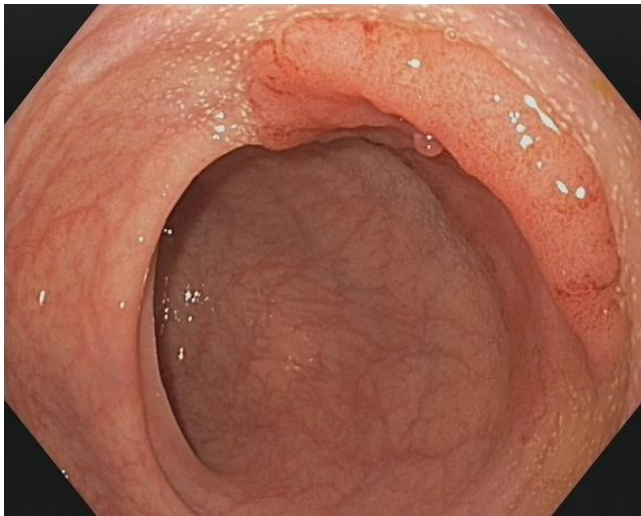
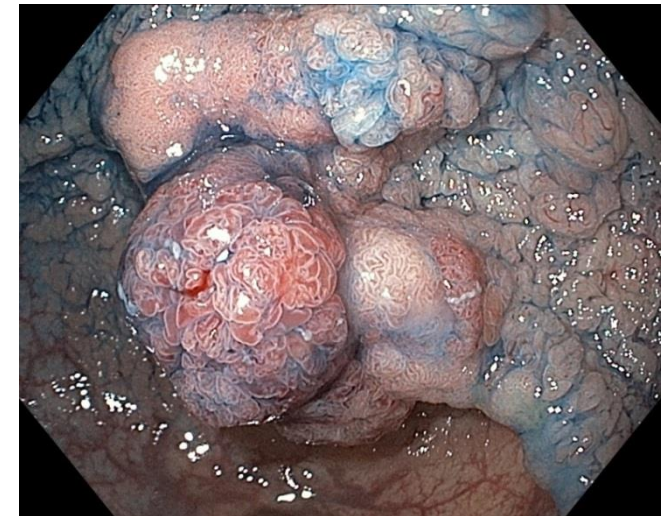


Kolonkarzinom-Update: pT1 ESD oder FTRD oder Chirurgie ?



Andreas Probst
III. Medizinische Klinik
Klinikum Augsburg

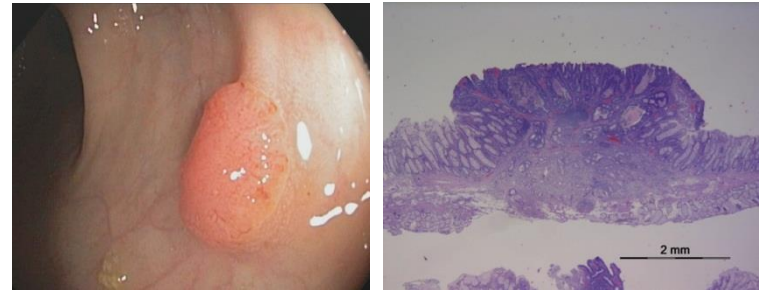


(Keine Interessenskonflikte)

pT1 - Kriterien für endoskopische Resektion

Stratifizierung in low-risk und high-risk-Läsionen
(Risiko für Lymphknotenmetastasen)

„Low-risk“
G1 / G2
L0



„High-risk“
G3
L1

Tiefe der Submukosainvasion:

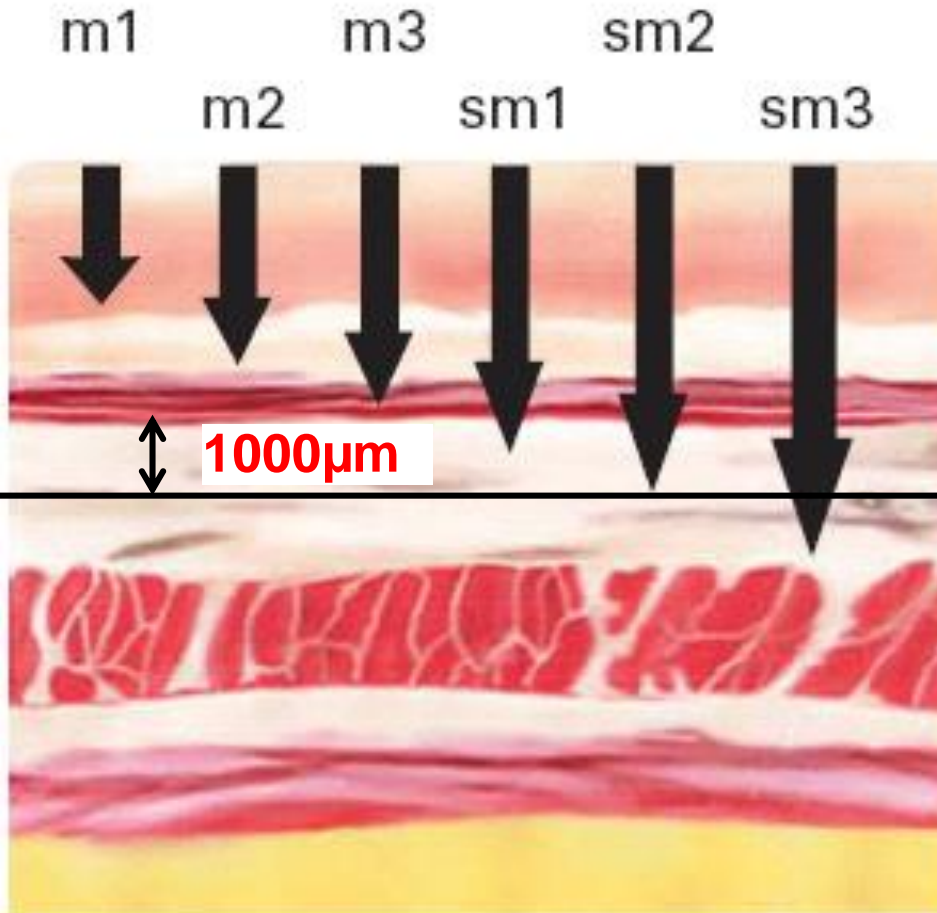
- LK-Metastasen: <6% bei sm1/2, <20% bei sm3
- sm-Drittelung (sm1/2/3) nur am chirurg. Resektat
- flache Polypen: sm-Invasion >1000 µm = sm3

Endoskopische versus chirurgische Resektion

DGVS-Leitlinie 2014

**Endoskopische
Resektion**

**Chirurgische
Resektion
(+ LK-Dissektion)**



Soetikno et al, J Clin Oncol 2005

Risk analysis of submucosal invasive rectal carcinomas for lymph node metastasis to expand indication criteria for endoscopic resection

Shiro Oka,¹ Shinji Tanaka,¹ Koichi Nakadoi,² Hiroyuki Kanao¹ and Kazuaki Chayama²

118 Patienten (chirurg. Resektate) → LK-Metastasen 2,2%,
wenn sm-Invasion einziger Risikofaktor (μ m-unabhängig)

- G1/2
 - L0
- Kein Tumorbudding



Is the assessment of submucosal invasion still useful in the management of early rectal cancer? A study of 91 consecutive patients

C. Debove*, **M. Svrcek†**, **S. Dumont‡**, **N. Chafai***, **E. Tiret***, **Y. Parc*** and **J. H. Lefevre***

*Department of Digestive Surgery, St Antoine Hospital (AP-HP), Paris VI University, †Department of Pathology, St Antoine Hospital (AP-HP), Paris VI University, and ‡Pierre et Marie Curie University, Paris VI University, Paris, France

Unabhängige Risikofaktoren für Lymphknotenmetastasen:

- Lymphovaskuläre Invasion (p=0,027)
 - Tumorbudding (p=0,037)
- Tiefe der sm-Invasion irrelevant (wenn kein weiterer Risikofaktor)

