



THE UNIVERSITY
OF BRITISH COLUMBIA

Providence
HEALTH CARE

Large polyps: EMR, ESD, TEM and segmental resection

Terry Phang
2017 SON fall update

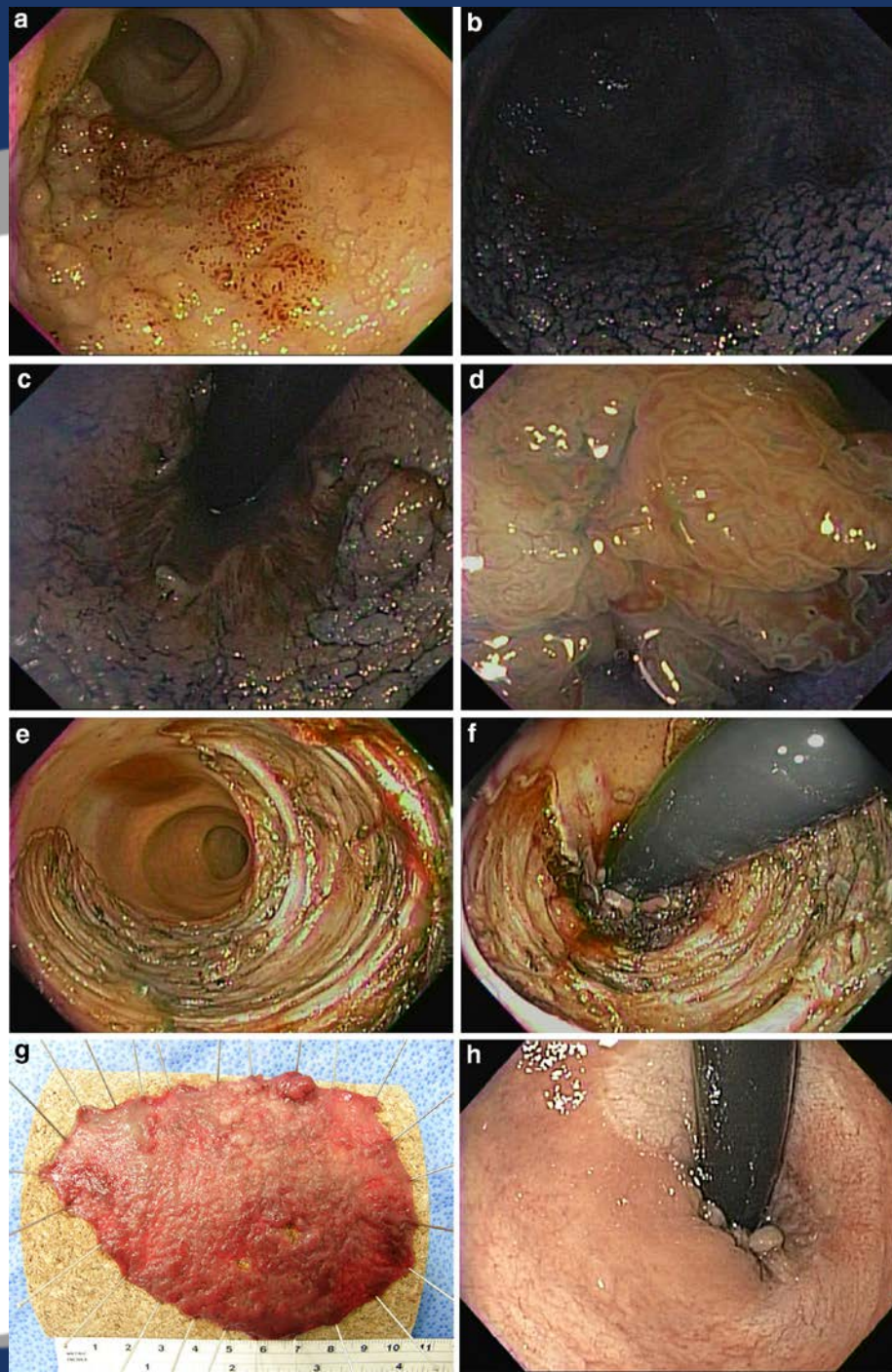


Key Points: Large polyps

- No RCT re: Recurrence, complications
 - Piecemeal vs en bloc: EMR vs ESD
 - Partial vs full-thickness: ESD vs TEM
- Gestalt ... Less recurrence with en bloc vs full-thickness but more complications
- Multidisciplinary conference for difficult polyps ... Assess high risk features



