



Annual

**Advances and Innovations in Endoscopic Oncology
and Multidisciplinary Gastrointestinal Cancer Care**

Next Gen Endoscopic Resection in Rectal and Esophageal Cancer

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Disclosures

- I do not have any relevant financial relationships with any ineligible companies.

This presentation and/or comments will provide a balanced, non-promotional, and evidence-based approach to all diagnostic, therapeutic and/or research related content.

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- **2** **Endoscopic Resection in Local Advanced Esophageal Cancer**
- **3** **Experience in our center**

Advanced Rectal Cancer

Current Management for Rectal Cancer

Gold Standard

- Total Mesorectal Excision (TME)

Drawback

- Anal Dysfunction
- Permanent Ostomy

Patient Demands

- Good Long-term Prognosis
- Preserve Organ Function

Non-preservation of Anal Function = Permanent Ostomy

23% of patients underwent Miles surgery, resulting in a permanent ostomy

Preservation of Anal Function $\neq$ Functioning Well

Patients who undergo **low anterior resection** may experience long-term and severe Low Anterior Resection Syndrome (LARS), **affecting 20.5% to 47.6% of individuals.**

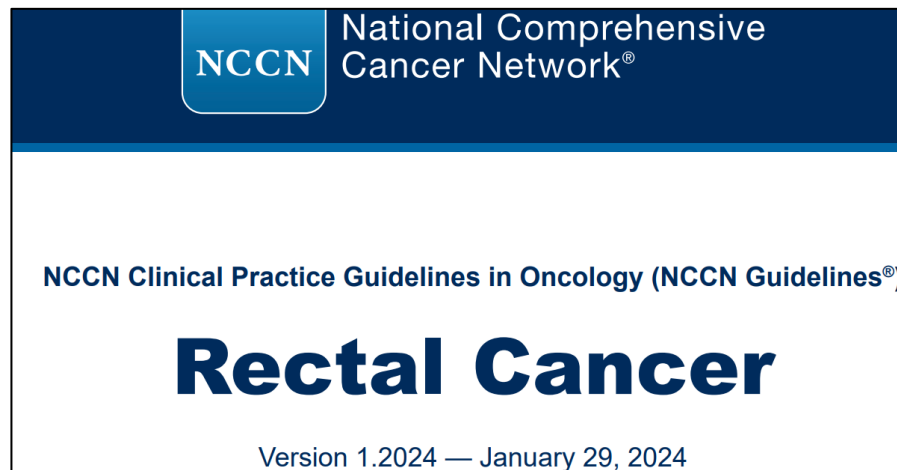
70.6% in those who undergo ultra-low anterior resection.

Nat Rev Gastroenterol Hepatol. 2024
Support Care Cancer. 2021
JAMA. 2015

Current Management for Rectal Cancer



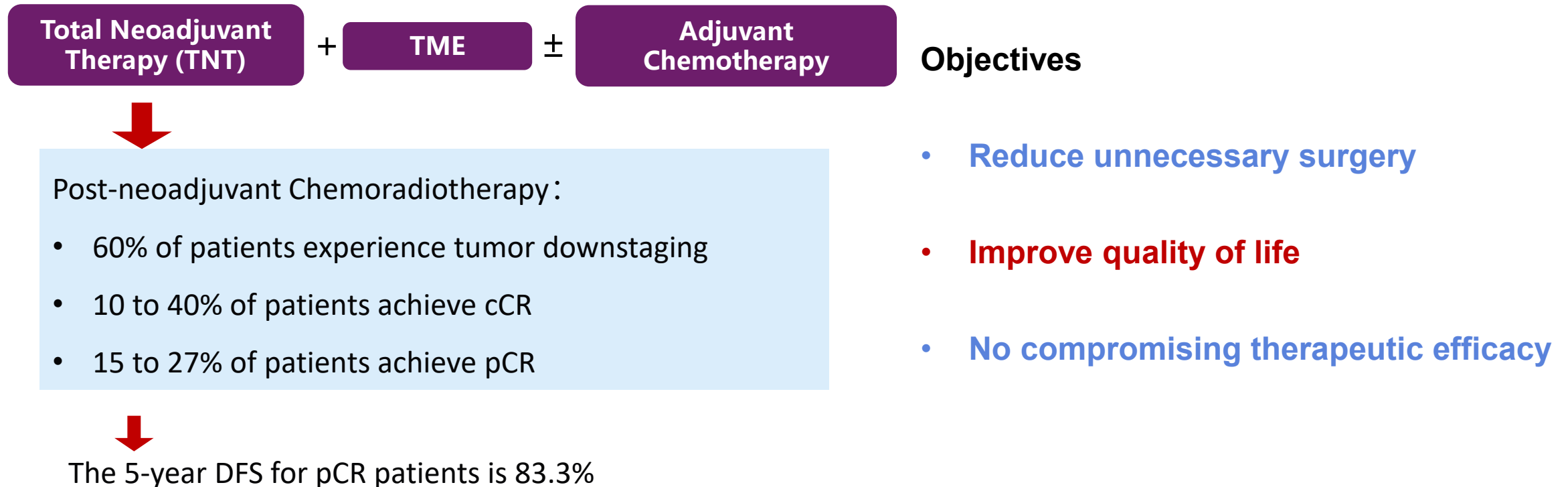
*“For treatment decision-making, **both long-term oncologic outcomes and impact on quality-of-life** indices should be considered”*



*“.....**restoration of organ integrity** should be achieved without compromise of oncologic resection and consideration of anticipated patient **functional outcome and quality of life**”*