Neu: DGVS-Leitlinie Dezember 2017

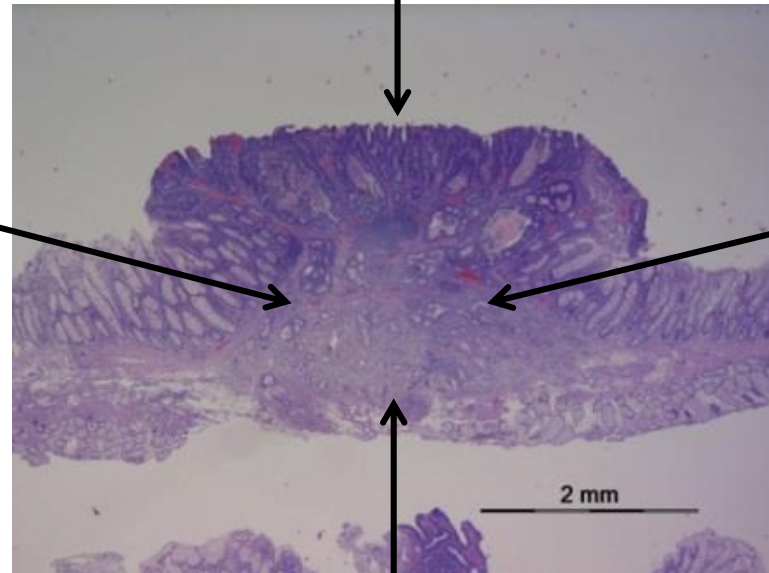
„Bei L0 und G1/2 scheint die sm-Invasion zwischen 1000µm und 2000µm das LK-Metastasenrisiko lediglich von 1% auf 2% zu erhöhen“

„Tumorzellbudding kann als high-risk gewertet werden“

Endoskopie vs. Chirurgie – was müssen wir wissen?

Noch Adenom oder schon Karzinom ?

Noch Frühkarzinom (T1) ?



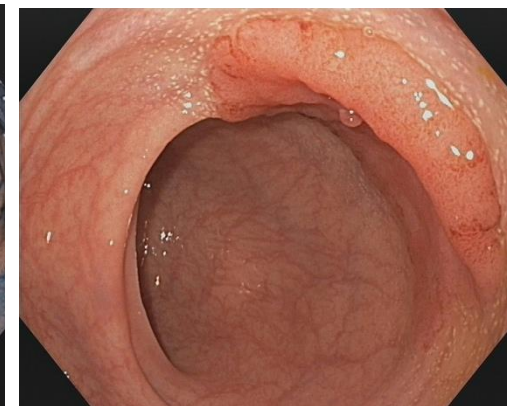
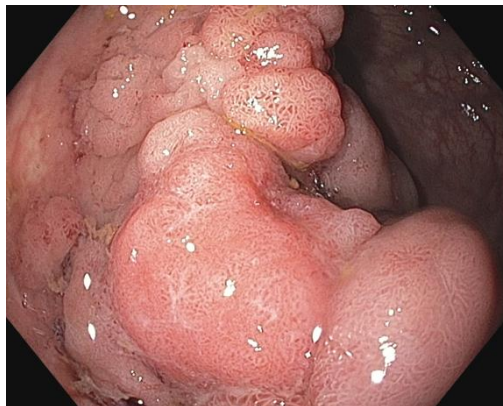
Quantifizierung der sm-Invasion (1000 μ m) ??

Grading ?
lymphovaskuläre Invasion ?
Budding ??

Rektumfrühkarzinom – Problem der Diagnose

	n	Histological findings, n (%)	
		Low risk	High risk
Clinical situation			
Cancer confirmed by biopsy	5	0 (0%)	5 (100%)
Cancer suspected by morphological criteria* (but biopsy-negative)	25	8 (32%)	17 (68%)
Cancer not suspected prior to resection	13	5 (38.5%)	8 (61.5%)
All lesions	43	13 (30.2%) (95%CI 18.6–45.1)	30 (69.8%) (95%CI 54.9–81.4)

Probst et al, Endoscopy 2017, 49: 222-232



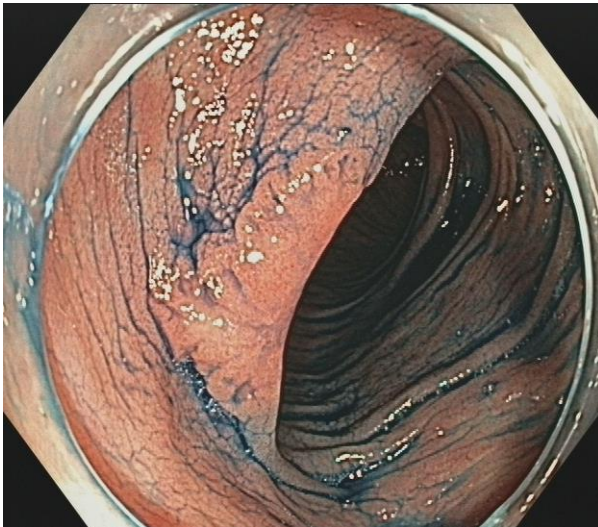
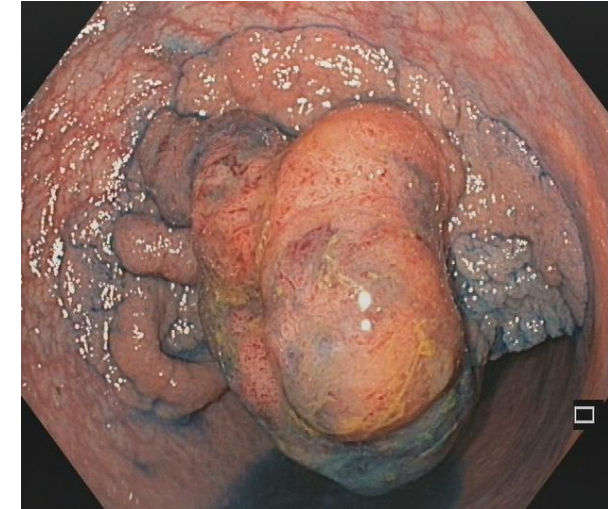
Kolorektale Polypen - Laterally spreading tumors (LST)



granular type

LST - G

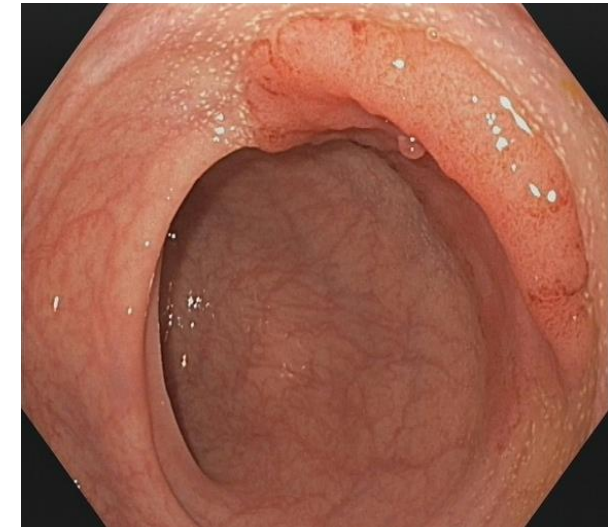
- LST-G homogenous
- LST-G nodular mixed



non-granular type

LST - NG

- LST-NG flat
- LST-NG pseudodepressed

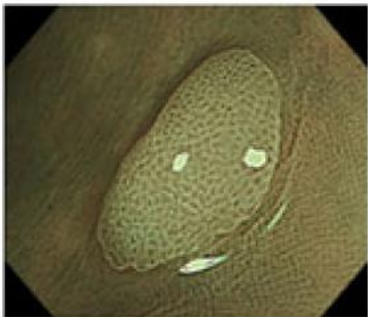
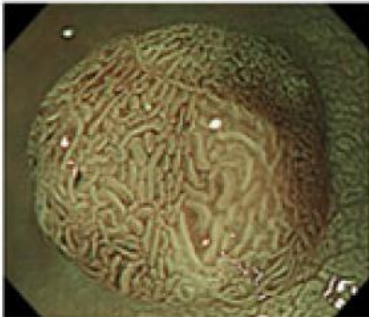
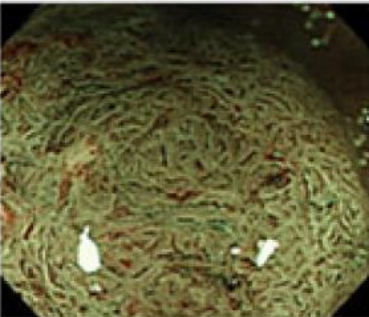
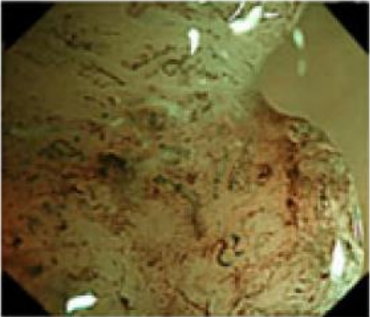