ESD
Kawaguti et al
Surg Endosc
2014



EMR vs ESD ... No RCT's

Meta-analysis benign polyps

8 Retrospective comparison studies Benign polyps	EMR n=949	ESD n=814
Tumour size 3-4 cm on average	31 ± 17 mm	39 ± 20 mm P=0.08
Procedure time 0.5 hr vs 1-2 hrs	29-30 min	<u>65.9-108.0 min</u> p<0.001
En bloc resection 47% vs 92%	46.7%	<u>91.7%</u> p<0.001

Fujiya M et al. Gastrointest Endosc 2015



En bloc resection ... less recurrence

8 Retrospective studies - benign	EMR n=949	ESD n=814
En bloc resection	46.7%	<u>91.7%</u> p<0.001
R0 resection 42% vs 80%	42.3%	<u>80.3%</u> p<0.001
Recurrence 12% vs 1%	12.2%	<u>0.9%</u> p<0.001

Fujiya M et al. Gastrointest Endosc 2015



MATILDA trial: recruiting

- Dutch multicentre
- RCT: EMR vs ESD
- Recurrence estimates: 12% EMR, 2% ESD
- Sample size n=198

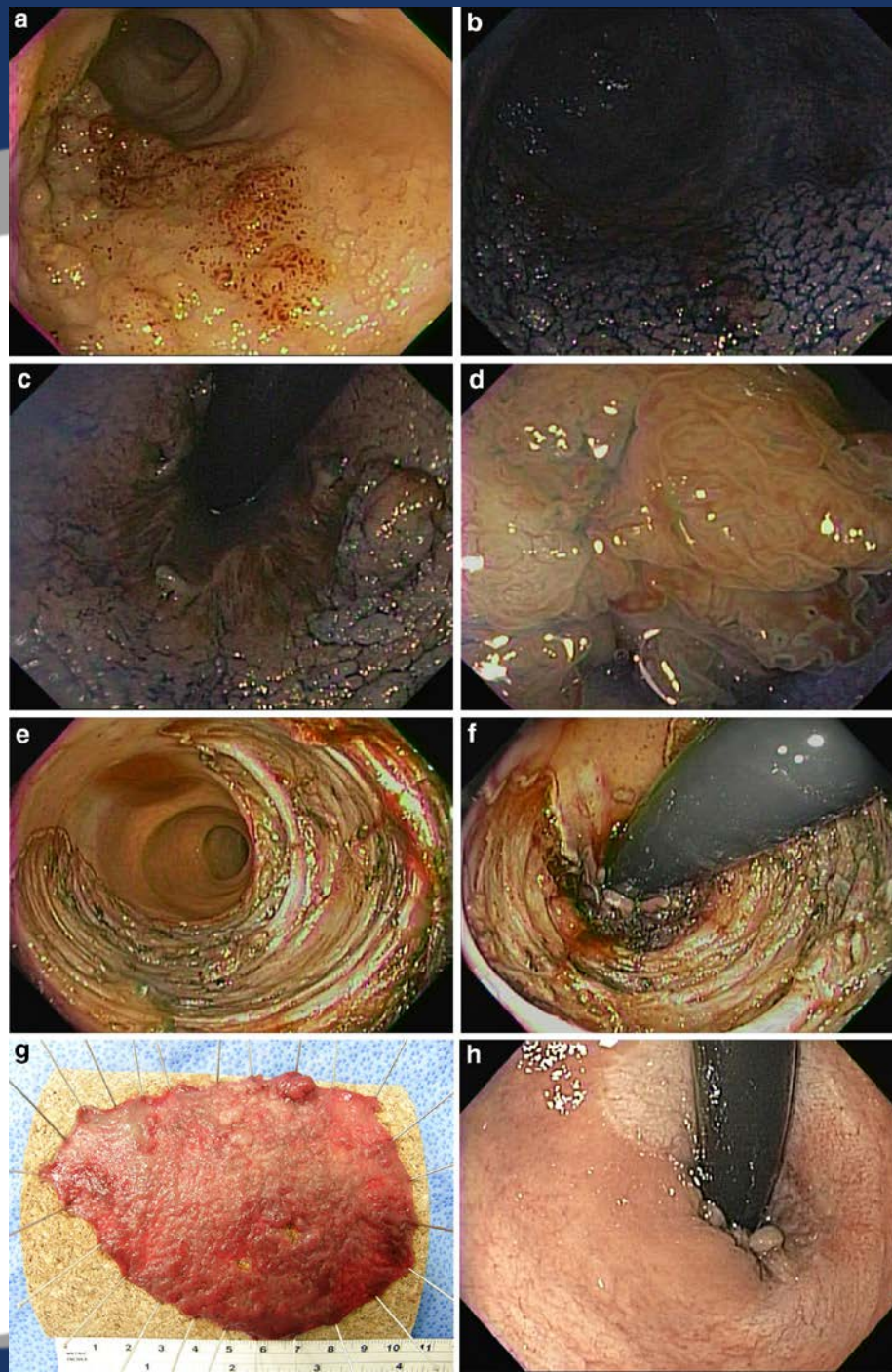
Backes et al

BMC Gastroenterol 2016

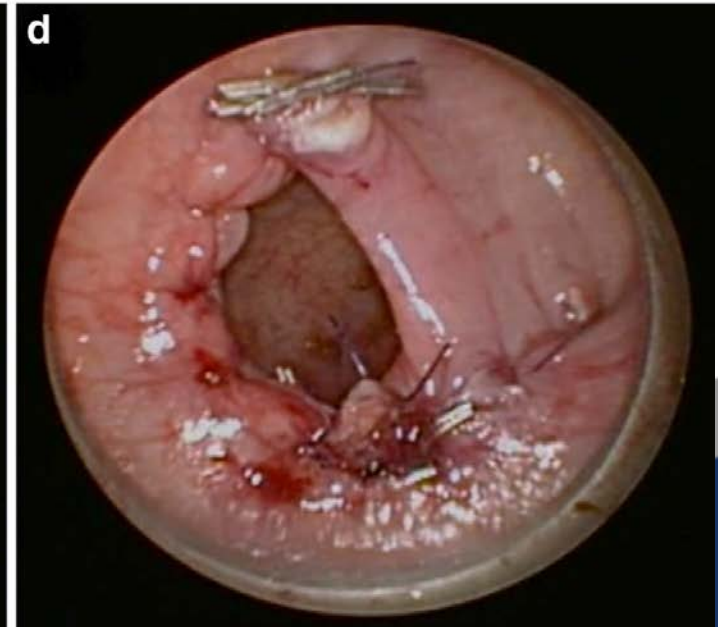
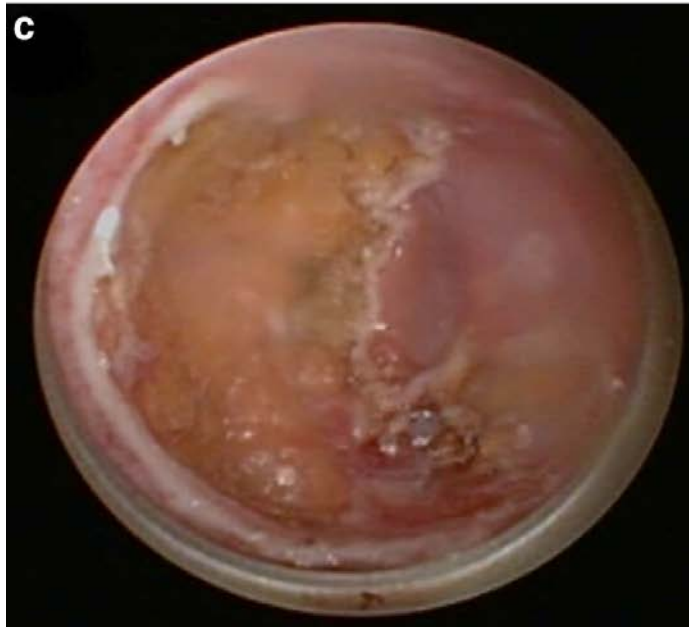
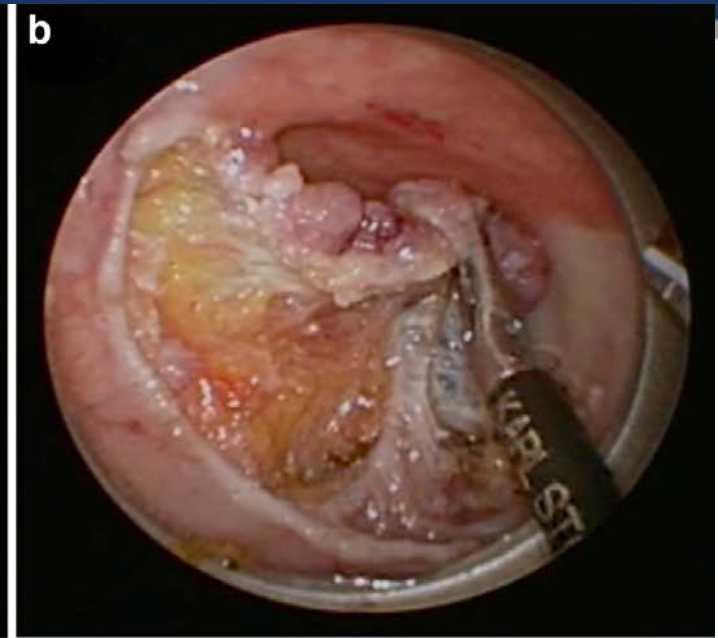
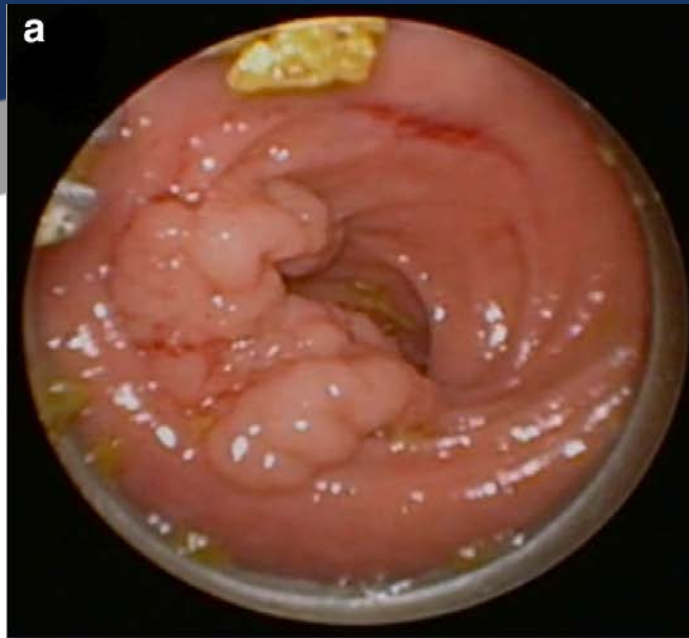


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ESD
Kawaguti et al
Surg Endosc
2014



TEM
Kawaguti et al
Surg Endosc
2014



ESD vs TEM ... No RCT's

Meta-analysis *rectal* benign and malignant lesions

- Case series: 11 ESD and 10 TEM
 - 2077 patients
- En bloc resection ... Better by full-thickness resection
 - 88% ESD, 99% TEM, $p < 0.001$
- RO ... Better for full-thickness resection
 - 75% ESD, 89% TEM, $p < 0.001$
- Complications equivalent
 - 8.5% ESD, 8.4% TEM, $p = 0.87$

