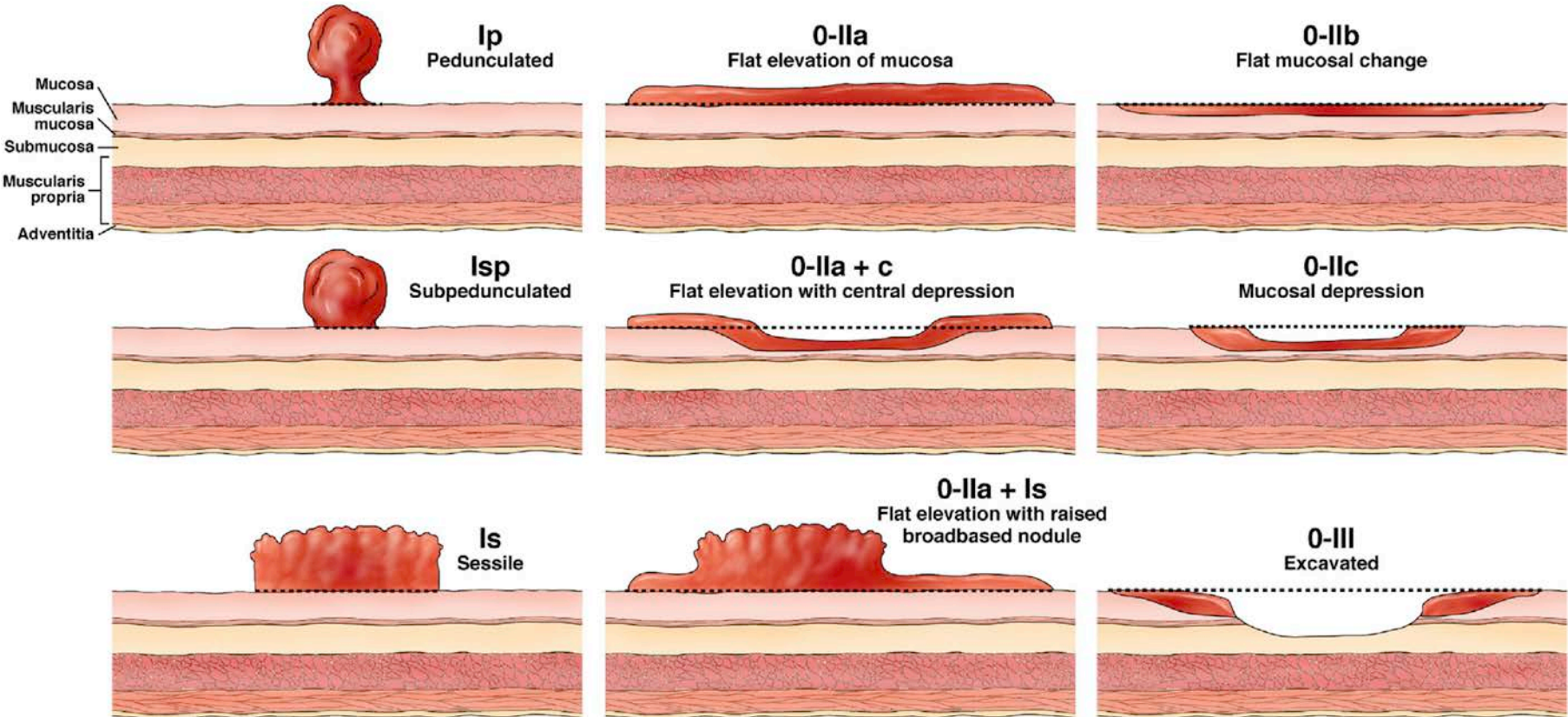
Certain morphologies have higher risk of invasive disease

PARIS CLASSIFICATION

Protruded lesions

Flat elevated lesions

Flat lesions



LATERALLY SPREADING TUMOR (LST)

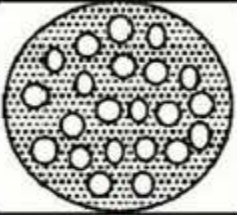
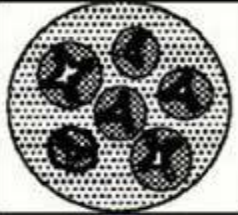
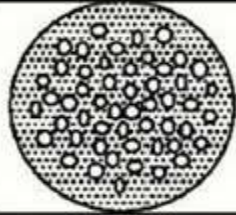