Current Management for Rectal Cancer

Standard treatment: **Locally Advanced Rectal Cancer(cT3-4 or N+)**



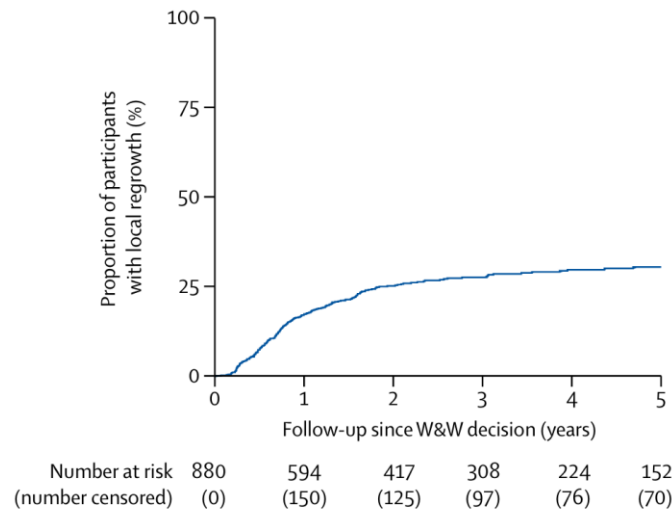
Watch & Wait for Rectal Cancer

Long-term outcomes of clinical complete responders after neoadjuvant treatment for rectal cancer in the International Watch & Wait Database (IWWD): an international multicentre registry study



Maxime J M van der Valk, Denise E Hilling, Esther Bastiaannet, Elma Meershoek-Klein Kranenbarg, Geerard L Beets, Nuno L Figueiredo, Angelita Habr-Gama, Rodrigo O Perez, Andrew G Renehan, Cornelis J H van de Velde, and the IWWD Consortium*

Local Regrowth



2-year local recurrence rate is 25.2%

- 97% are within the intestinal wall.
- 88% are within the first 2 years.

Majority of tumor regrowth occurs within the intestinal wall

Cumulative distant metastasis rate of 8%

- 75% of metastases occur within the first 3 years

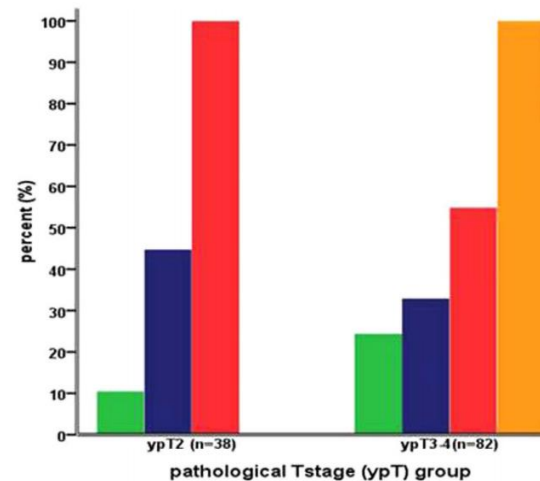
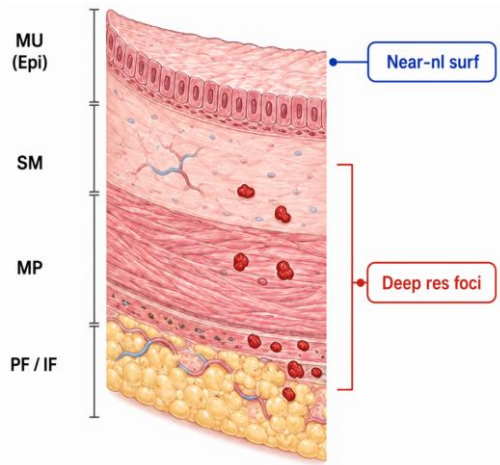
5-year survival rate

- OS 85%
- DFS 94%

Addition of local resection may reduce the risk of recurrence

Lancet. 2018.

Regression Patterns of Rectal Adenocarcinoma

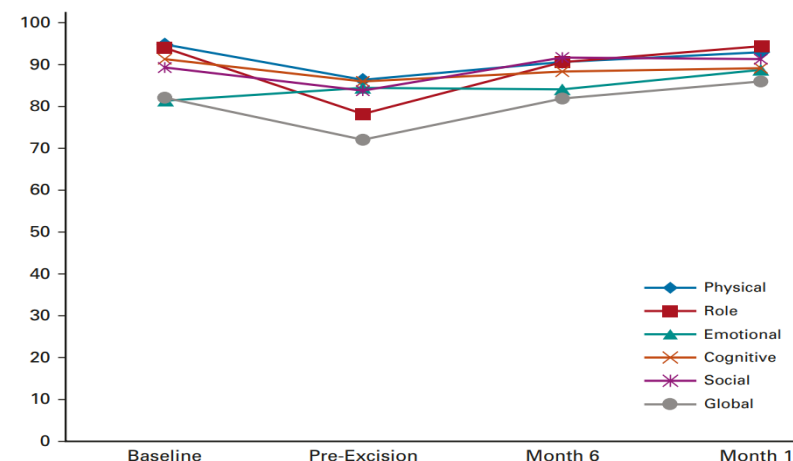
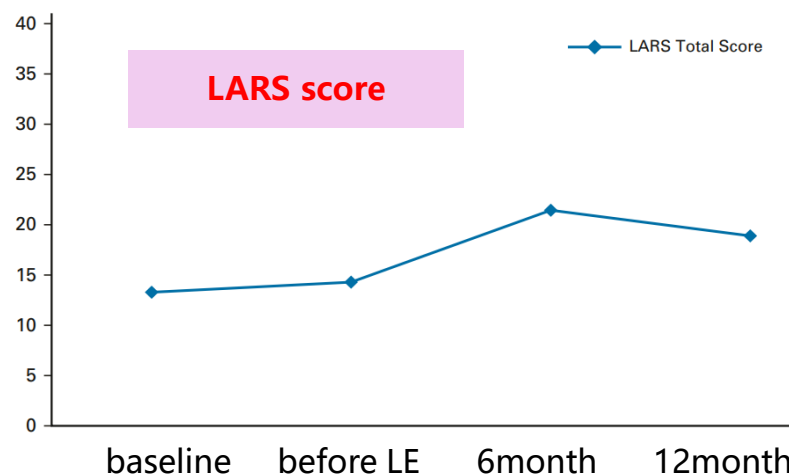


