Amsterdam UMC
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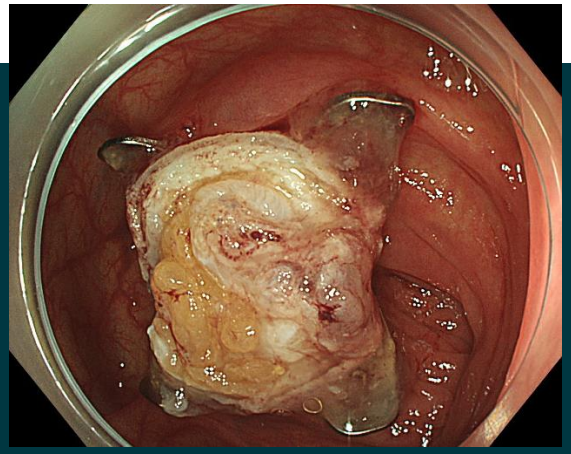
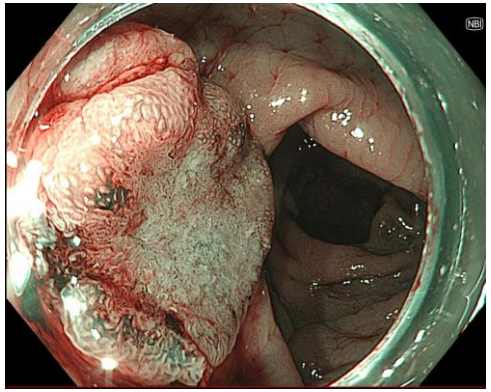
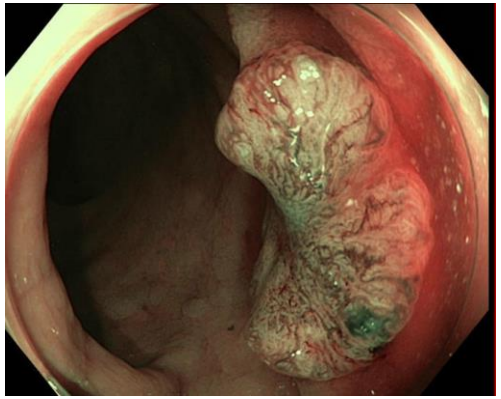
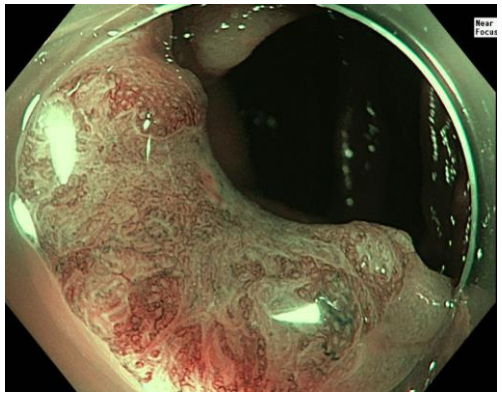
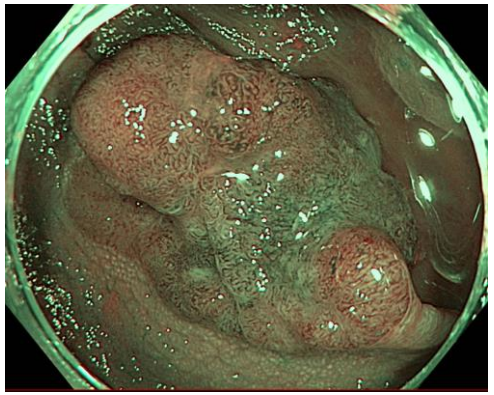
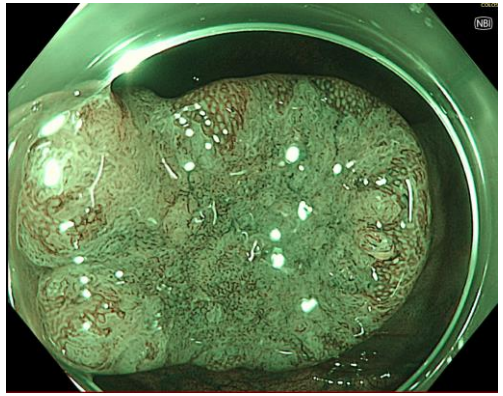