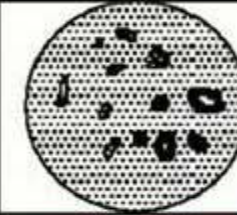



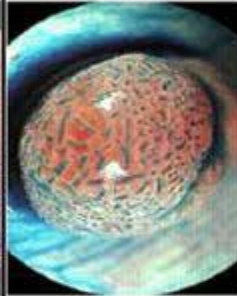

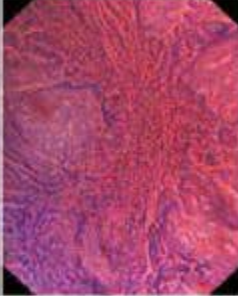

Term used to identify lesions of higher risk of invasive disease

- Initially part of Kudo classification (size, morphology, polyp pit pattern)

Sessile lesions > 10mm

- Paris Is, II lesions
- >20mm associated with higher risk of early recurrence (16-20%)

KUDO PIT PATTERN

I	II	III s	III L	IV	V	V
						
						
Normal crypts	Hyperplastic polyp	Tubular adenoma (HGD)	Tubular adenoma (LGD)	Tubulo-villous adenoma	Endoscopically resectable cancer	Endoscopically irresectable cancer

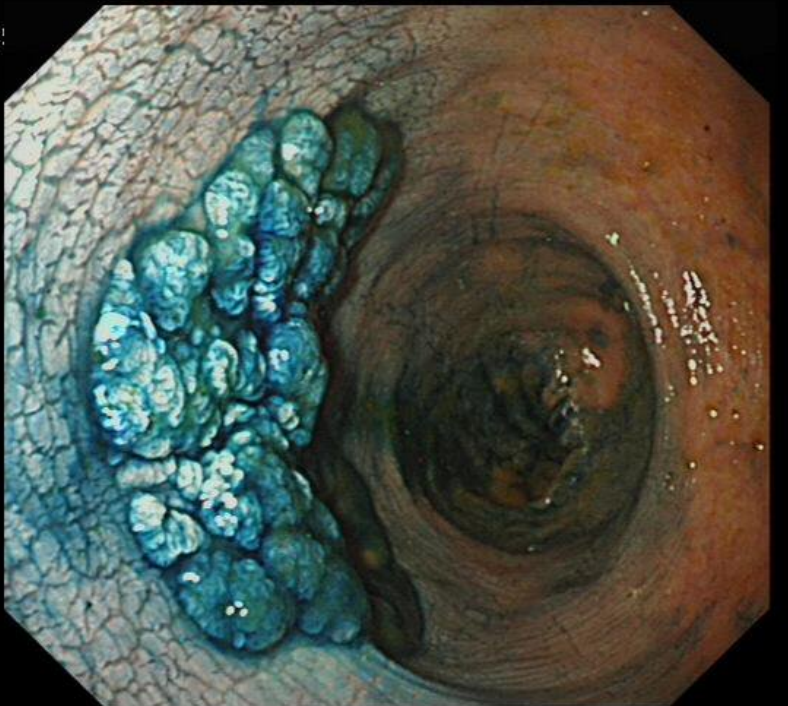
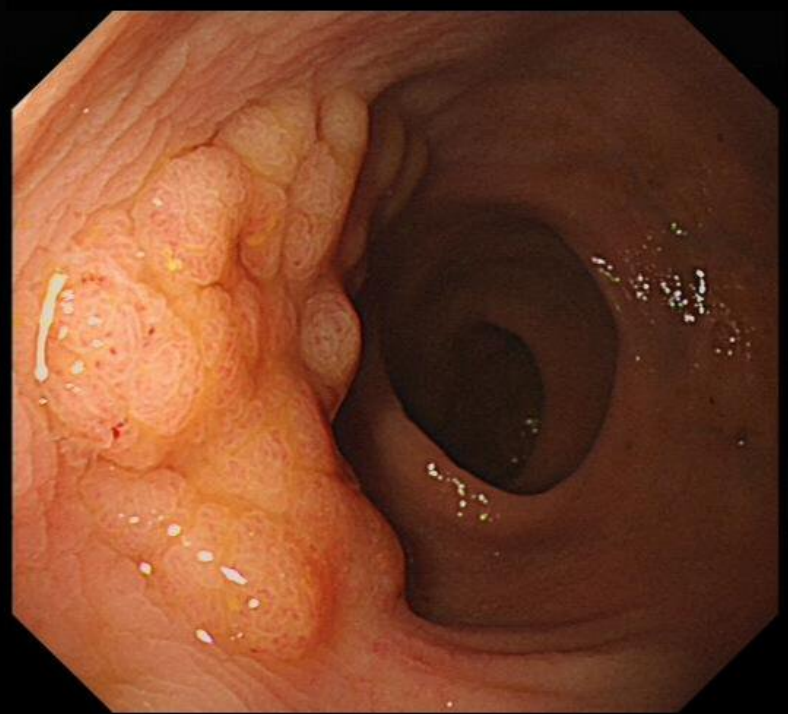
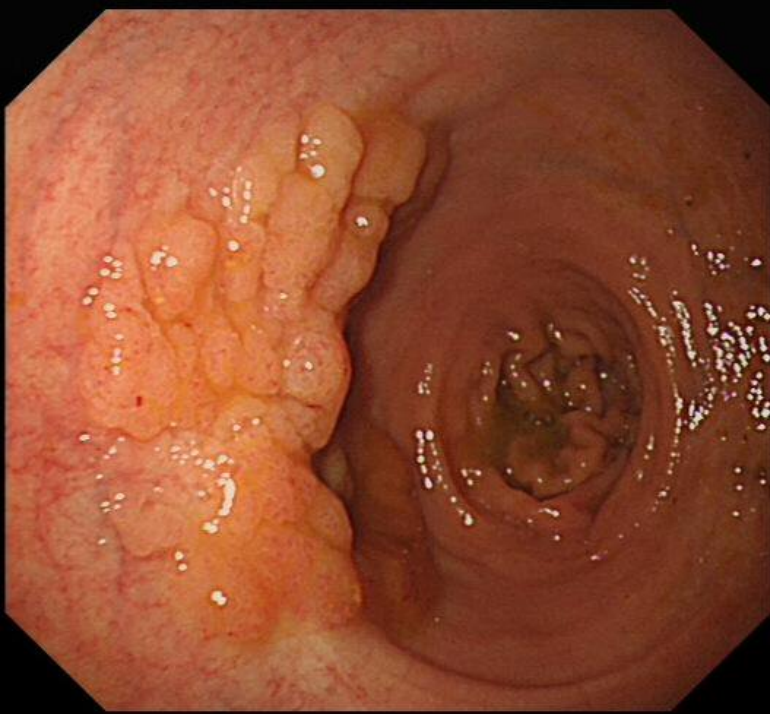
OTHER DESCRIPTIONS OF LST AND RISK OF SMI