- Residual tumor is more often in SM, MP and IF than on the mucosal surface.
- In ypT2-4: Mucosa 20%; SM 36.7%; MP 69.2%.
- Sensitivity of post-NAT primary-site biopsy for residual tumor: 12.9%

cCR ≠ No Residual Tumor Cells

The organ preservation rate is high with nCRT+TEM

Neoadjuvant Chemotherapy, Excision, and
Observation for Early Rectal Cancer: The Phase II
NEO Trial (CCTG CO.28) Primary End Point Results



- **The overall organ preservation rate is 79%.**
- The 1-year and 2-year local recurrence-free survival rates are 98% and 90%, respectively. *J Clin Oncol. 2023*

Patients with mCR should undergo local resection

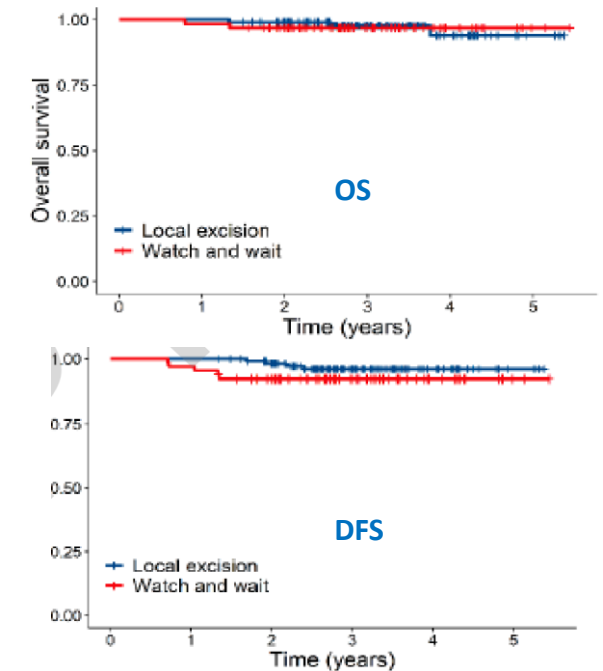
Evaluation After nCRT	Strategy	Outcomes (n)				
		Organ Preservation	TME	Local Recurrence	Pelvic Recurrence	Metastasis
cCR n=107	W&W n=65	53	12	18	2	5
	LE n=42	34	8	/	3	2
mCR n=158	W&W n=1	1	0	0	0	0
	LE n=70	56	14	/	5	2

mCR: (major clinical response)

Results:

- Most patients with cCR have a pCR, making them suitable for a Watch & Wait approach.
- **The local recurrence rate for patients with mCR is approximately 50%,** so the Watch & Wait strategy should be considered cautiously.

Int J Surg. 2024



nCRT + TEM vs. Surgery

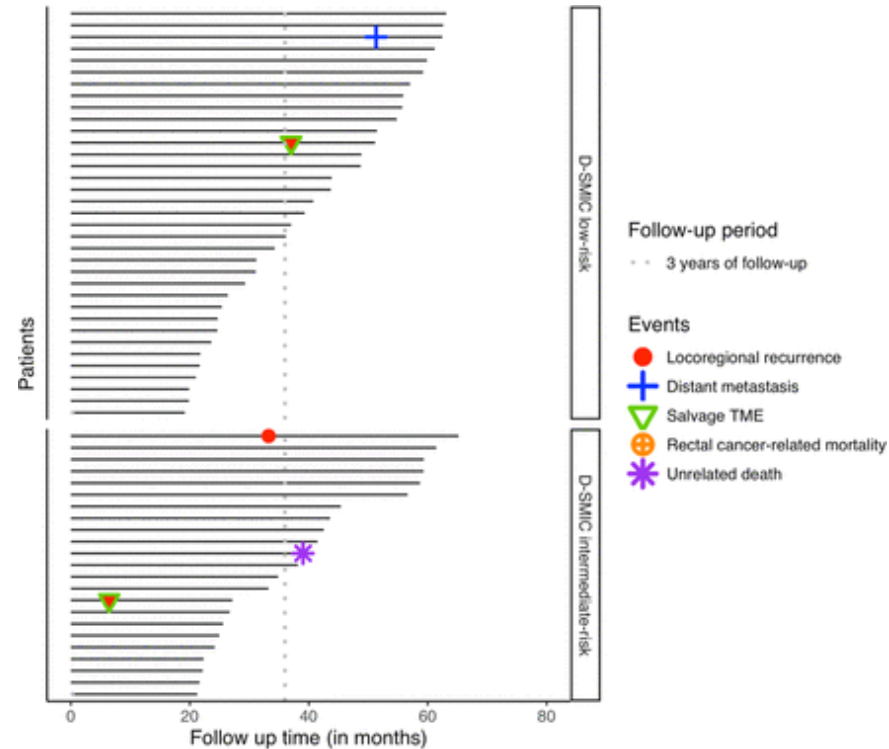
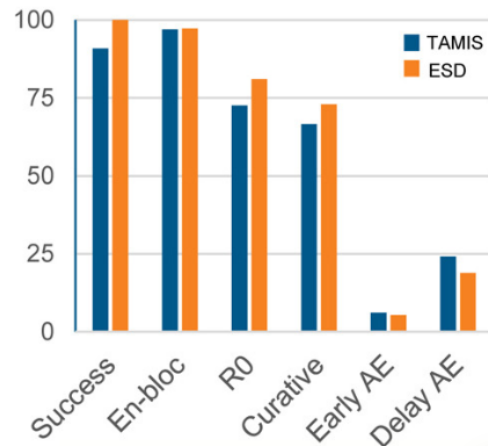
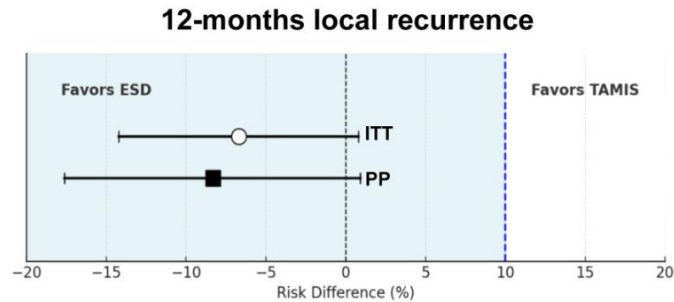
Research	Publication time	stage	Treatment strategy	Sample size	Local recurrence	metastasis	DFS	OS
ReSARCh	2024	II-III	nCRT+TEM	90	(3 year) 8.9%	4.4%	90%	97.6%
TAU-TEM	2023	cT2-3	nCRT+TEM	86		-		
			TME	87				
CCTG CO.28	2023	cT1-3	nCRT+TEM	58	(2 year) 3.4%	0	90%	100%
PKUCH-R01	2022	cT2-3	nCRT+TEM after regrowth	64	(2 year) 18.4%	6.3%	(3 year) 92.2%	/
TREC	2021	cT1-2	nCRT+TEM	27	(3 year) 11%	11%	85%	88%
			TME	28	0	7%	76%	93%
GRECCAR2	2020	cT2-3	cCR/ncCR apply TEM	74	(5 year) 7%	18%	70%	84%
			cCR/ncCR apply TME	71	7%	19%	72%	82%
CARTS	2019	cT1-3	cCR/ncCR apply TEM	55	(5 year) 7.7%	/	81.6%	82.8%
ACOSOG Z6041	2015	cT2	nCRT+TEM	79	(3 year) 4%	/	88.2%	94.8%