A Decade of FTRD: Global Insights and Future Directions

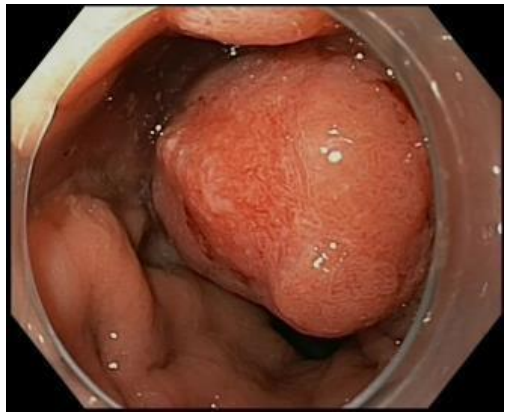
eFTR for T1 colorectal cancer

Barbara Bastiaansen, Gastroenterologist

November 2024

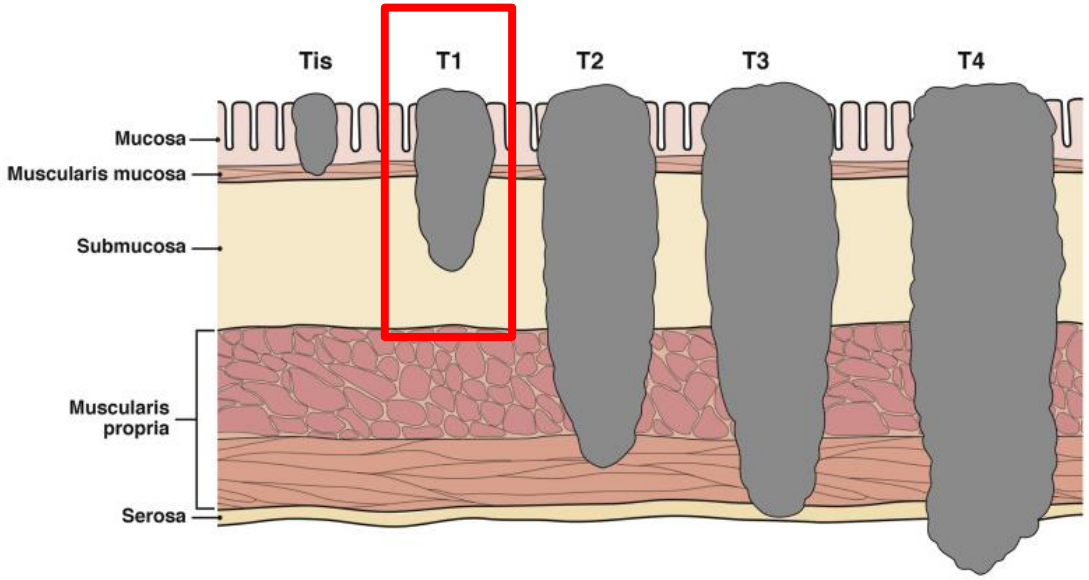






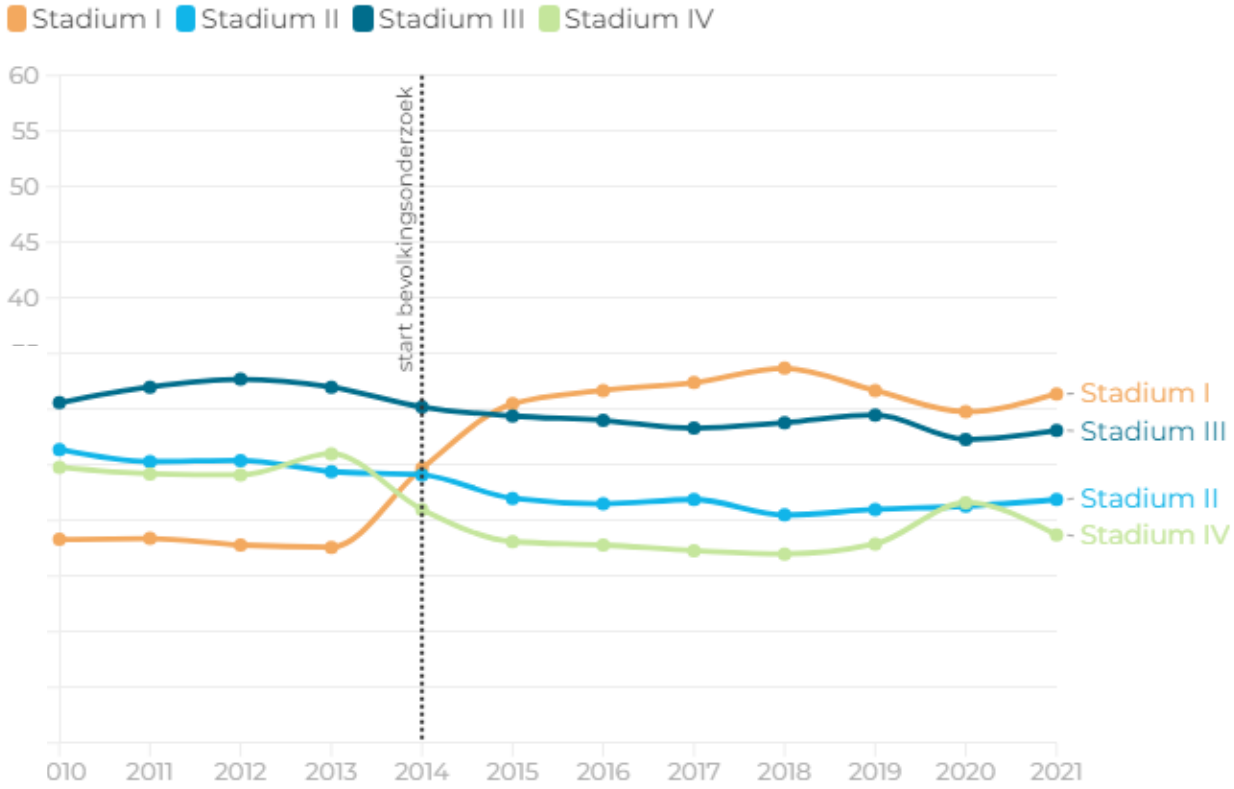
T1 colorectal cancer



- Invasion limited to submucosa
- Screening increases detection
- Potential local treatment & cure