Granular (60-80%)

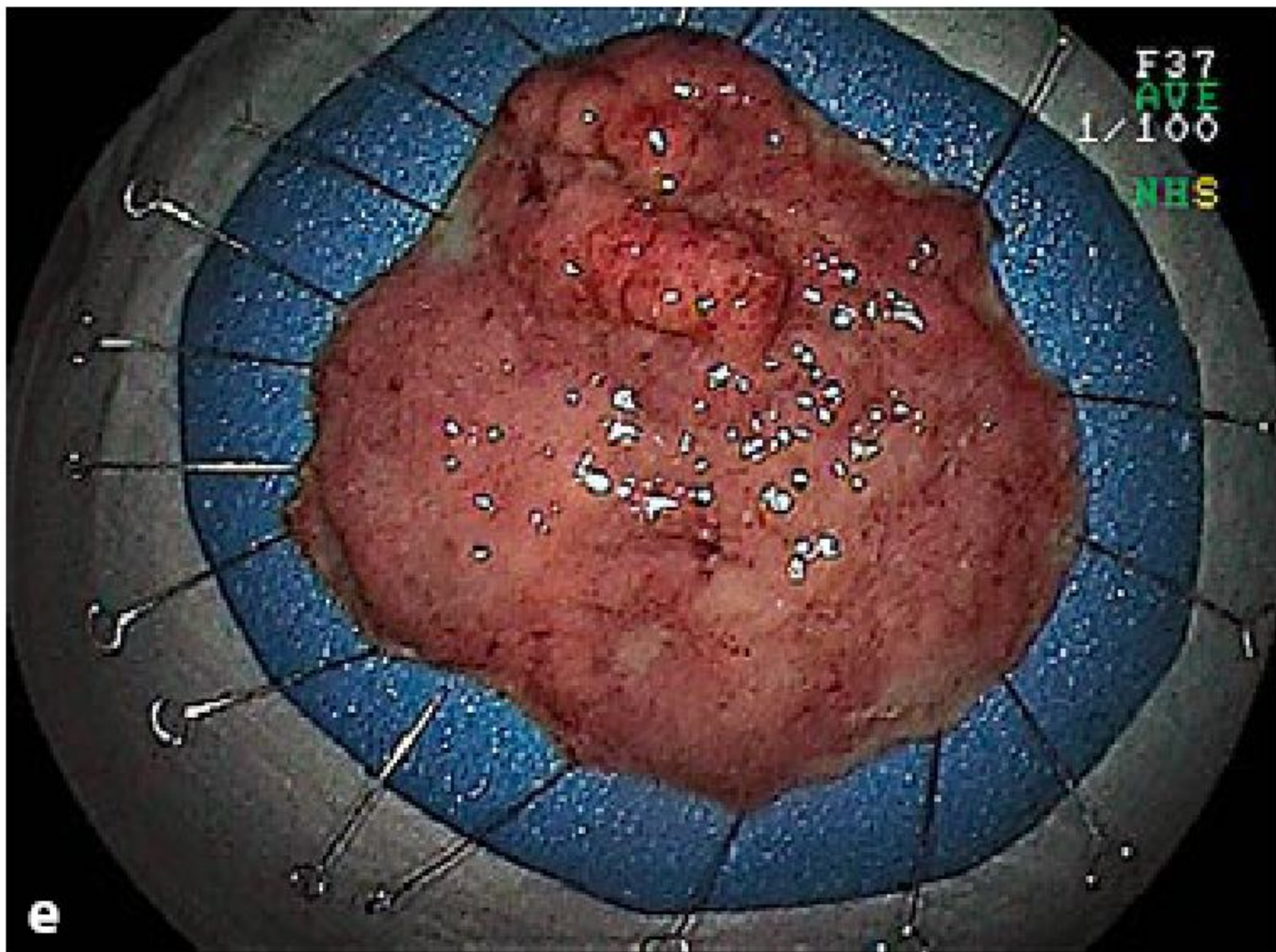
- Homogenous (<2%)
- Nodular mixed (dependent on size 7.1% – 38%)

Non granular (20-40%)