Arezzo et al Surg Endosc 2014



Full thickness excision ... Less positive deep margins

- Positive deep margin less for full-thickness resection
 - Further abdominal surgery more for partial thickness resection
 - 8.4% ESD, 1.8% TEM , $p < 0.001$
- Recurrence more for full-thickness resection than subsequent segmental resection
 - 2.6% ESD, 5.2% TEM , $p = 0.06$

TEM_ENDO trial: recruiting

ClinicalTrials.gov Identifier: NCT01023984

- Multicentre, Italy (Arezzo)
- RCT: TEM vs ESD
- Recurrence estimates 6% TEM, 6% ESD
- Sample size, n=120



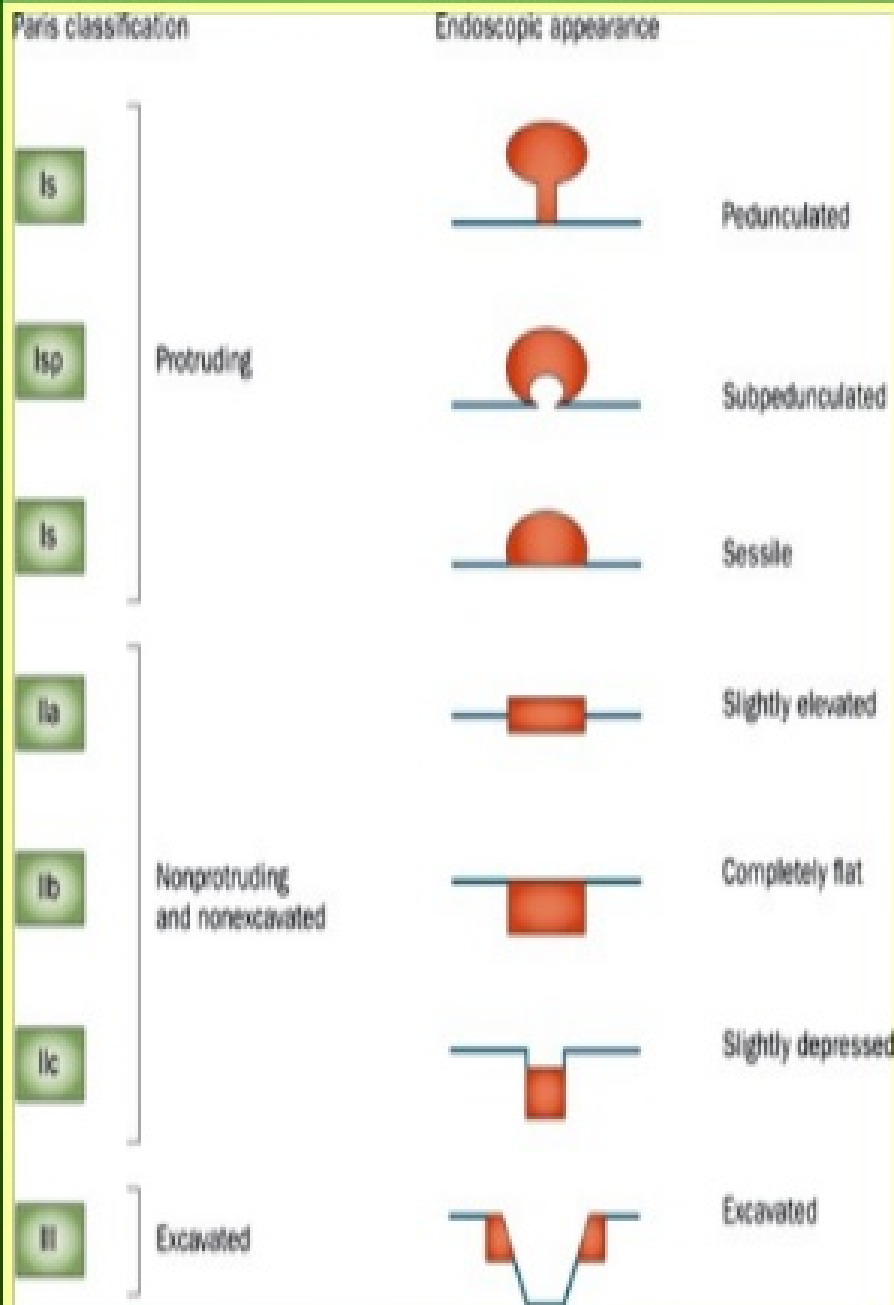
Rectal polyps ... What I do

- Assess for gross malignant features
 - Size > 1 cm
 - Depressed vs elevated or pedunculated
 - Ulcerated
 - Irregular pit pattern
 - Submucoal injection does not lift polyp