  ~10 % overall LNM

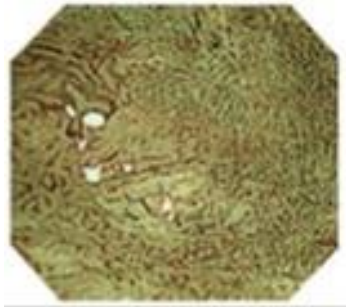




Netherlands Cancer Registry/IKNL
Toes Zoutendijk Gut 2017

Guideline-directed algorithm treatment T1CRC

T1 CRC



Superficial submucosal invasion

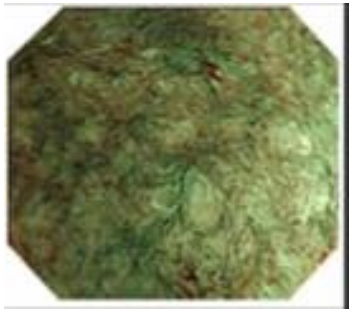
JNET2B, Kudo Vi, Hiroshima C1

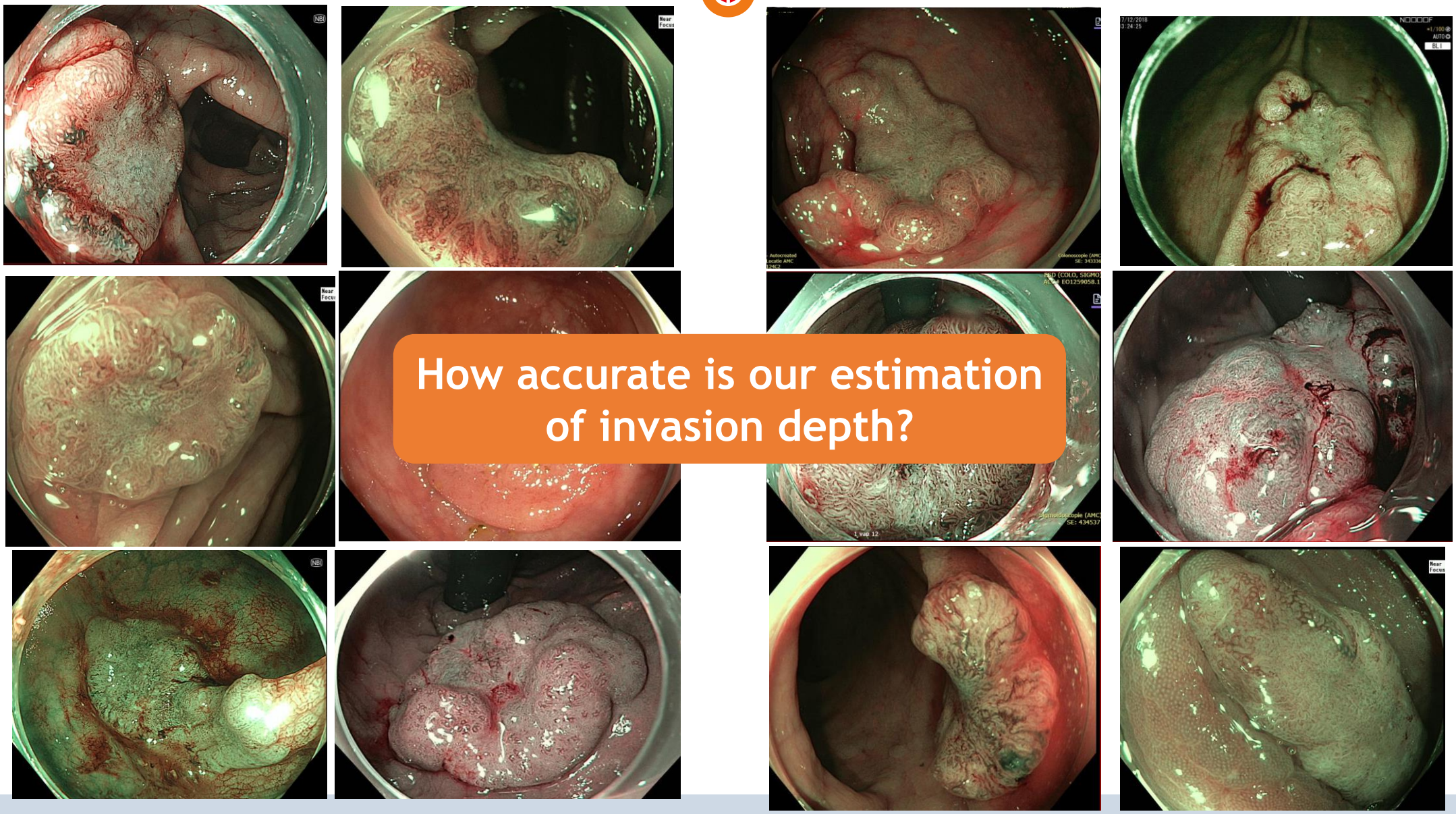
En bloc EMR ESD

Deep submucosal invasion

JNET3, NICE 3, Kudo Vn Hiroshima C2-3

Surgery





How accurate is our estimation of invasion depth?

Optical diagnosis has its limitations

Original Article

First report from the International Evaluation of Endoscopic classification Japan NBI Expert Team: International multicenter web trial

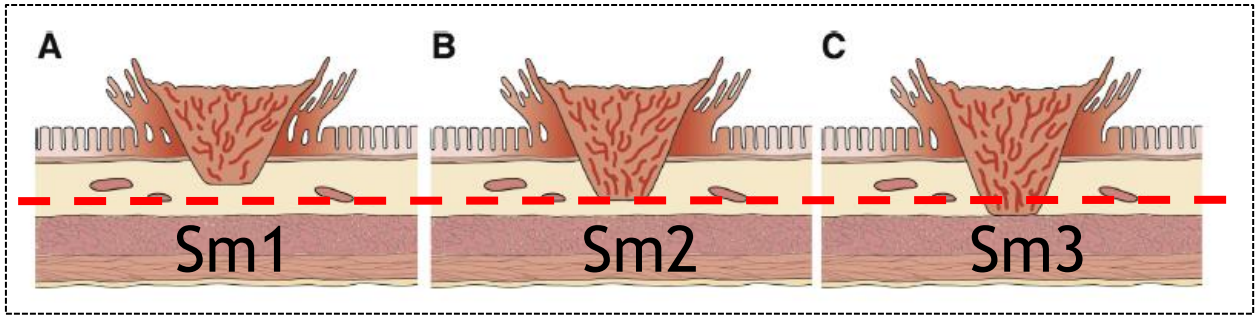
36 European endoscopists (ESGE)
49 Japanese endoscopists (JGES)

JNET classification	Sensitivity	Specificity	Accuracy
Type I	73.3%	94.7%	93%
Type 2A	53%	64.9%	62.1%
Type 2B	43.9%	67.7%	55.1%
Type 3	38.1%	93.7%	85.1%

Saito Y, Dig Endoscopy 2023

Transmural resection for T1 CRC- necessary?