Morphologie → Risiko für sm-Invasion

	n (%)	Diameter, median (range), mm	LGIN, n	HGIN, n	SMIC, n	Risk for cancer, % (95%CI%)
LST type						
Granular	267 (80.9%)	45 (18 – 135)	89	154	24	9.0% (6.1% – 13%)
Without nodule	61		43	18	0	0%
Small nodule (< 10 mm)	83		28	53	2	2.4%
Large nodule (> 10mm)	123		18	83	22	17.9%
Nongranular	55 (16.7%)	30 (19 – 70)	211	15	38	69.1% (56.0% – 79.7%)
Pseudodepressed	34		1	8	25	73.5%
Flat/elevated	21		1	7	13	61.9%
Mixed (granular and nongranular)	8 (2.4%)	60 (30 – 80)	0	1	7	87.5% (52.9% – 97.8%)
All	330	40 (18 – 135)	91	170	69	20.9% (16.9% – 25.6%)

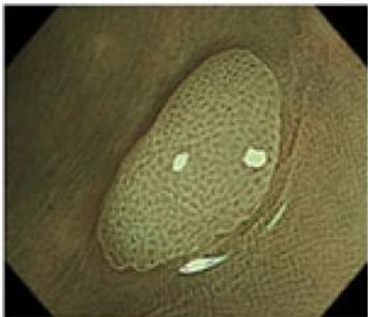
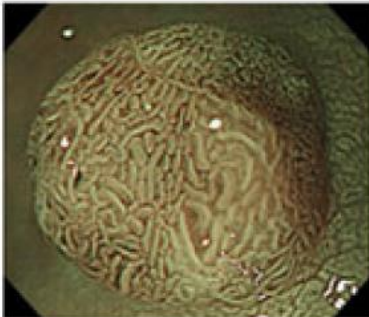
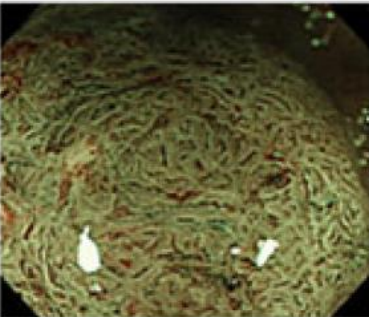
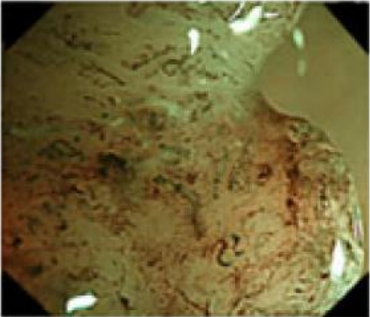
Probst et al, Endoscopy 2017, 49: 222-232

Japan NBI Expert Team (JNET) (2016)

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

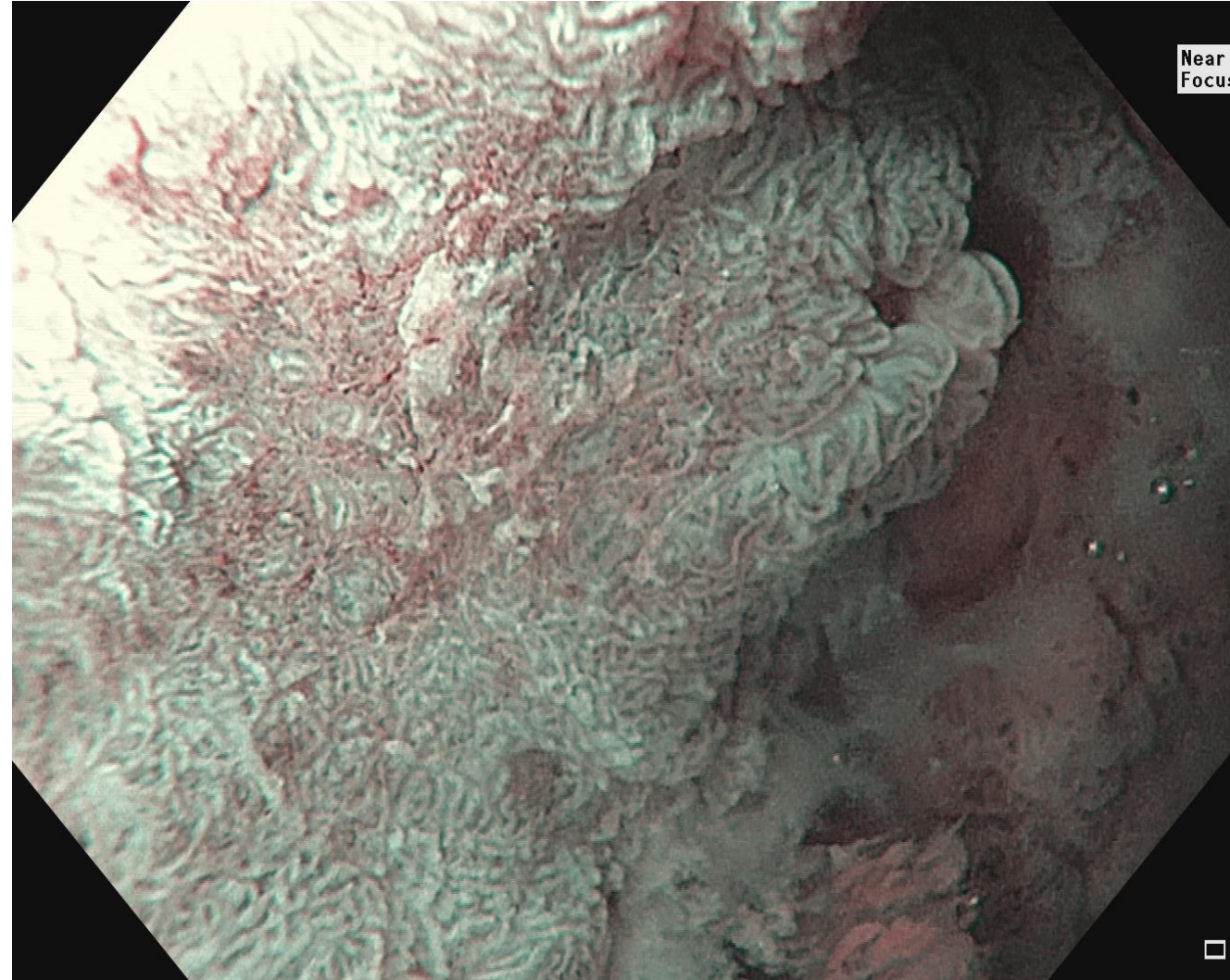
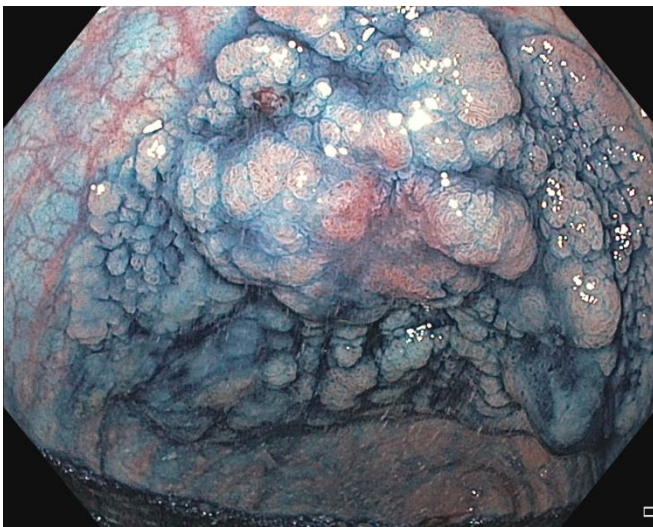
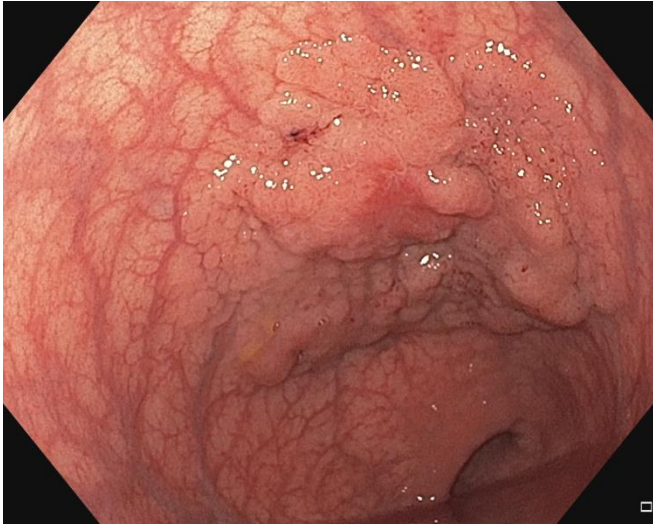
Sano Y et al, Digestive Endoscopy 2016