The Long-term Efficacy of nCRT + TEM is Comparable to Surgical Intervention

Int J Surg. 2024;Ann Oncol. 2023;J Clin Oncol. 2023;Ann Surg. 2022

Lancet Gastroenterol Hepatol. 2020;Lancet Gastroenterol Hepatol. 2021;JAMA Surg. 2019; Lancet Oncol. 2015

Salvage ESD vs. TEM



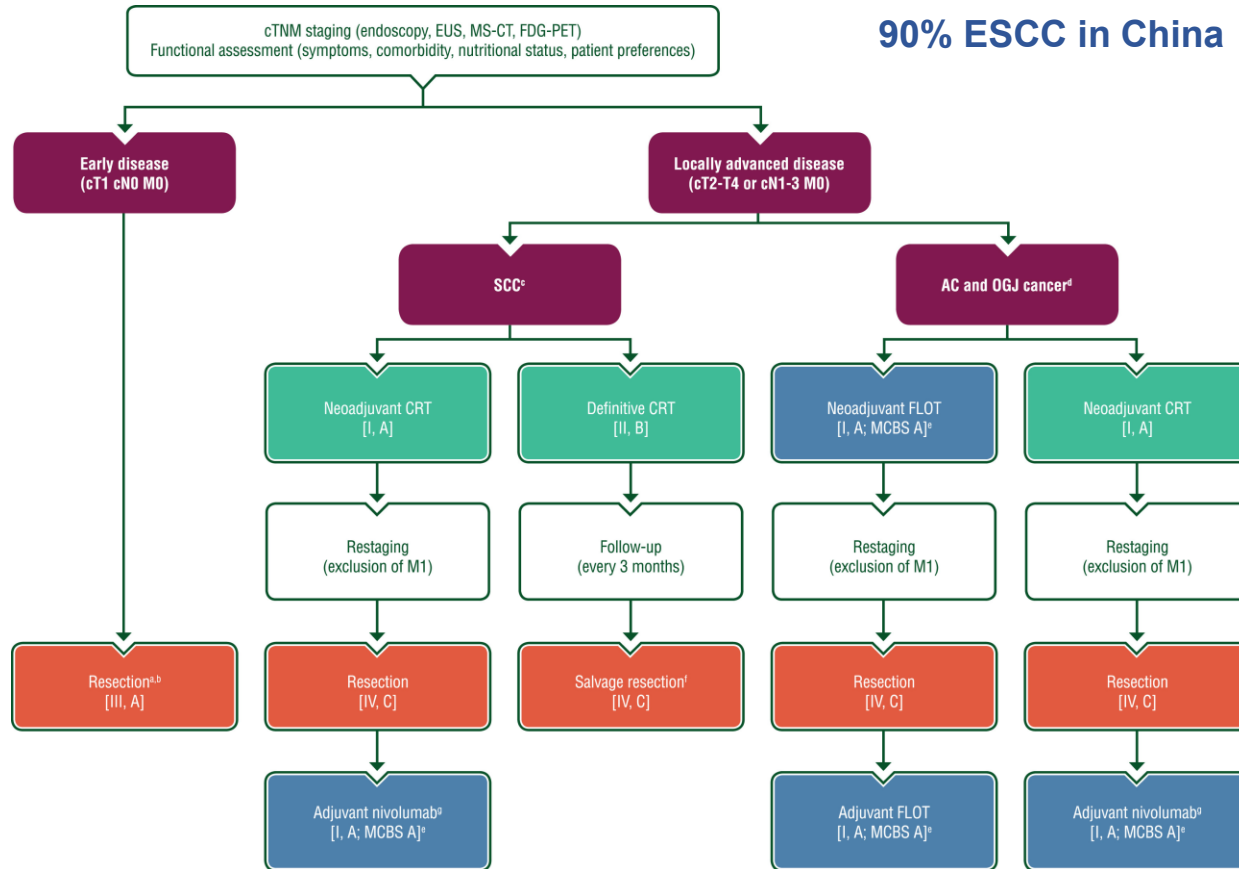
Endoscopic Resection and **TEM** Have Comparable **Postoperative Complication Rates**