- 60 % of T1 CRC's are sized 2cm or less [1,4]
- 50-75% of T1 CRC's have deep submucosal invasion at diagnosis [2,3,4]
- R0 resection rate for T1 CRC's drops from 92% (Sm1) to 35-62% for Sm2-3 in ESD [5,6]



[1] Kessels K, J Clin Gastroenterol Hepatol 2018
[4] Yasue C, J gastroenterol 2019
[2] Zwager LW Endoscopy 2022
[3] Ohata K Gastroenterol 2022
[5] Spadaccini M, Gut 2022
[6] Watanabe D, Surg Endosc 2018

Deep Submucosal Invasion Is Not an Independent Risk Factor for Lymph Node Metastasis in T1 Colorectal Cancer: A Meta-Analysis

Deep submucosal invasion is not an independent risk factor for lymph node metastasis in T1 colorectal cancer: a meta-analysis

DSI in relation to LNM in univariable analysis

67 studies

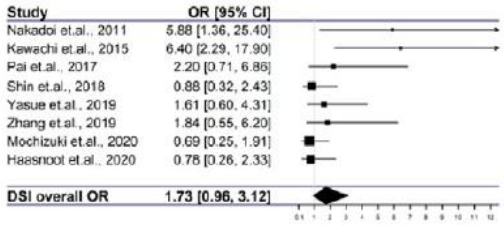
21,238 patients

Overall LNM-rate: 11.2%

OR 2.58 (95% CI 2.10-3.18)

DSI in relation to histological high-risk* factors in multivariable analysis

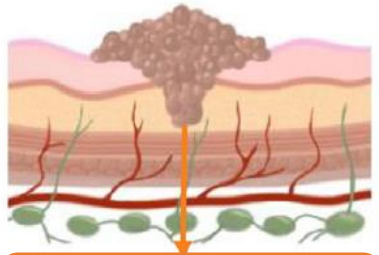
8 studies, 3621



OR 1.73 (95% CI 0.96-3.12)

DSI as solitary risk factor for LNM

8 studies,1146



Absolute risk: 2.6%

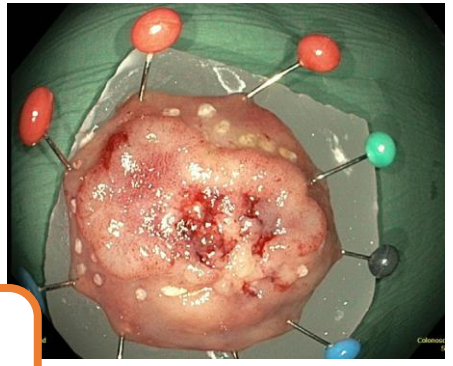
DSI should be reconsidered as *strong* indicator for oncologic surgery

40 % of all DSI cancers do not have other risk factors!

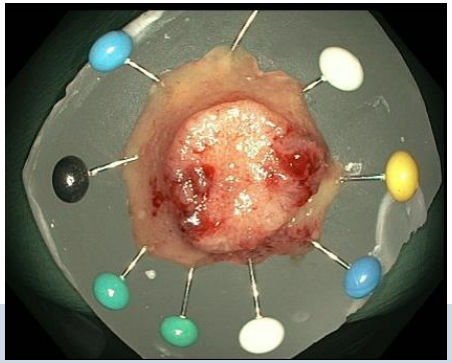
Gastroenterology

Zwager L et al, Gastroenterology 2022

Risk stratification requires high quality specimen



Exact histologic risk stratification in 99,3%!

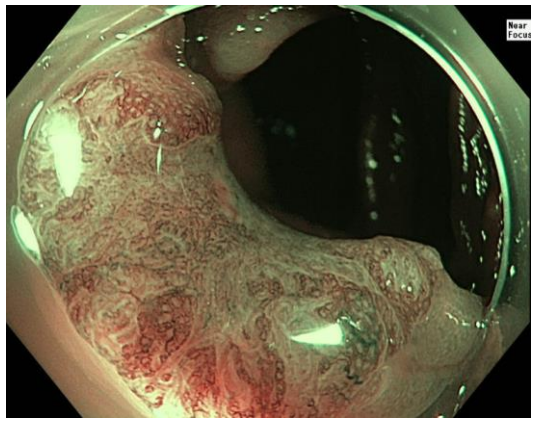
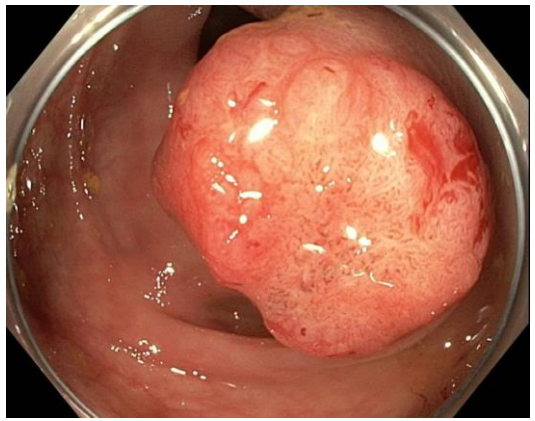
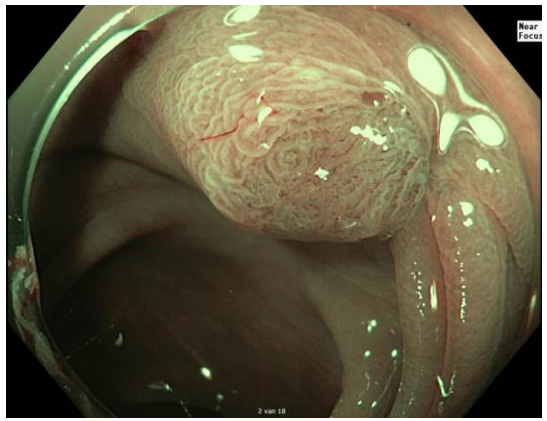
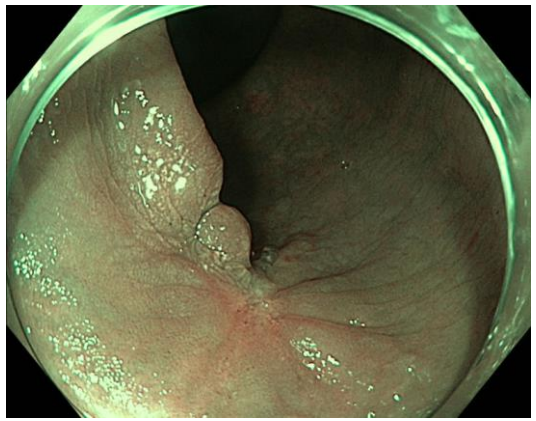