Japan NBI Expert Team (JNET) (2016)

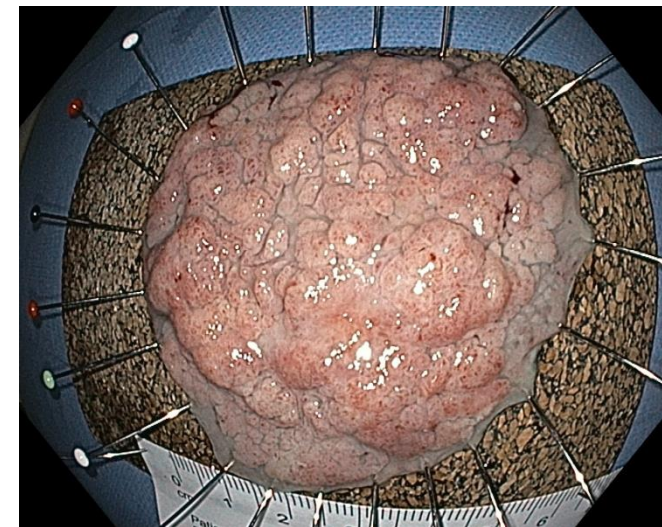
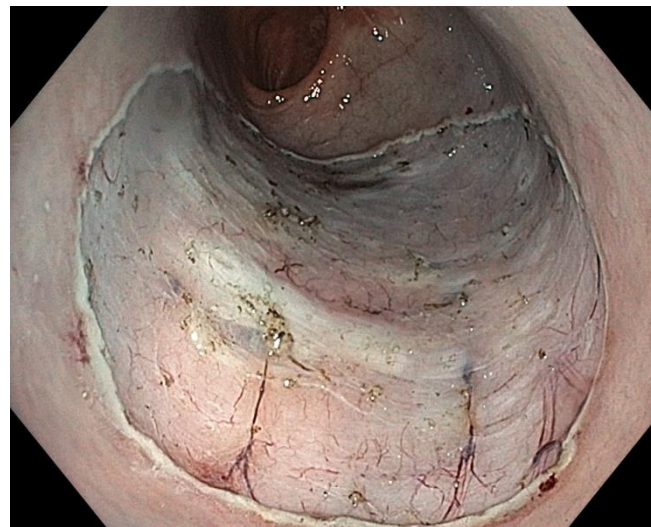
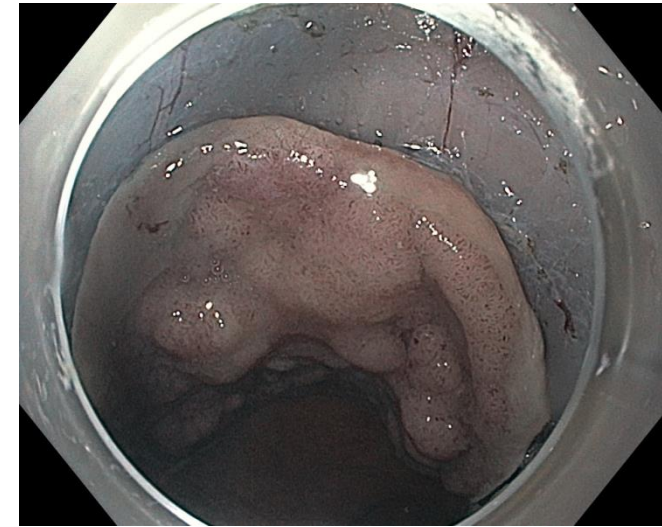
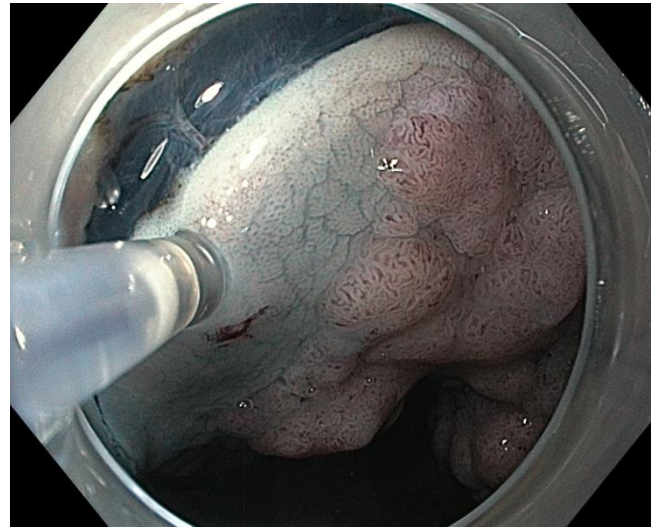
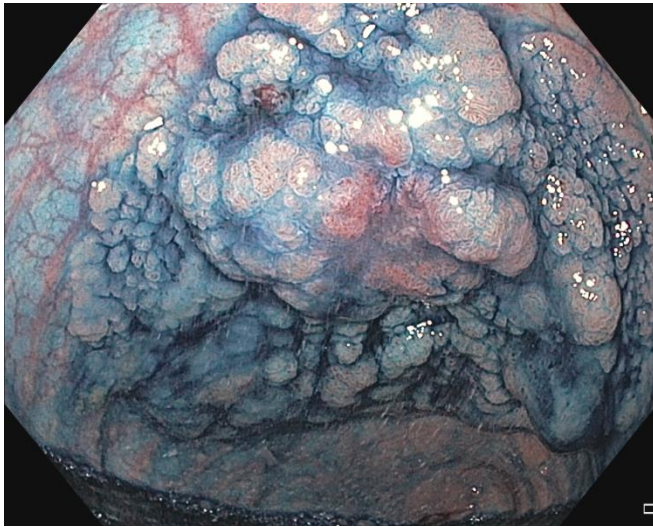
	Type 1	Type 2A	Type 2B	Type 3
Vessel pattern	<ul style="list-style-type: none"> • Invisible** 	<ul style="list-style-type: none"> • Regular caliber • Regular distribution (meshed/spiral pattern)** 	<ul style="list-style-type: none"> • Variable caliber • Irregular distribution 	<ul style="list-style-type: none"> • Loose vessel areas • Interruption of thick vessels
Surface pattern	<ul style="list-style-type: none"> • Regular dark or white spots • Similar to surrounding normal mucosa 	Endoskopisch	Endoskopisch en bloc	Chirurgisch
Most likely histology	Hyperplastic polyp/ Sessile serrated polyp	Low grade intramucosal neoplasia	High grade intramucosal neoplasia/ Shallow submucosal invasive cancer**	Deep submucosal invasive cancer
Endoscopic image				