Paris Classification

Kudo's (pit pattern) Classification



I		Round pit (normal pit)	
II		Asteroid pit	
III _s		Tubular or round pit that is smaller than the normal pit (Type I)	
III _l		Tubular or round pit that is larger than the normal pit (Type I)	
IV		Dendritic or gyrus-like pit	
V _I		Irregular arrangement and sizes of III _l , III _s , IV type pit pattern	
V _N		Loss or decrease of pits with an amorphous structure	

Clinical classification

Non-neoplastic pattern

Non-invasive pattern

Invasive pattern

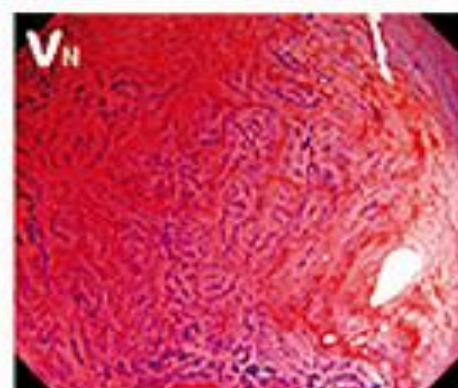
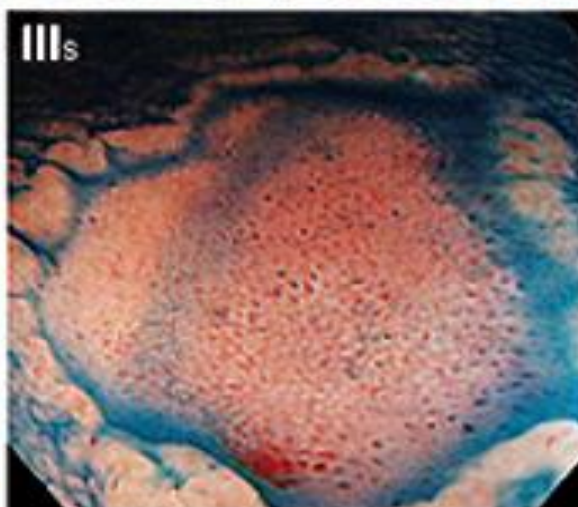
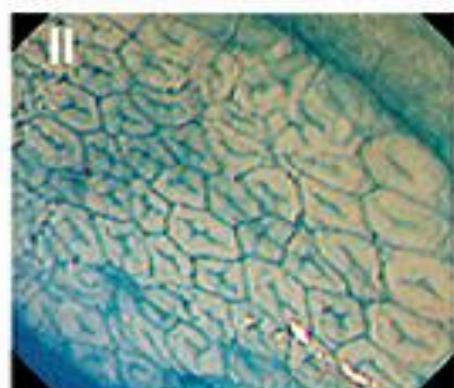
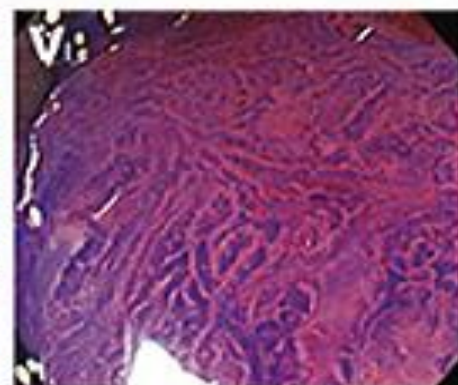
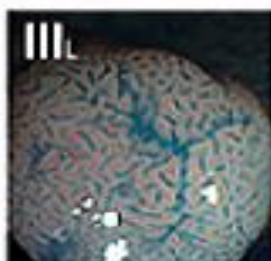
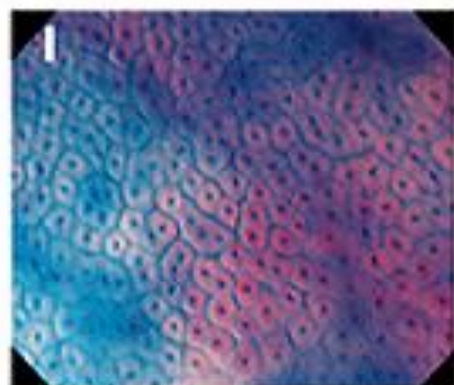
Kudo's classification