TEM Has a **Higher Recurrence Rate** Than Endoscopic Resection

GUT. 2025

Advanced Esophageal Cancer

Treatment Algorithm for Esophageal Cancer

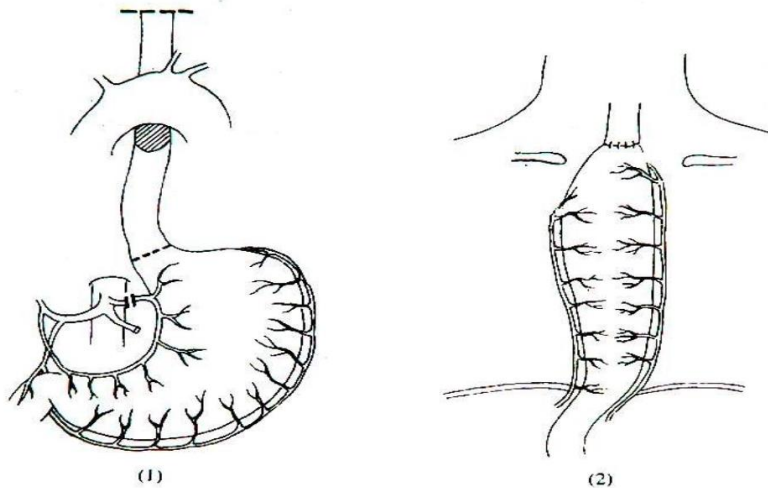


Endoscopic en bloc resection is the treatment of choice for most T1 tumors

*ESMO Clinical Practice Guideline. 2022.
ASGE Guideline. 2023.*

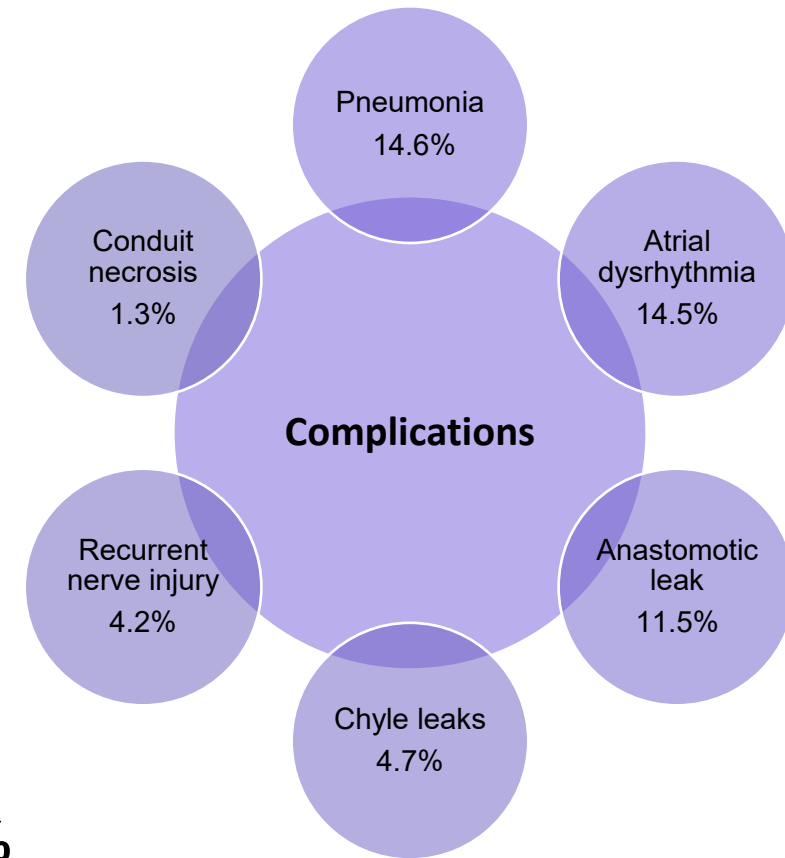
Surgery for locally advanced resectable ESCC

Surgery is the backbone of curative-intent treatment for locally advanced resectable esophageal cancer



Overall incidence of complications was 59%

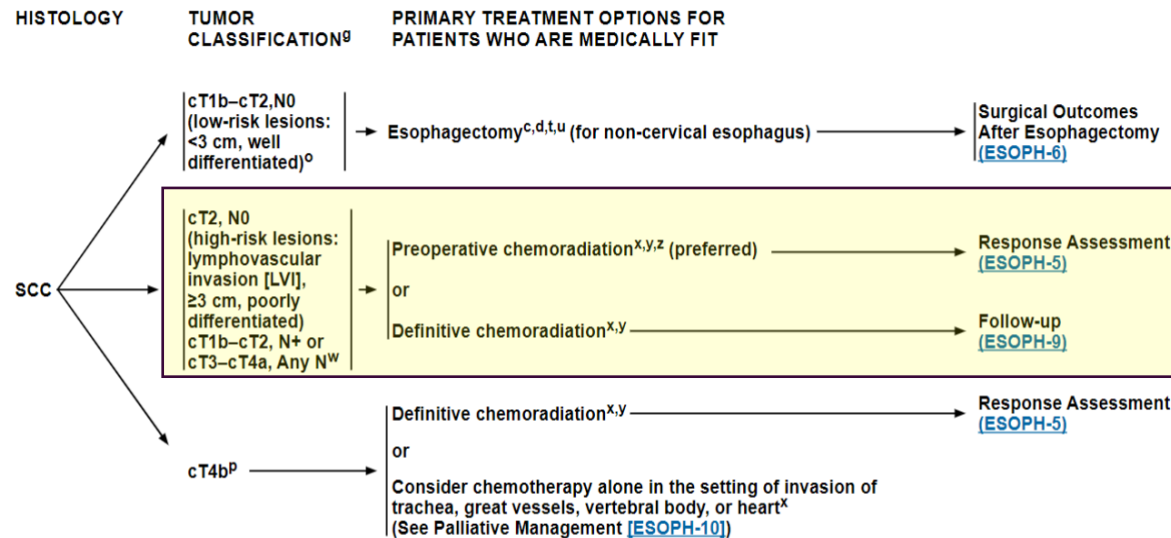
(Clavien-Dindo ≥ 3 31.2%), 90-day mortality 4.5%