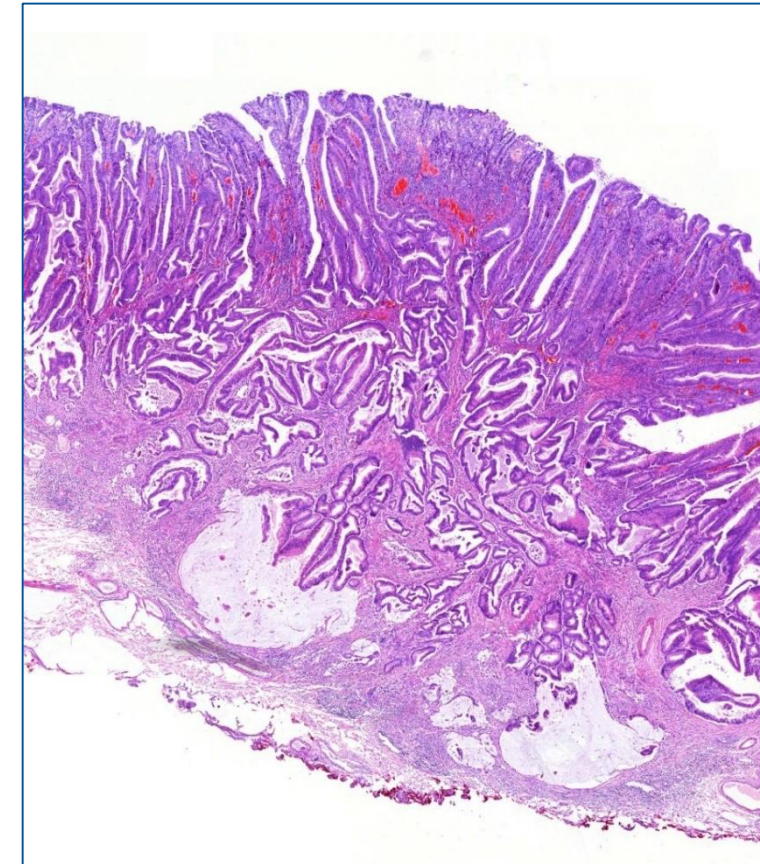
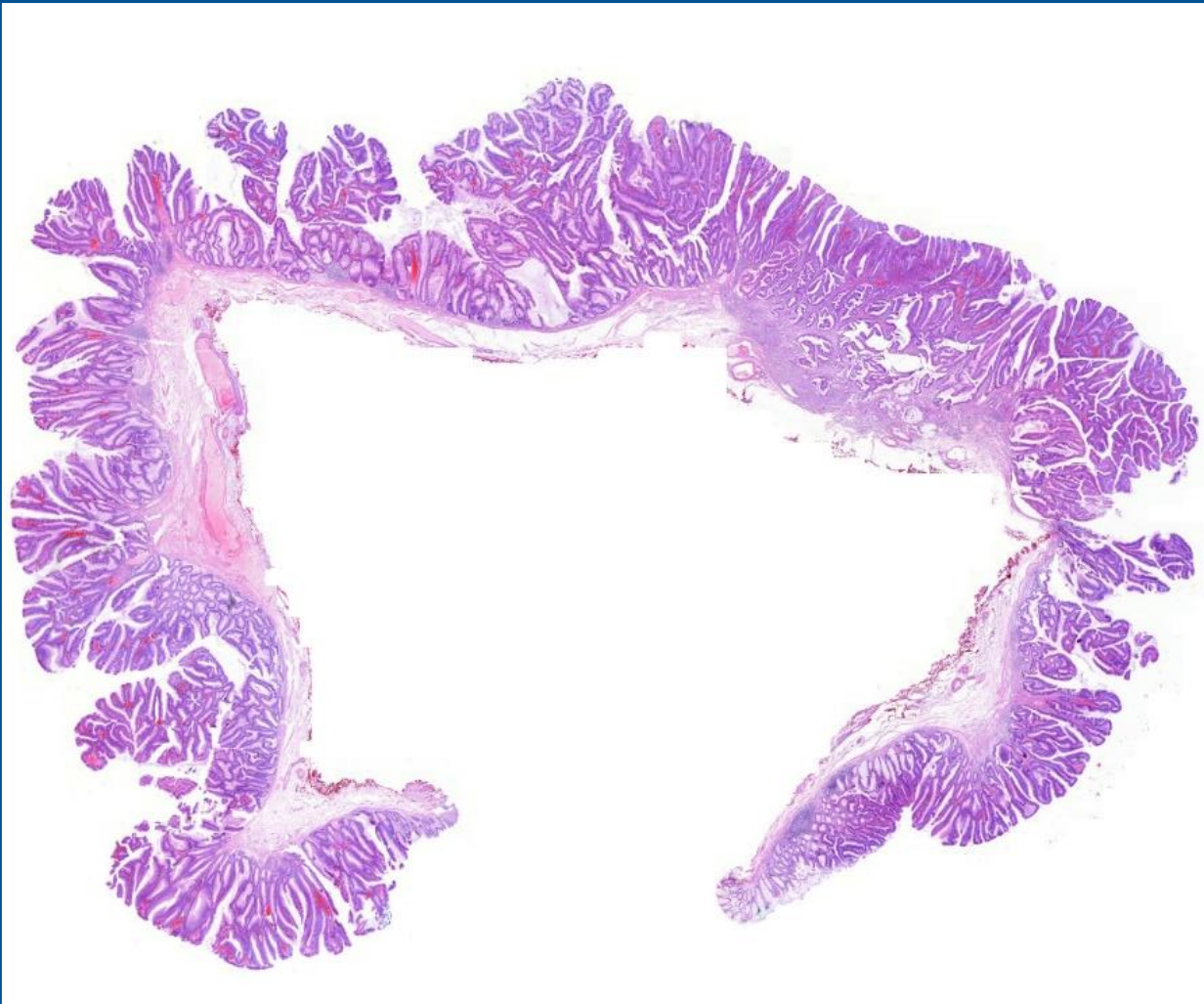
Sano Y et al, Digestive Endoscopy 2016

LST-G mixed – JNET 2B → Endoskopie en bloc



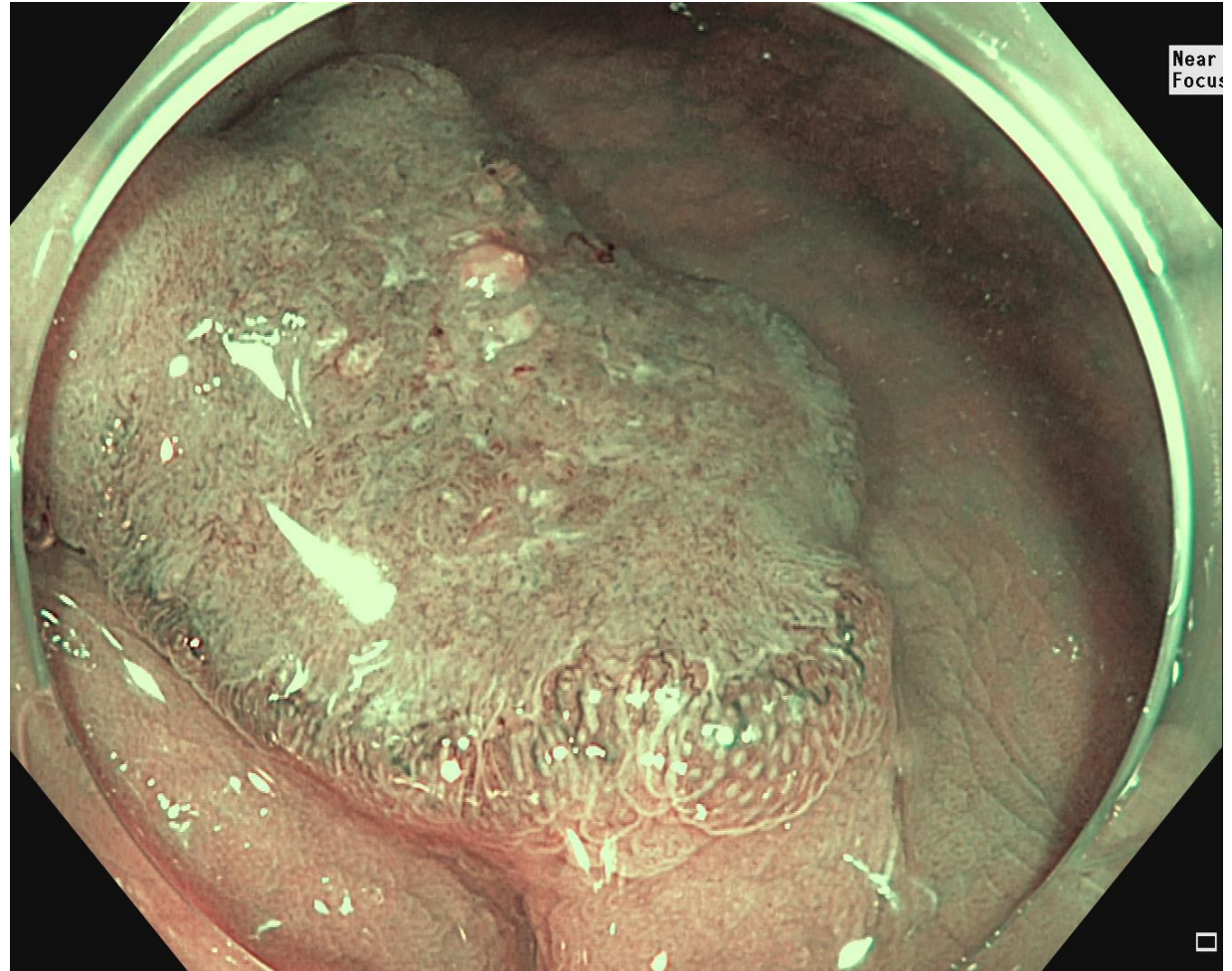
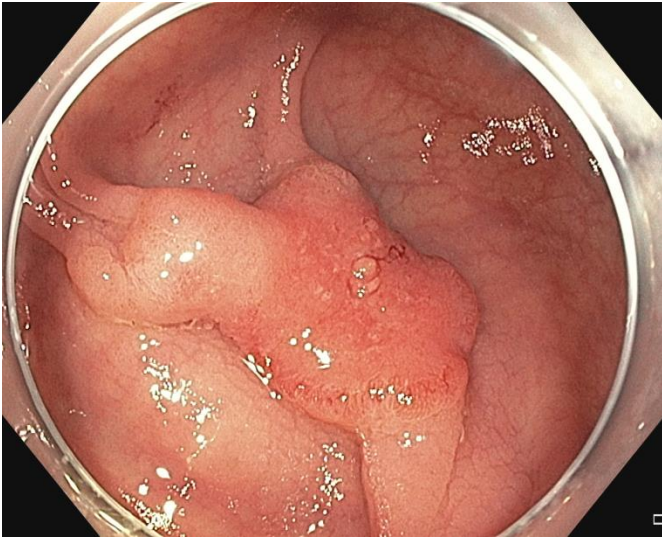
LST-G mixed – JNET 2B → ESD