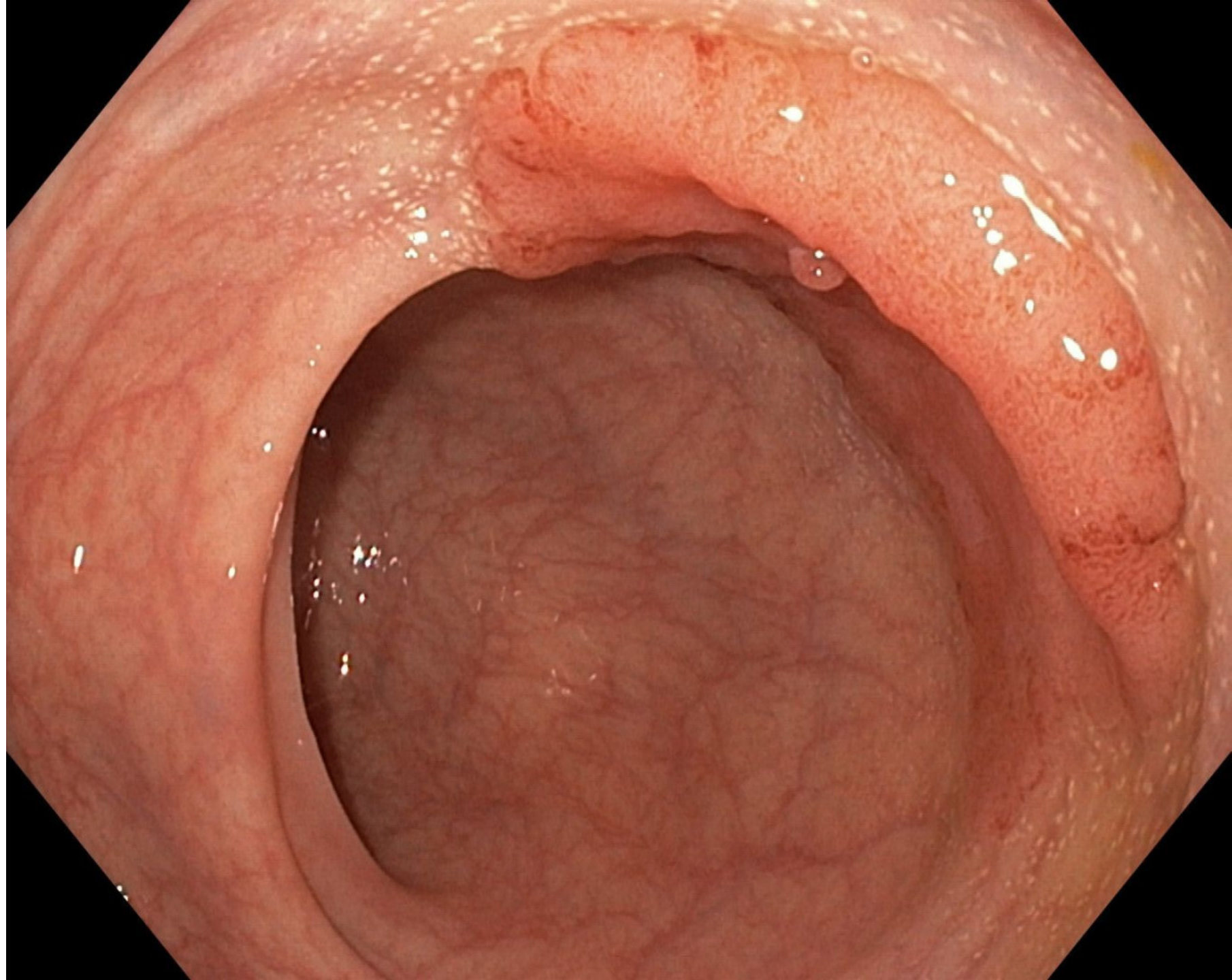
- Elevated (dependent on size 12.5% - 83.3%)
- Pseudodepressed (27%-35.9%)