A. Kuellmer et al, GIE jan 2019

Zwager LW, Endoscopy, 2022

Expanding eFTR indications

- T1 colorectal cancers
  - ➢ Primary treatment for supect lesions as “excisional biopsy”
  - ➢ Secondary scar excision after previous incomplete resection T1 CRC

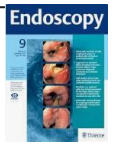





eFTR for T1CRC

Original article

Thieme

Endoscopy



Endoscopic full-thickness resection of T1 colorectal cancers: a retrospective analysis from a multicenter Dutch eFTR registry

- Dutch prospective eFTR registry (started 2015)
- N = 330 (suspected) T1 CRC
  - ❖ 132 primary
  - ❖ 198 secondary (scar resection after Rx/R1 resection)
- R0: 82% (primary resection) vs. 88% (secondary resection)
  - **85.9 % for lesions ≤ 20 mm vs 80.0 % for lesions > 20 mm**

Technical success and R0 resection for (suspected) T1CRC

Characteristics	Primary treatment	Secondary treatment
eFTR procedures, n	132	198
Lesion size, median (IQR), mm	15 (12-16)	10 (7-15)
Specimen size, median (IQR), mm	27 (23-31)	22 (18-26)
Technical success, n (%)	118 (89)	169 (85)
R0 resection, n (%)	105 (82)	169 (88)
Full-thickness, n (%)	105 (82)	153 (80)

Curative resection rate (only T1CRC at histology)

Outcome	Primary treatment (N=97)	Secondary treatment (N=192)
Curative resection[1], n (%)	23 (24)	152 (79)
When excluding DSI as risk factor, n (%)	59 (61)	160 (83)

1. DSI included as risk factor

1. Zwager, Endoscopy, 2022

eFTR WERKGROEP

3 year oncological outcomes following endoscopic full-thickness resection for T1 colorectal cancer: results from the Dutch prospective colorectal eFTR registry