Adenom mit überwiegend LGIEN und teils HGIEN
fokal sm-invasives Karzinom (sm-Invasion 2200 μ m) L0 V0 G2 R0

JNET 3 → Chirurgie



Histologie: pT1b (sm3) pN0 (0/42) G2 L0 V0

ESD beim Rektumfrühkarzinom - Lernkurve

	First study period (10/2005 – 07/2013) Resections 1 – 22	Second study period (07/2013 – 03/2016) Resection 23 – 43	P value
Diameter, median (range), mm	30 (20 – 90)	40 (20 – 90)	0.146
En bloc or piecemeal resection, n (%)			0.240
▪ En bloc	16 (72.7 %)	19 (90.5 %)	
▪ Piecemeal	6 (27.3 %)	2 (9.5 %)	
R0 or R1 resection			0.243
▪ R0	12 (54.5 %)	16 (76.2 %)	
▪ R1	10 (45.5 %)	5 (23.8 %)	
Curative resection (R0 resection with low risk histology)	3 (13.6 %)	10 (47.6 %)	0.036

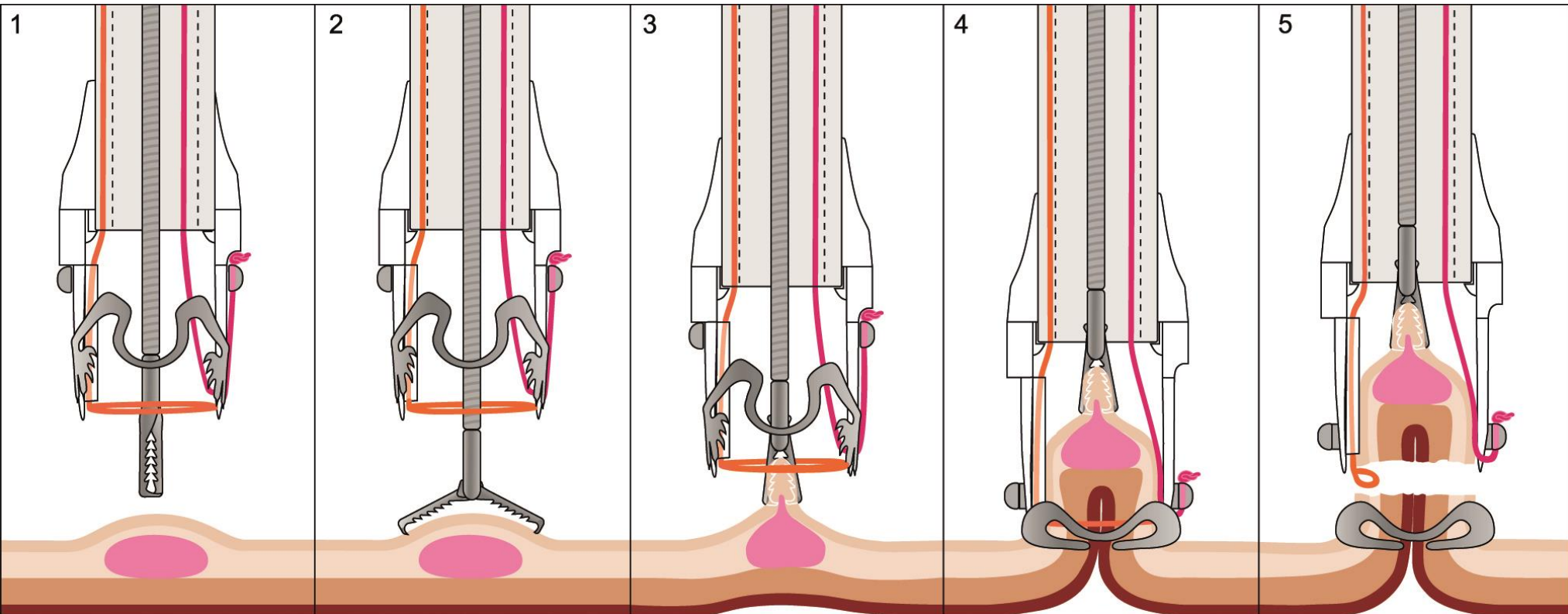
unter der Annahme, dass $sm > 1000\mu m$ = high risk