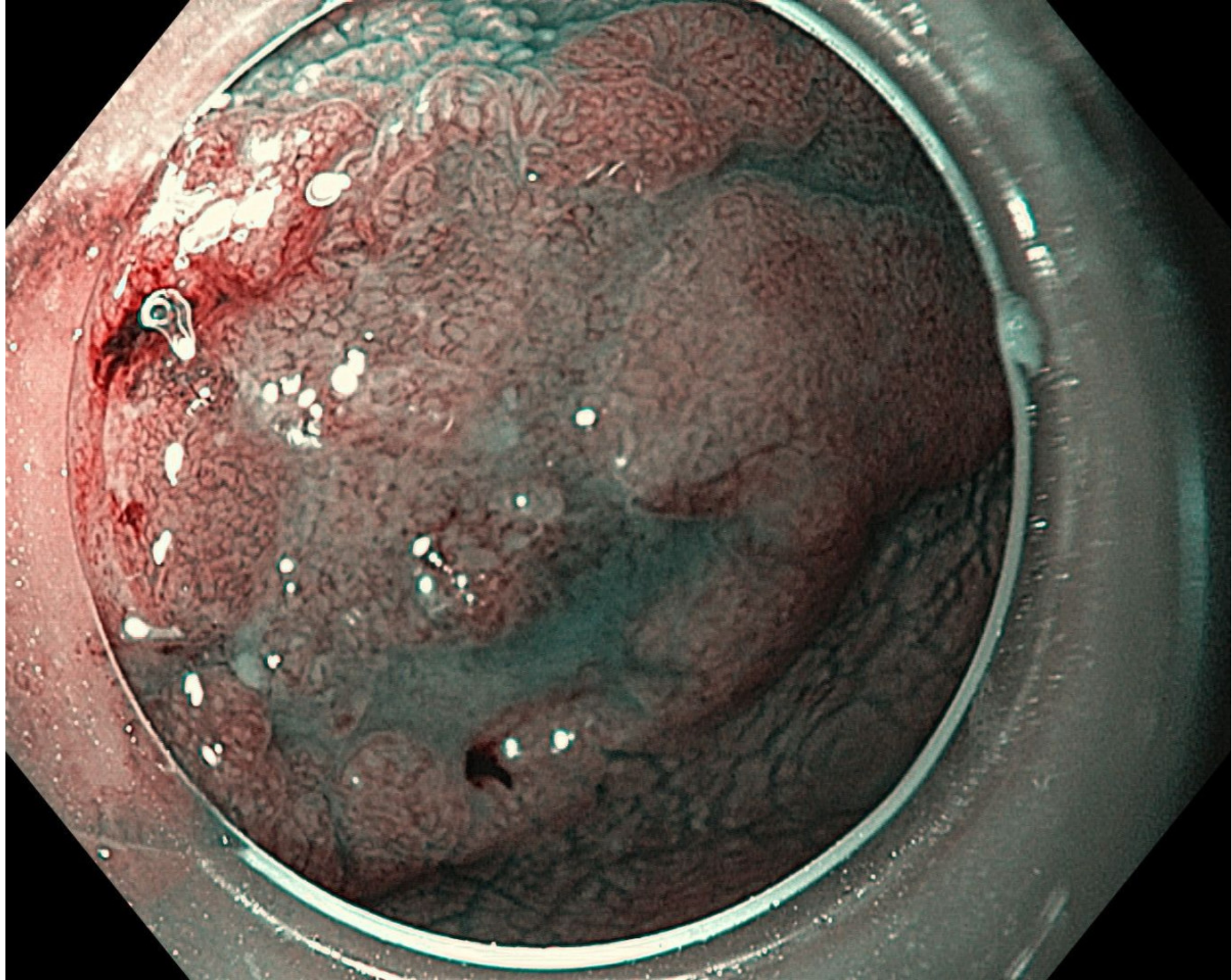


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SHOULD I REMOVE THIS POLYP?

Granular LST

- Piecemeal resection still possible for large polyps
- Low risk of invasive disease until >30mm
- Nodular areas increase risk

Non-Granular LST

- Higher risk of invasive disease and LN mets
- >15mm
- Pseudodepressed subtype higher risk
- En bloc resection preferred

Can I remove it completely?

FACTORS THAT MAKE OUR JOBS DIFFICULT

Procedural related factors

- Inadequate booking time for polyp removal
- Team inexperience
- Endoscopist fatigue

Patient/polyp related factors

FACTORS THAT MAKE OUR JOB DIFFICULT

Difficult Colonoscopy

Anatomic location

- Circumferential of IC valve (OR 2.61 for failed resection)
- Appendiceal orifice
- Flexures/peridiverticular (OR 2.71)
- Anal verge

FACTORS THAT MAKE A SUBSEQUENT ENDOSCOPIC ATTEMPT MORE DIFFICULT

Partial resection of polyp

- Submucosal scarring

Biopsies to document clearly benign adenomatous tissue

Biopsies of an LST with suspected early submucosal invasion

Endoscopic tattoo too close to the lesion

- At least one fold distal to lesion
- 3cm in ESGE guidelines

FACTORS MAKING SUBSEQUENT ENDOSCOPIC ATTEMPT DIFFICULT

Adenoma recurrence based on size

- Large polyp predictor of recurrence^{1, 2}

Non lifting sign after endoscopic intervention

- OR 3.75 Australian cohort³

Prior attempt at resection

- Complete resection (OR 0.018)⁴
- Recurrence (OR18.8)