Suspected T1CRC

Low risk T1CRC

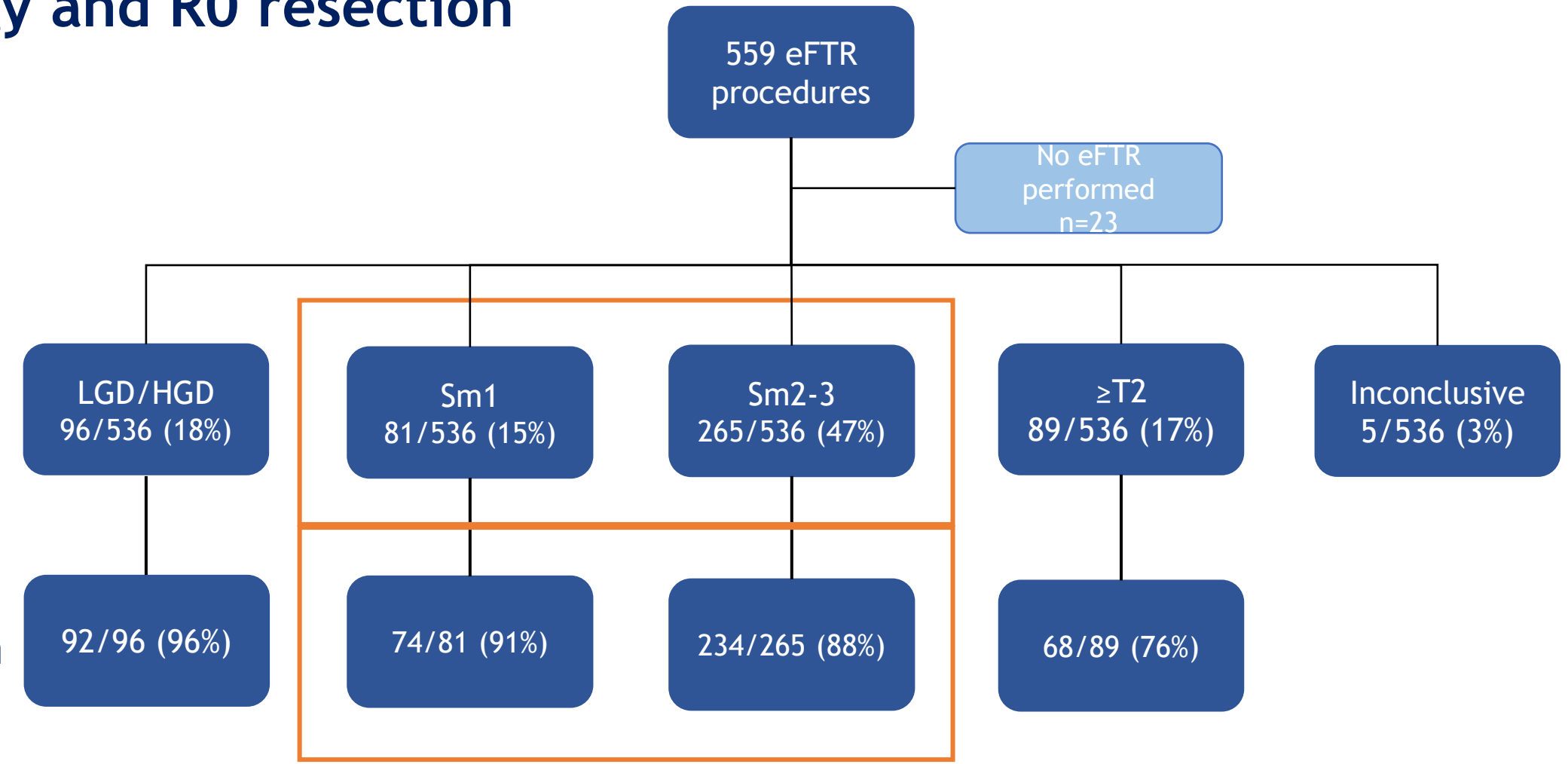
High risk T1CRC

≥1 risk factors (excl. DSI)

Patient and procedural characteristics

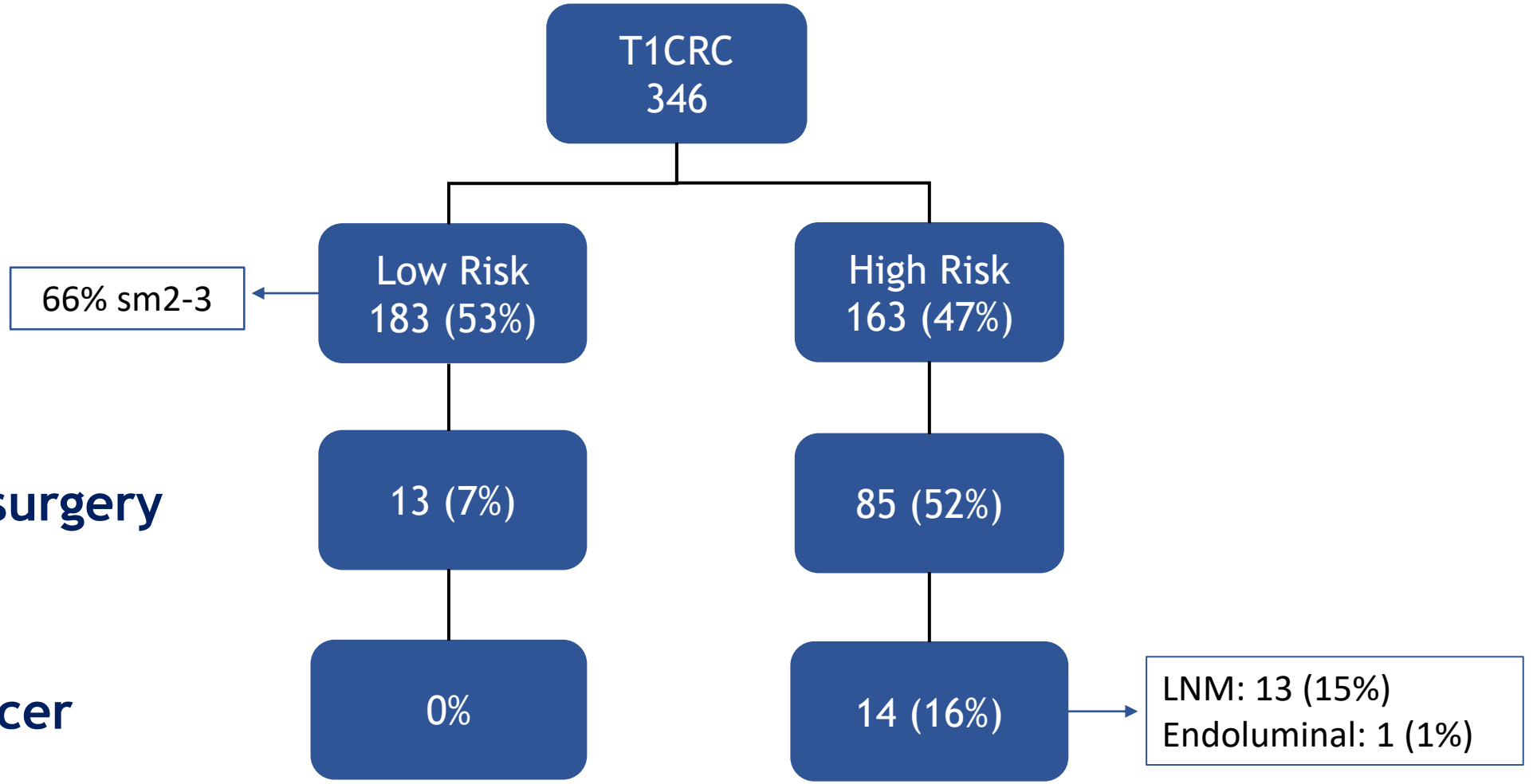
Total inclusion, number	559
Age, in years, mean (SD)	74 (9)
Male gender, number (%)	324 (58)
Tumour location Colon, number (%) Rectum, number (%)	 460 (82) 99 (18)
Lesion size, in mm, median (IQR)	16 (6)
Specimen size, in mm, mean (SD)	28 (7)
Full-thickness, number (%)	463 (83)
Technical success, number (%)	501 (90)
Adverse events, number (%) Mild-moderate Severe	39 (7) 22 (4) 17 (3)