Probst et al, Endoscopy 2017, 49: 222-232

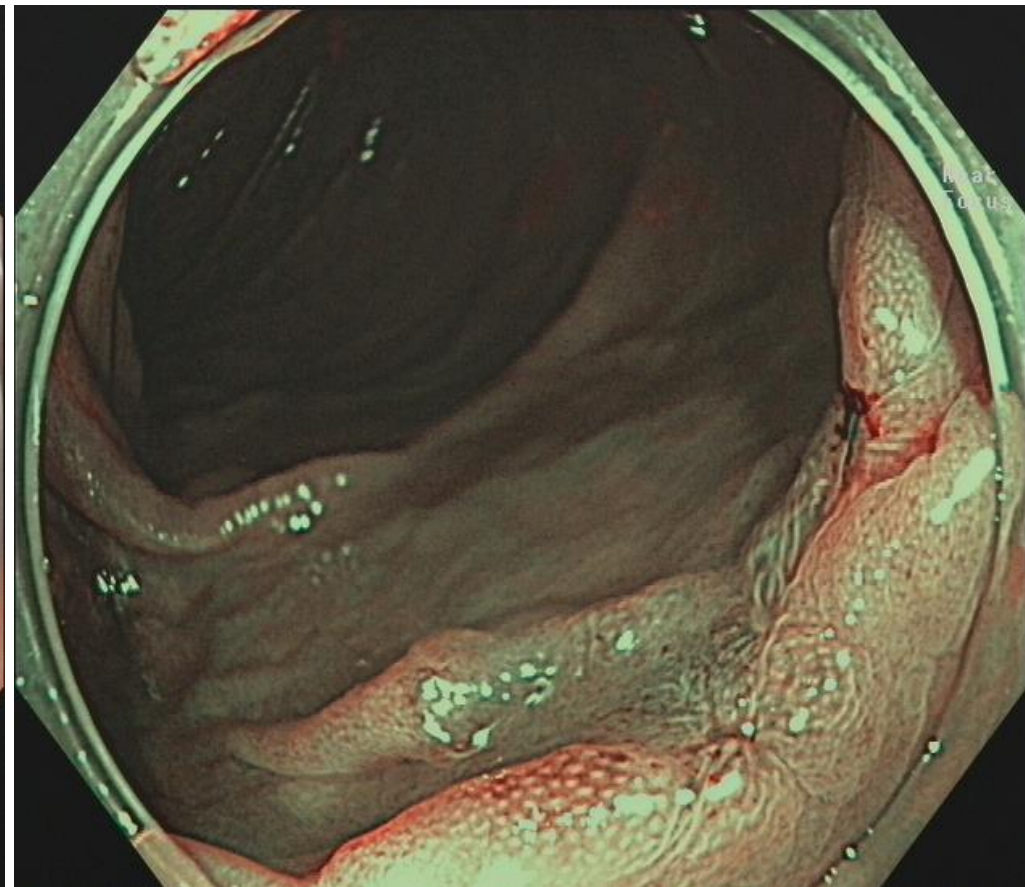
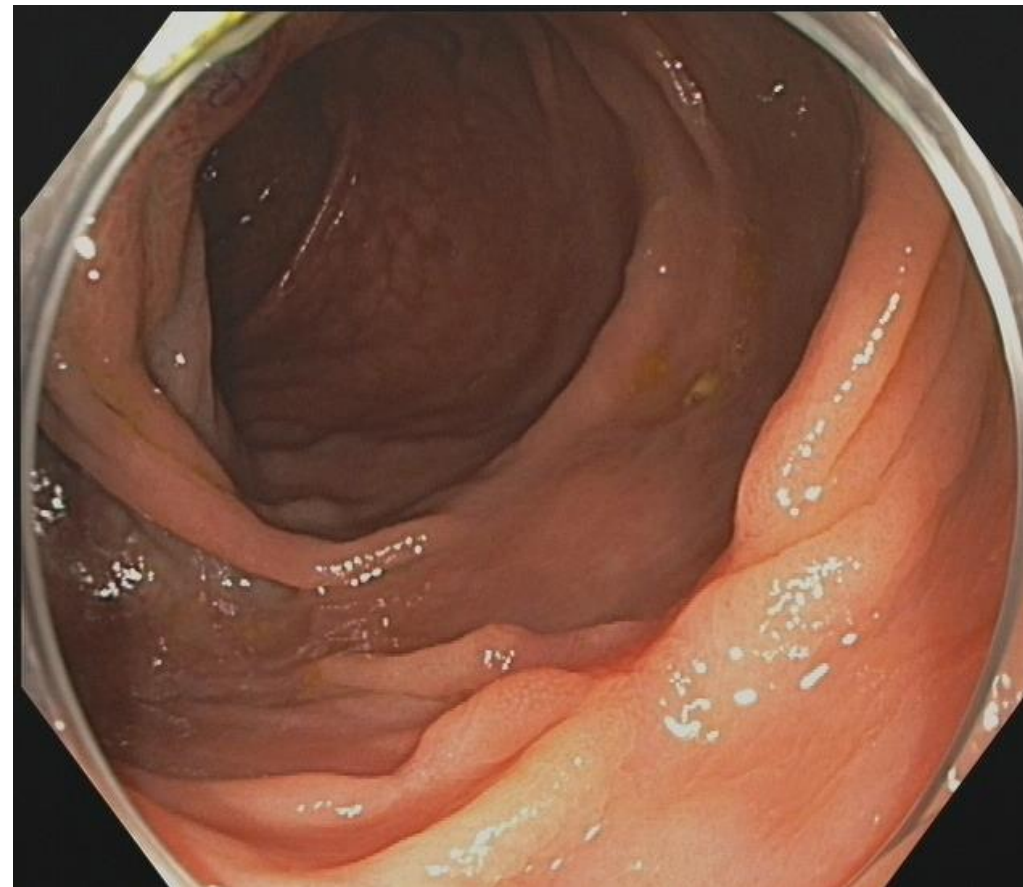
Full-thickness-resection-device (FTRD; Fa. Ovesco)



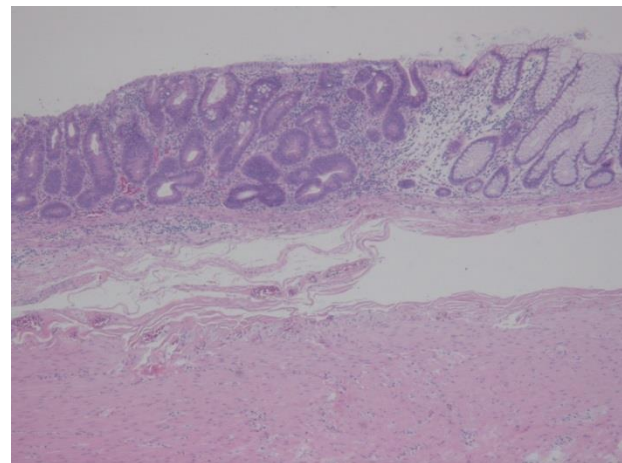
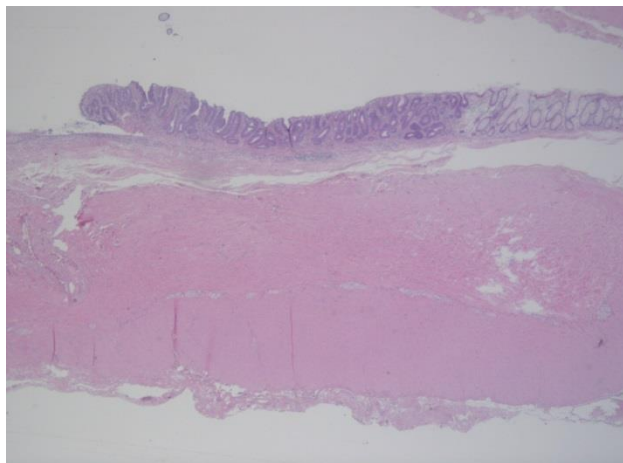
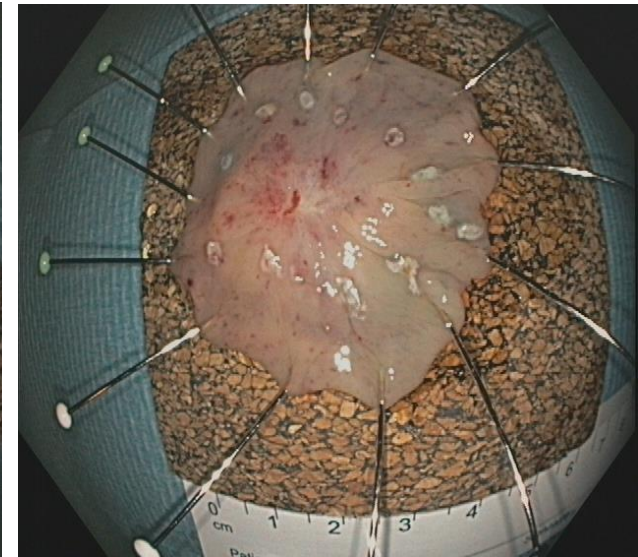
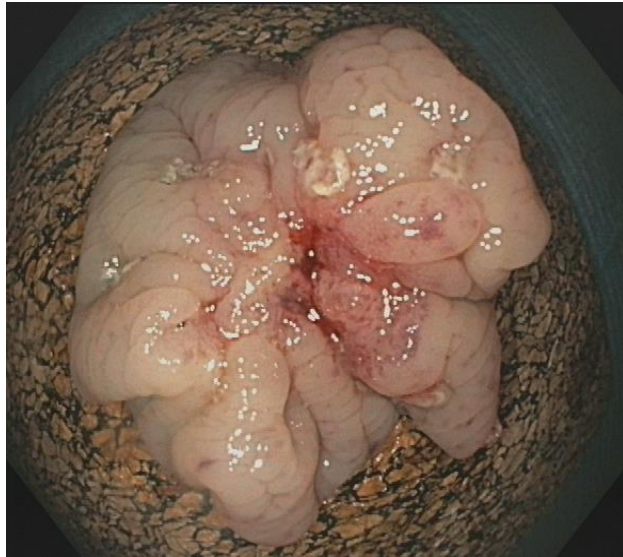
- Aktuell für Kolorektum zugelassen
- Neuentwicklung für oberen GI-Trakt erwartet



LST-NG pseudodepressed – non-lifting (Transversum)



This endoscopic image shows the same lesion from a different perspective or with different lighting. The lesion appears as a large, dark, non-lifting mass, with some areas showing a more granular or lobulated surface. The surrounding mucosal folds are also visible, and the overall appearance is consistent with a large, flat polypoid lesion.