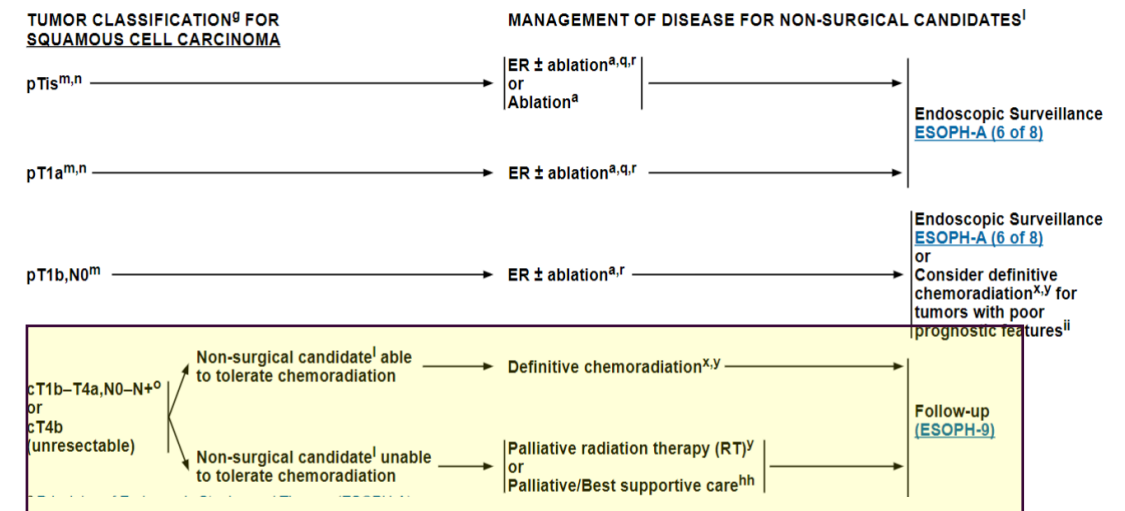
*ESMO Clinical Practice Guideline. 2022.
Ann Surg. 2022.*

Current Guideline

Medical fit for surgery



Non-surgical candidates



Patients who are medically unable to tolerate major surgery or patients who are medically fit who decline surgery.

2025 NCCN Guideline

Pre-operative Treatment for ESCC

Neadjuvant **C**hemotherapy (nCT)

Neadjuvant **C**hemoradiotherapy (nCRT)

R0 Resection Rate

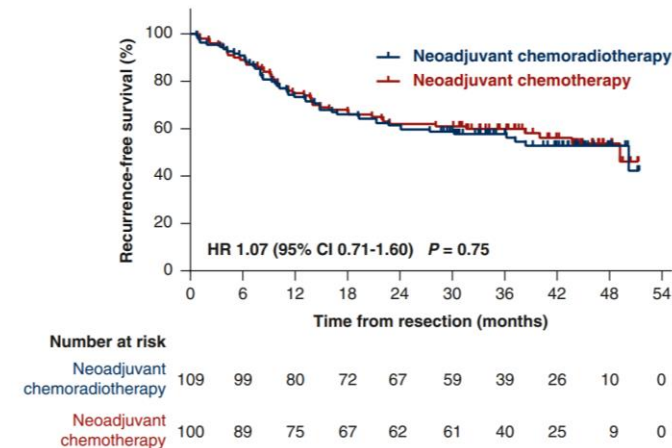
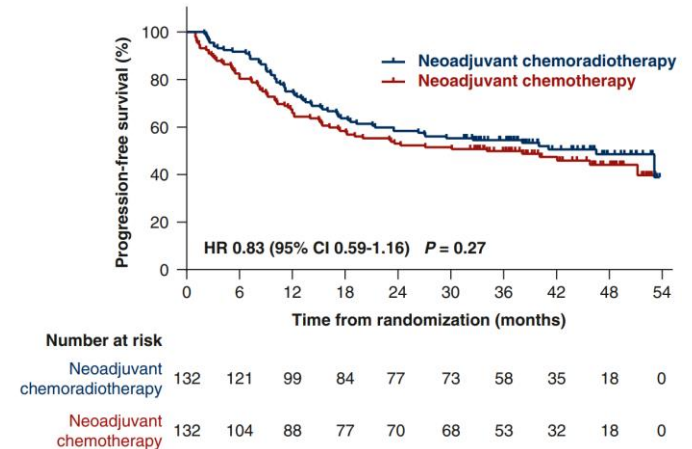
nCT: 96.2%

nCRT: 97.3%

Survival Rate

1-years OS Rate 82.6-87.1%

5-year OS Rate >60%

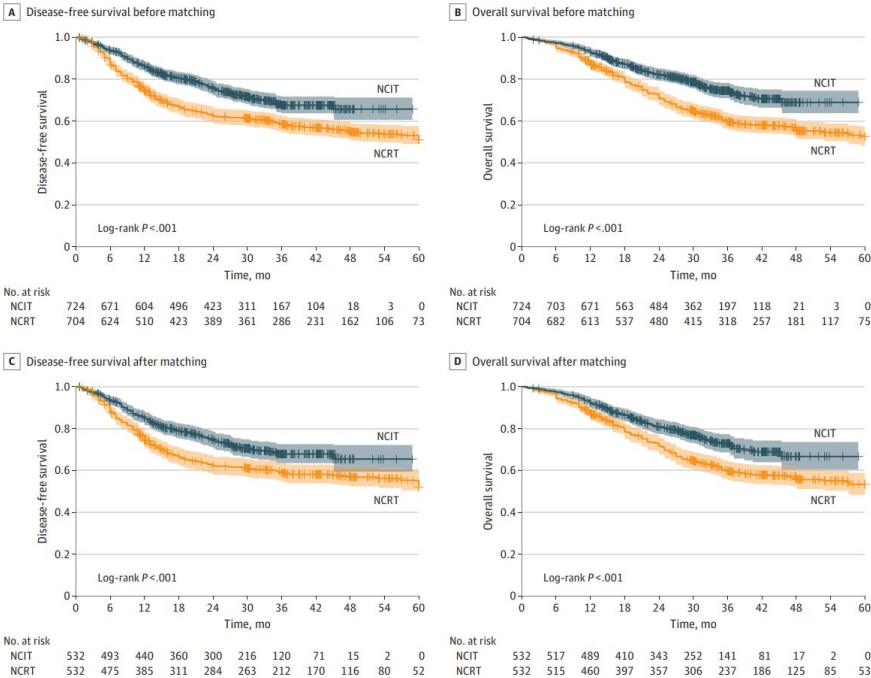


Ann Oncol. 2023.
Ann Surg. 2022.