Histology and R0 resection



S. Albers ESGE 2024 Abstract OP066

T1CRC



Completion surgery

Residual cancer

S. Albers ESGE 2024 Abstract OP066

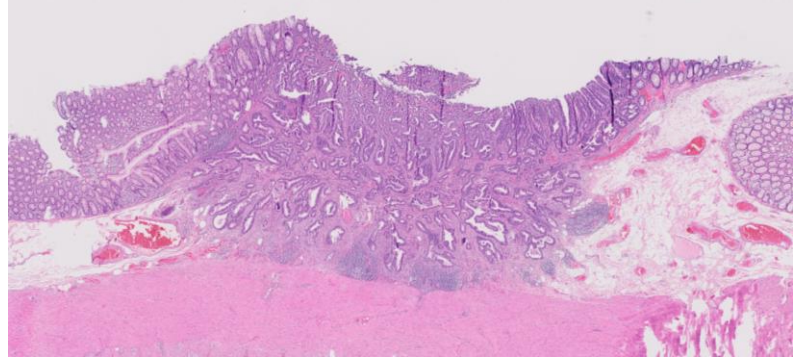
Follow-up T1CRC

272 patients

44 months *(range 6-94)*

	Low Risk Surveillance N=135	High Risk Surveillance N=64	Completion Surgery N=73
Recurrence	1 (1%)	3 (5%)	4 (6%)
Salvage surgery	0/1 (0%)	2/3 (67%)	0/4 (0%)