Transversum:
Resektat 40mm

Histo: Vollwandresektat
Adenom mit HGIEN
R0

Colonoscopic full-thickness resection using an over-the-scope device: a prospective multicentre study in various indications

Arthur Schmidt,^{1,2} Torsten Beyna,³ Brigitte Schumacher,⁴ Alexander Meining,⁵ Hans-Juergen Richter-Schrag,² Helmut Messmann,⁶ Horst Neuhaus,³ David Albers,⁴ Michael Birk,⁵ Robert Thimme,² Andreas Probst,⁶ Martin Faehndrich,⁷ Thomas Frieling,⁸ Martin Goetz,⁹ Bettina Riecken,¹ Karel Caca¹

Indication for EFTR, n (%)	
Difficult adenoma	143 (79.0)
Adenoma with negative lifting sign*	104 (57.4)
Recurrent†	53 (29.2)
Incompletely resected‡	19 (10.4)
Treatment naive	32 (17.7)
Adenoma involving the appendiceal orifice	34 (18.8)
Adenoma involving a diverticulum	5 (2.8)
T1 carcinoma	15 (8.3)
After incomplete endoscopic resection†	10 (5.5)
Treatment naive	5 (2.7)
Subepithelial tumour	23 (12.7)

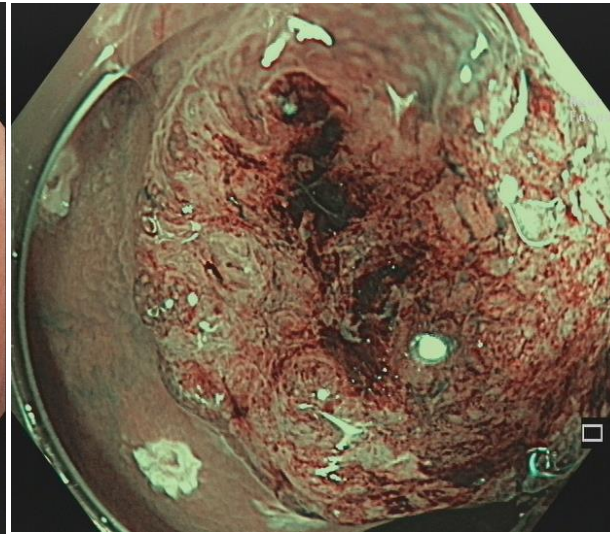
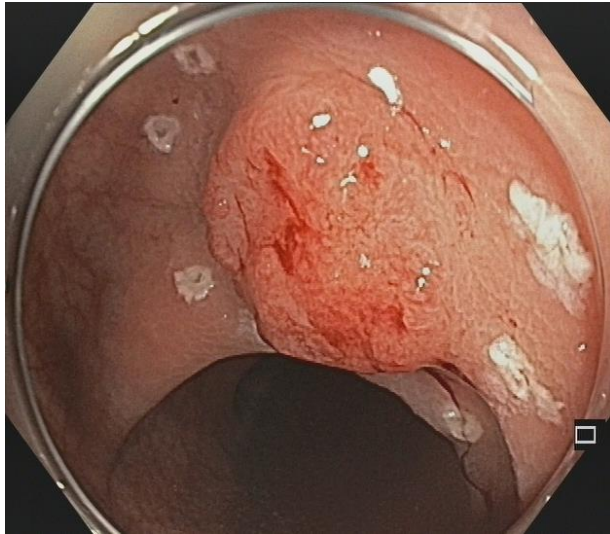
Schmidt A et al. Gut 2017; August 10 [Epub ahead of print]

Colonoscopic full-thickness resection using an over-the-scope device: a prospective multicentre study in various indications

Subgroup	Technical success, n (%)	R0 resection, n (%)
Indication		
Difficult adenomas with final benign histology	117/127 (92.1)	98/127 (77.7)
Adenocarcinomas*	24/29 (82.6)	21/29 (72.4)
Subepithelial tumours	21/22 (95.5)	20/22 (87.0)
Lesion size		
≤9 mm	24/24 (100)	21/24 (87.5)
10–20 mm	104/114 (91.2)	93/114 (81.6)
>20 mm	34/43 (79.0)	25/43 (58.1)
Localisation of lesion		
Colon	133/151 (88.1)	117/151 (77.5)
Distal colon†	32/38 (84.2)	28/38 (73.7)
Proximal colon‡	101/113 (89.4)	88/113 (77.8)
Rectum	28/30 (93.3)	23/30 (76.6)
Lower rectum	9/9 (100)	7/9 (77.8)
Upper rectum	19/21 (90.5)	15/21 (71.4)
Prior treatment		
No prior treatment	92/99 (92.9)	79/99 (79.8)
Previous endoscopic therapy	69/82 (84.14)	60/82 (73.2)

Schmidt A et al. Gut 2017; August 10 [Epub ahead of print]

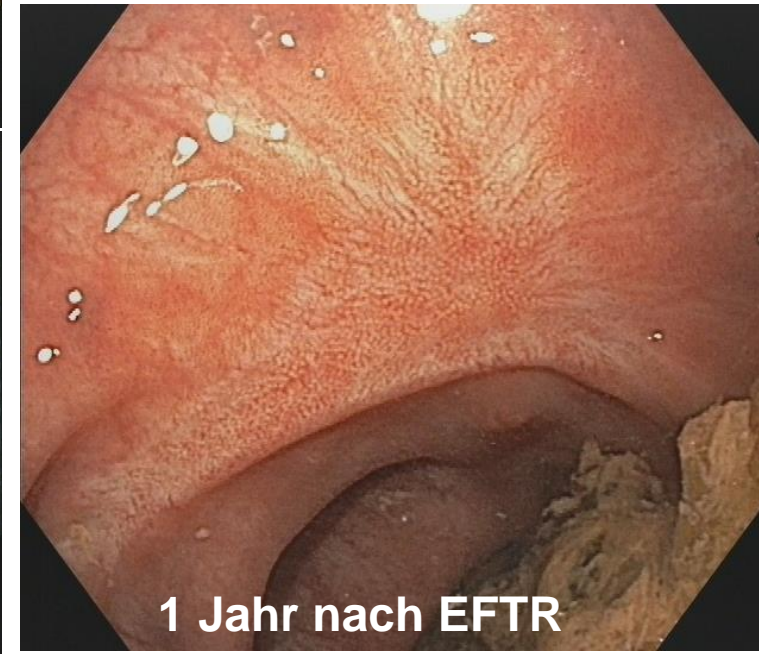
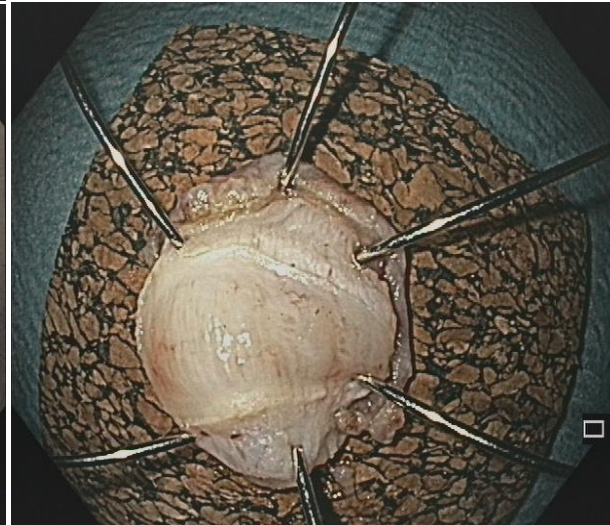
EFTR bei V.a. Frühkarzinom – non-lifting (Sigma)



Sigma (Resektat 25mm)

Histologie: Vollwandresektat
Karzinom pT2 L0 V0 G2 R0

OP vom Pat. abgelehnt



1 Jahr nach EFTR

Kolonfrühkarzinom (pT1) -Update 2018

- Entscheidung zwischen endoskopischer und chirurgischer Resektion muss anhand morphologischer Kriterien getroffen werden (Limitation der Biopsie, LST- / JNET-Klassifikation)
- „low-risk“-Kriterien (1000µm-Grenze evt. zu streng)
- Bei Malignomverdacht → en bloc Resektion (ESD)
- Entscheidung zur ESD je nach Lokalisation der Läsion und Expertise; im Kolon noch kein Standard
- EFTR evt. Option für ausgewählte, kleine Läsionen