I - II

III_L - III_S - IV - (part of VI)

VI - V_N

Endoscopic findings



Histology

Normal
Hyperplastic polip

Adenoma
*m **sm-slight

‡sm profundo

Treatment

No treatment

Endoscopic treatment
(Polypectomy or EMR)

Surgical treatment

Rectal polyps ... Possible malignancy

- *IF UNCERTAIN ... BIOPSY RATHER THAN REMOVE*
- *RESIST temptation to resect before thoughtful assessment whether polyp may be malignant*



Rectal polyps ... MARK LOCATION !

- Location greatly affects surgical strategy:
 - LAR vs APR vs TEM in compromised patient
- Note location in dictated note
 - Distance from anal verge / top of sphincter
 - **Which wall** (right, left, anterior, posterior)
- *Tattoo* distal to lesion



Benign polyps ... management

- Less recurrence for en bloc resection than piecemeal resection
 - En bloc ESD / TEM preferred over EMR
 - ESD not widely available
 - Equipment
 - Training
- Colon ... EMR vs *Segmental* resection (ESD)
- Rectum ... *TEM* (ESD) preferred over EMR



High risk malignant polyp ... assessment

- High risk histology for lymph node mets
 - Lymphovascular invasion
 - Poor differentiation
 - Tumour budding (not assessed on biopsy)
 - Depth of submucosal invasion: >1000um, sm3 (not assessed on bx)
- Imaging for LN / mets
 - CT, MR, ERUS



Malignant biopsy ... assess high risk

If high risk for nodal mets

...

Recommend segmental resection



Lower risk malignant polyps

- Lower risk features
 - Moderate (vs poor) differentiation
 - Absent lymphovascular invasion
- ERUS indicates T1 not T2
 - MR does not distinguish T1 vs T2
- CT neg for LN mets



Lower risk malignant polyps ... Management

Pedunculated – Snare

Sessile: Raises completely with submucosal injection

- No RCT to date: ESD vs TEM
- Less positive deep margin with TEM
- TEM preferred over ESD



Difficult polyps

- Positive polypectomy margin (< 1 mm)
 - Colon ... segmental resection
 - Rectum ... LAR
- Discussion for compromised patient
 - TEM if no high risk histology or LN mets
 - Careful surveillance
- Multidisciplinary conference



Multidisciplinary Conference

- Pathologist, Radiologist, Radiation and Medical Oncologists, Surgeons
 - Review histology
 - Review imaging (CT, MR, ERUS)
 - Discuss management guidelines
 - Discuss co-morbidities
 - Discuss patient preference
 - Make recommendation



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ESD vs TEM: early rectal cancer

Kawaguti et al. Surg Endosc 2014

- 24 ESD vs 13 TEM
 - Retrospective, single centre, Sao Paulo Brazil
- En bloc, R0
 - 82% ESD vs 85% TEM, $p=0.40$
- Tumor size
 - 65 mm ESD vs 44 mm TEM
- Local recurrence
 - 1 ESD, 2 TEM
- Procedure time
 - 133 min ESD, 150 TEM