1. Longcroft-Wheaton G et al Dis Colon Rectum 2013;56:960

2. Lee TJ et al. Br. J. Surg 2013; 100: 1633

3. Moss A, et al. Gut 2015; 64: 57

4. Kim HG, GIE 2015; 81: 204

ENDOSCOPIC SUBMUCOSAL DISSECTION

Pioneered in Japan in late 1990's

Endoscopic en bloc resection down to muscularis propria

Best ESD includes much of the submucosal for pathologic assessment

VIDEO: 5CM RECTAL POLYP

DR. NORIYA UEDO, OSAKA

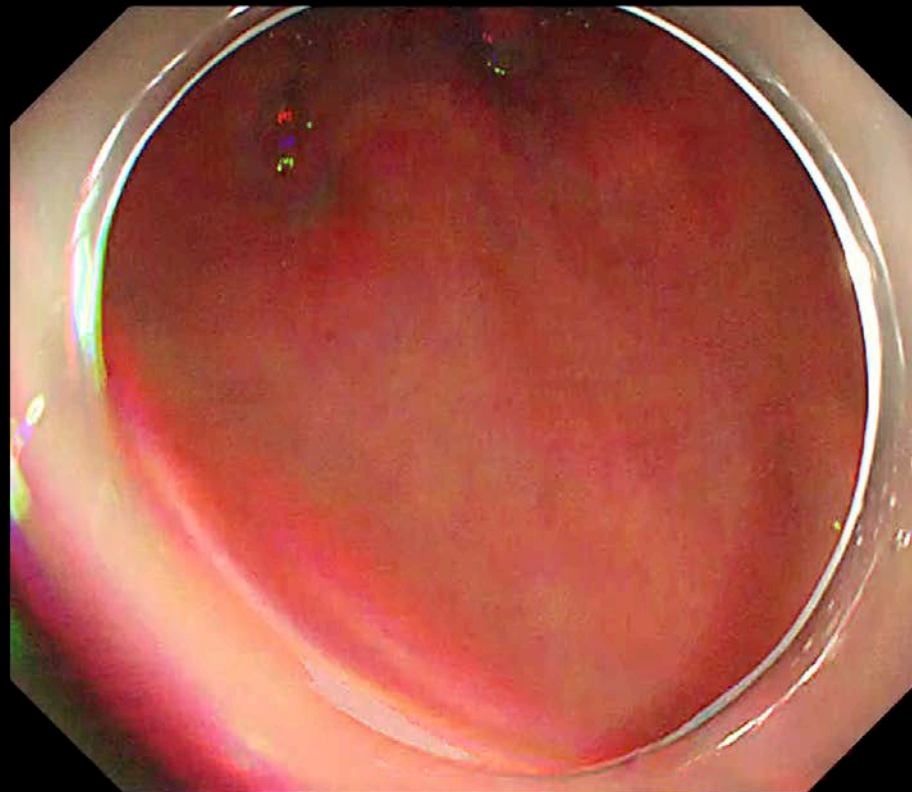
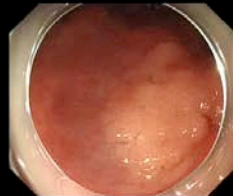
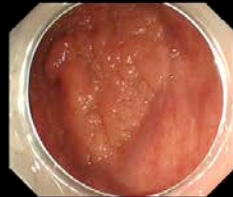
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ADVANTAGES OF ESD

Able to provide clear margins for pathologic assessment

Less invasive than operative management of large polyp

Curative in early sm1 invasive disease

26 month recurrence rate 1-4%

- Less frequent follow up colonoscopy

DISADVANTAGES OF ESD

Risk of perforation 5-8%

Length of procedure time 2x that of standard EMR

Learning curve steep

- Diagnostic
- Technical
 - Lack of adequate models and “training” patients

AREZZO METAANALYSIS

10 ESD series 11 TEMS series (2077 patients)

Shows better outcomes for full thickness TEMS

- En bloc resection rate (98.7% vs. 87.8%)
- R0 resection rate (88.5% vs. 74.6%)

Except

- Recurrence rate significantly higher in TEMS group compared to ESD (5.2% vs. 2.6%)

INFERIOR RO BUT LOWER RECURRENCE?

Possible causes

- Percentage of SM invasive disease requiring surgery higher in ESD group

	ESD	TEM
Adenoma	156 (31.9%)	1278 (89.1)
pTis or pT1sm1	279 (57.1%)	79 (5.5%)
Invasive pT1sm2 or more	45 (9.2%)	73 (5.1%)
Other diagnosis	8	4

- More ESD patients require further surgery not due to complications but due to finding of invasive disease deeper than sm1

WHAT'S OPTIMAL MANAGEMENT?

More trial evidence needed

EMR/ESD in the colon provides options

- Non-surgical management of large polyps

Should be multidisciplinary

- Get both TEMS and ESD skills up to speed

HOW YOU CAN HELP

Don't do partial resection of polyps

Biopsy only those polyps that look frankly invasive and likely would require surgery

Tattoo distal and away from the polyp site if an attempt at ESD/EMR considered

Take pictures of the lesion

CONCLUSION

EMR remains cornerstone in management of adenomatous polyps in the colon

ESD benefits early sm invasion as well as large polyps that have high risk of recurrence

ESD and TEMS should be viewed as complementary modalities

Complete resection offers reassurance of less follow up