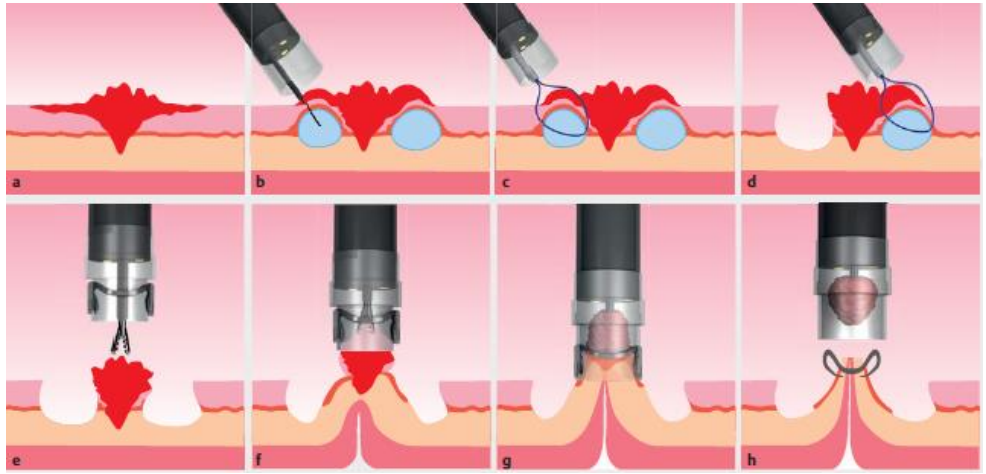
S. Albers ESGE 2024 Abstract OP066

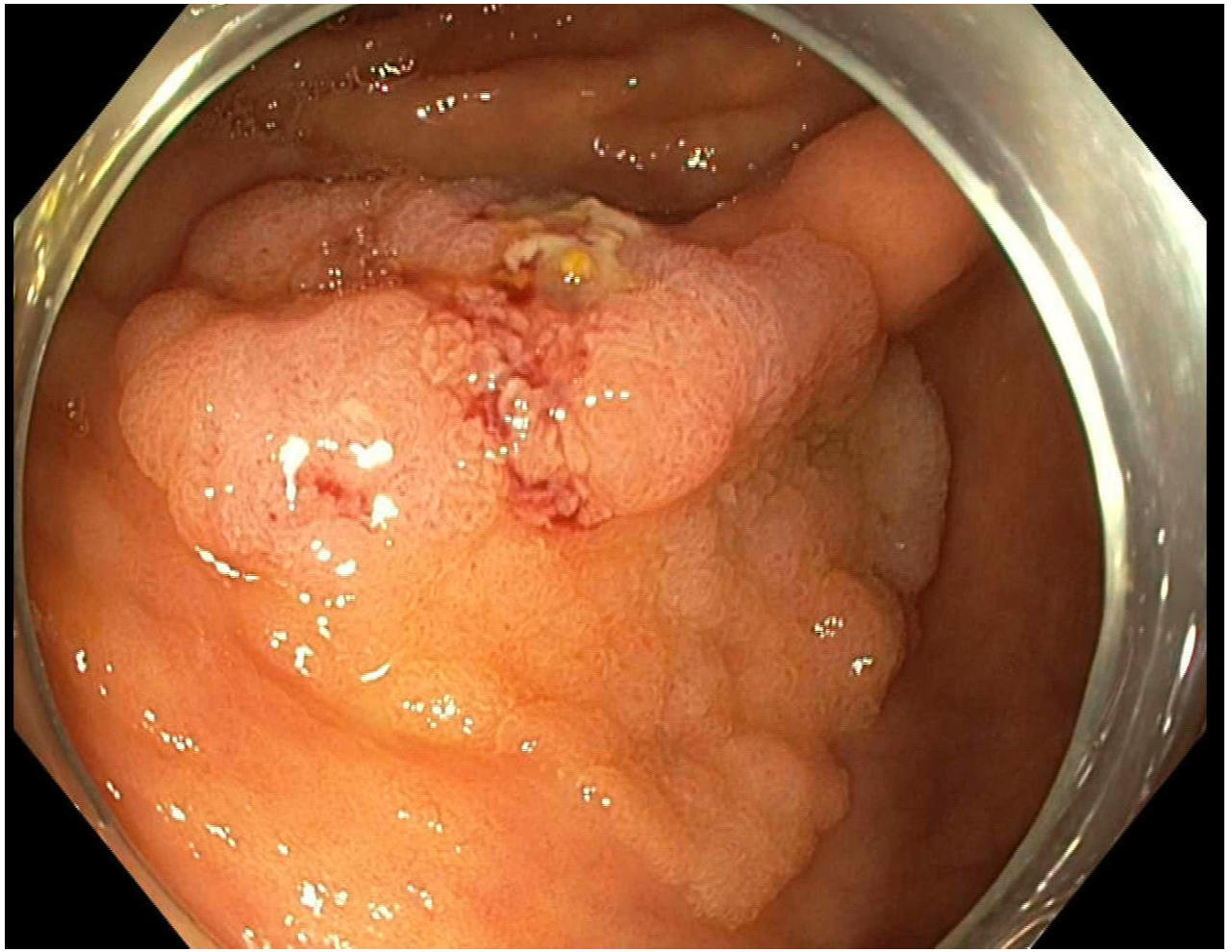


Conclusion

- ✓ eFTR is a highly effective primary resection technique for suspected T1CRC ≤ 2cm
- ✓ Optimal histology by including m. propria
- ✓ Complete histological risk assessment in > 99% of cases
- ✓ Favorable R0 resections overall 82- 91 %
  - ✓ Majority (70%)of cases show deeper Sm infiltration (Sm 2-3)!
  - ✓ Low recurrence rate for low-risk (deep) T1 CRC at median follow-up of 3.5 years
- ✓ Expands endoscopic treatment options, pusuing organ preservation:
  - ✓ R0 resection in deeper Sm invasion
  - ✓ Scar resection after previous incomplete resection low-risk T1 CRC

Future directions - Hybrid EMR/eFTR

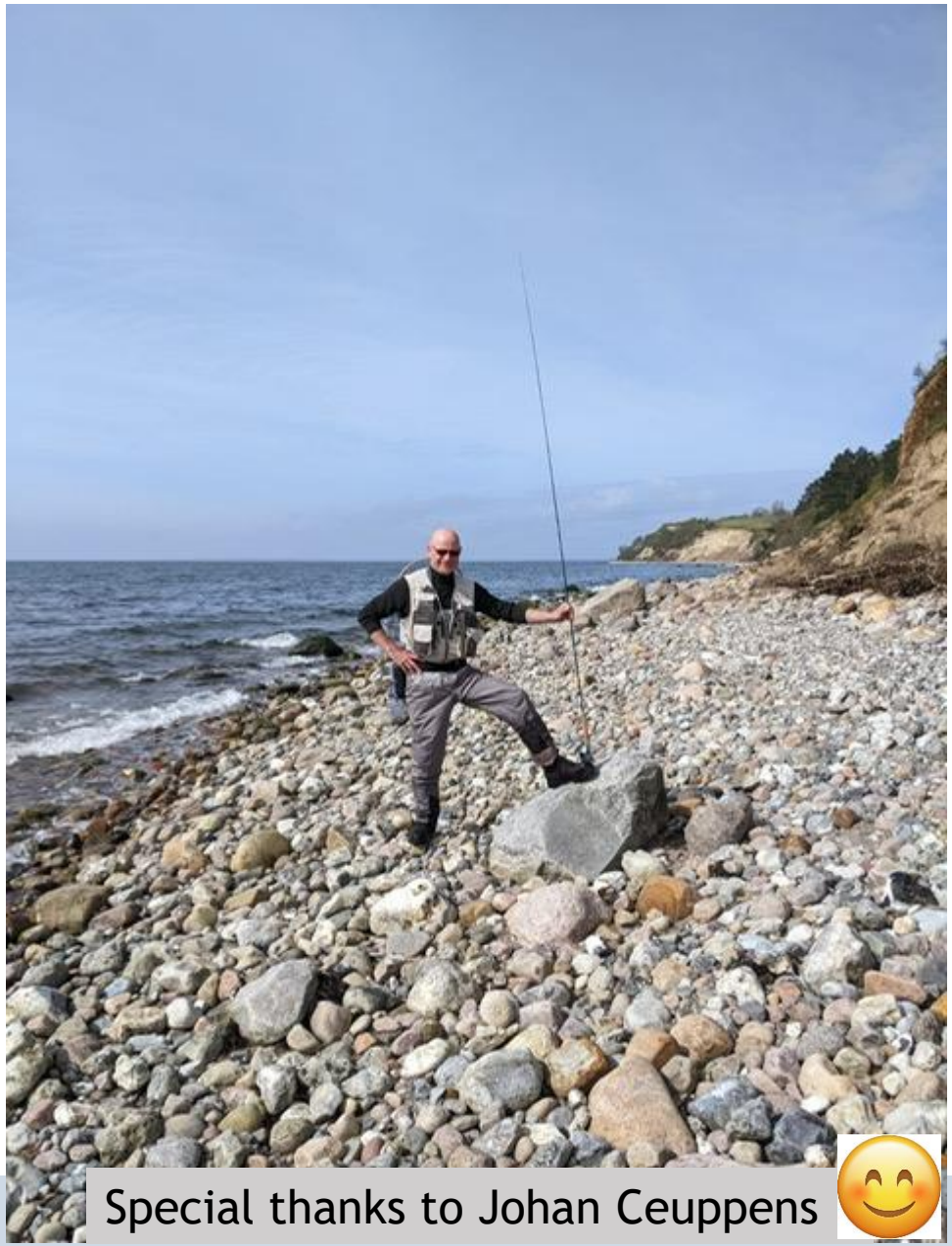




Chua J, Endosc Int Open 2021

Meier B , GIE, 2023

Happy anniversary!



Special thanks to Johan Ceuppens

Acknowledgements

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