Addition of Immunotherapy Improve Outcomes

Eight high-volume centers in China

nCIT vs nCRT



- A prospective study enrolled 1,428 patients with cT1-T4a ESCC.
- The pCR rate was 25.9% after nCRT and 22.9% after nCIT

	NCIT	NCRT	HR
OS	81.3%	71.3%	1.57 (1.26-1.96)
DFS	73.9%	61.4%	1.37 (1.11-1.69)

nCIT significantly improves OS and DFS in locally advanced ESCC

JAMA Surgery. 2025

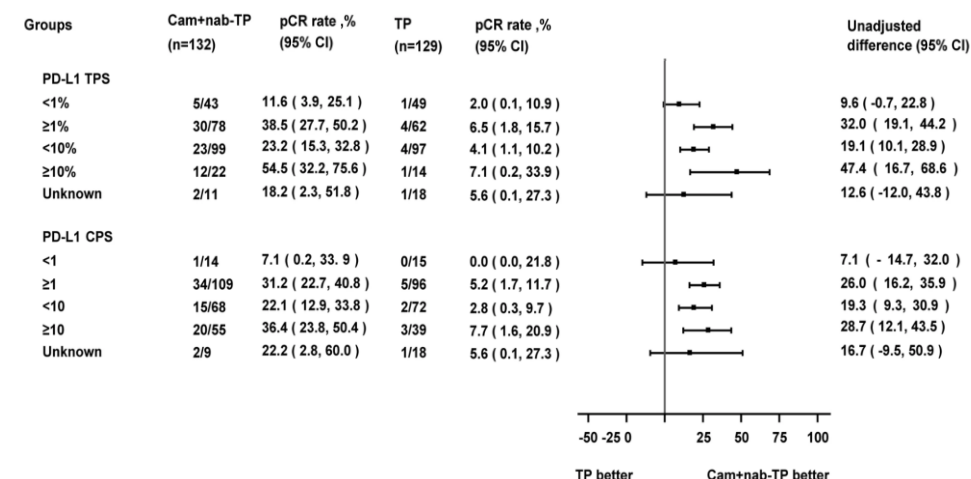
Neoadjuvant Immunotherapy Improves pCR Rates

391 resectable locally ESCC

nCIT vs nCT

Variables	Cam+nab-TP (n=132)	TP (n=129)
pCR		
Rate, % (95%CI) ^a	28.0 (20.6, 36.5)	4.7 (1.7, 9.8)
Difference (vs TP group), % (95%CI) ^b	23.5 (15.1, 32.0)	
OR (vs TP group) (95%CI) ^b	8.11 (3.28, 20.06)	
P value (vs TP group) ^c	<0.0001	
MPR		
Rate, % (95%CI) ^a	59.1 (50.2, 67.6)	20.9 (14.3, 29.0)
Difference (vs TP group), % (95%CI) ^b	38.3 (27.4, 49.3)	
OR (vs. TP group) (95%CI) ^b	5.51 (3.18, 9.56)	

Pre-treatment PD-L1 and pCR



Neoadjuvant chemoimmunotherapy achieves higher pCR rates

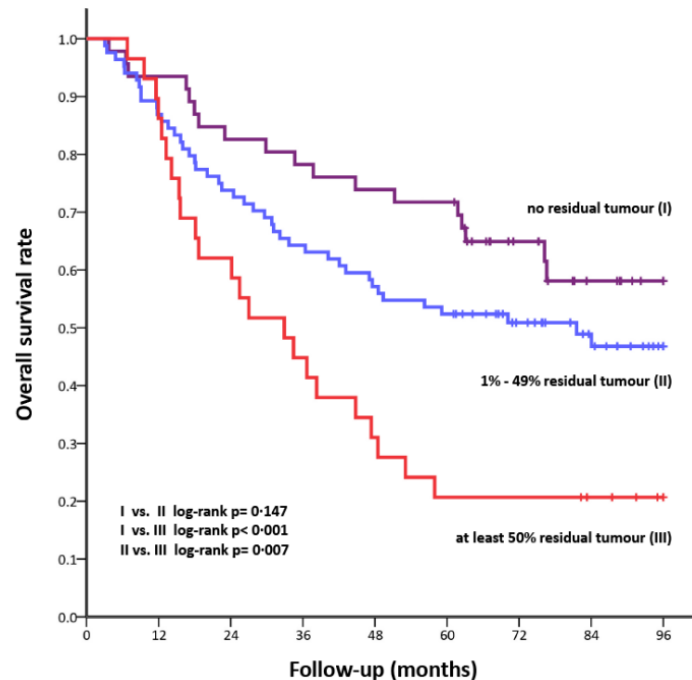
Patients with TPS/CPS ≥10 are more likely to achieve pCR

Nature Medicine. 2025

pCR is Beneficial for Long-term Outcomes

CROSS Trial (Netherlands)

Ten-Year Outcome



- **29%** pathologically complete response
- Long-term outcomes of pCR patients was significantly better than that of non-pCR

	pCR	non-PCR	HR
OS	92.6	69.2	2.70 (1.48-4.92)
DFS	85.0	59.4	2.75 (1.59-4.78)

Organ preservation for cCR patients?

- Standard resection after nCRT?
- or Active surveillance after cCR ?

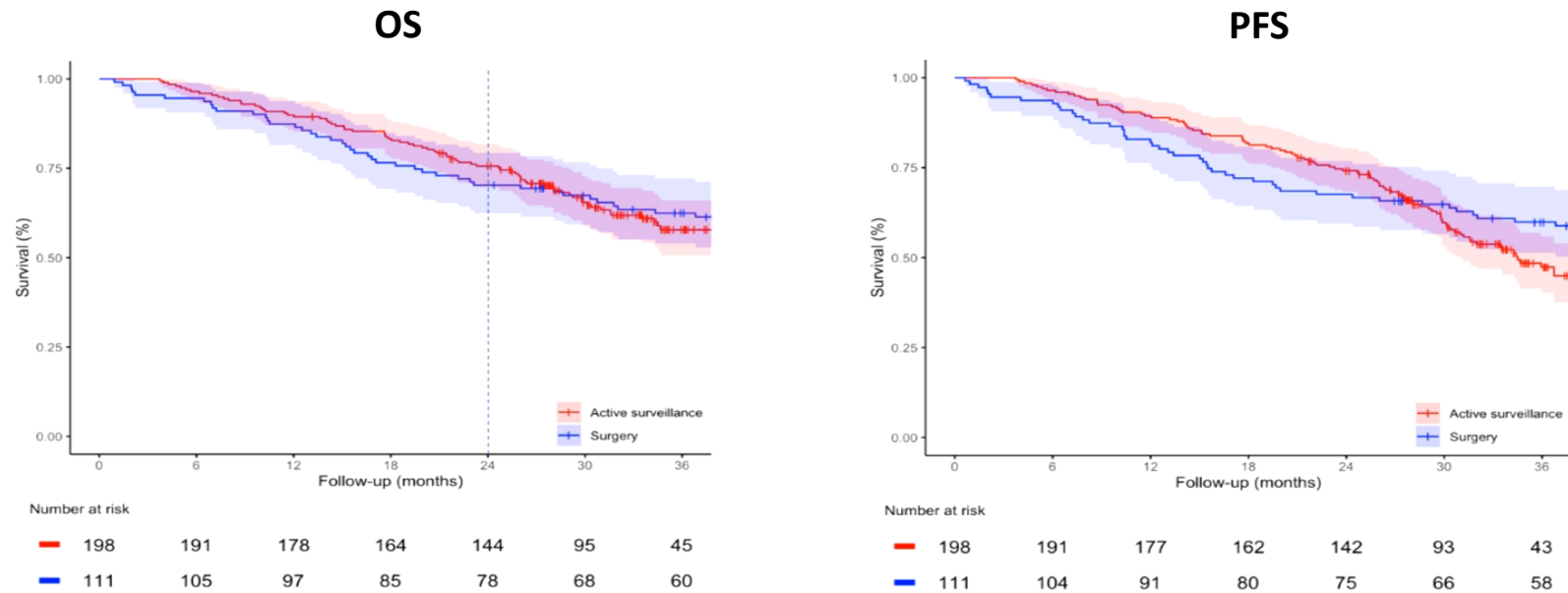


NEJM. 2012.
Lancet Oncol. 2015.
J Clin Oncol. 2021.

AS had Noninferior Short-term Outcomes

Prospective multicentre randomised, non-inferiority phase III clinical study (SANO)

Median follow-up: 38 months (32-48)



The feasibility of AS strategy in patients achieving cCR after neoadjuvant therapy

Lancet Oncology, 2025

Disease Progression During Active Surveillance

SANO Trial

	AS	Surgery	OR
Metastases <30 mo	76/176 (43%)	30/87 (34%)	1.45 (0.85-2.48)

Conclusion

- Surgery for patients with locoregional regrowth could be operated safely
- 35% patients spared unbeneficial surgery

	AS (n=83)	Surgery (n=101)
Any Complication	68 (82%)	85 (84%)
Anastomotic Leakage	18 (22%)	27 (27%)
Pulmonary Infection	20 (24%)	29 (29%)
90-day Mortality	3 (4%)	5 (5%)

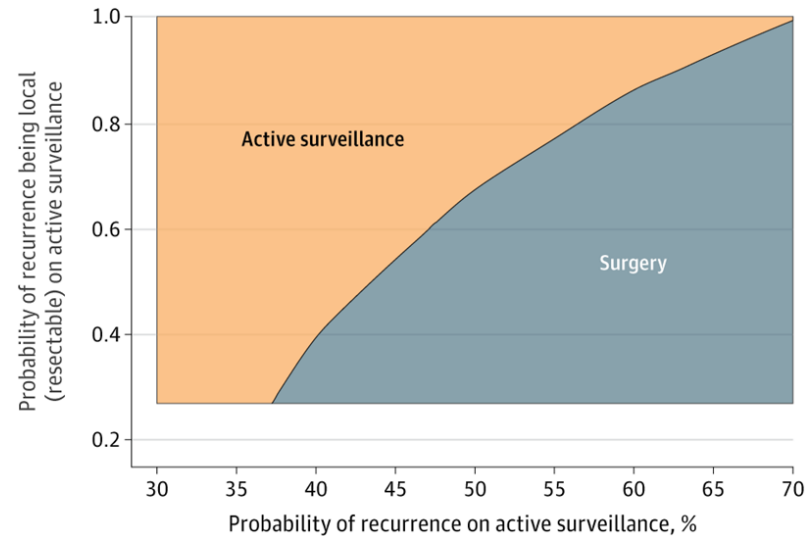
48% (96 patients) developed locoregional regrowth

17% (33 patients) developed distant metastases

Lancet Oncology, 2025

Active surveillance may not remain superior over long term

Decision-analytical model based on SANO data



Model-derived thresholds favoring surveillance

<43%

overall recurrence probability

>94%

probability that recurrence remains local and resectable

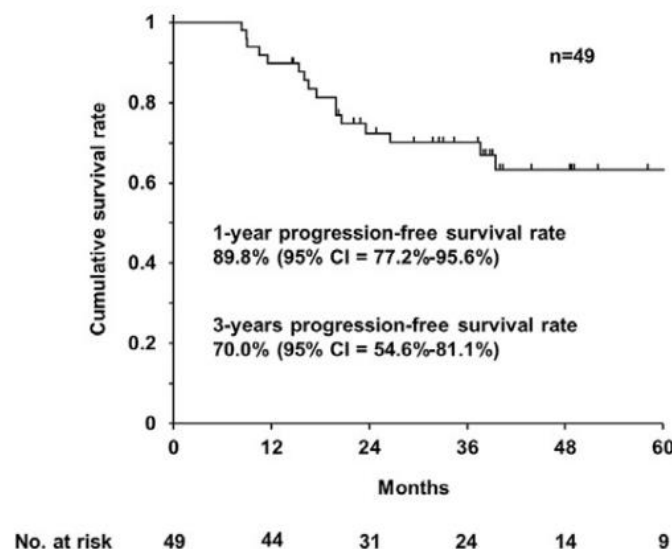
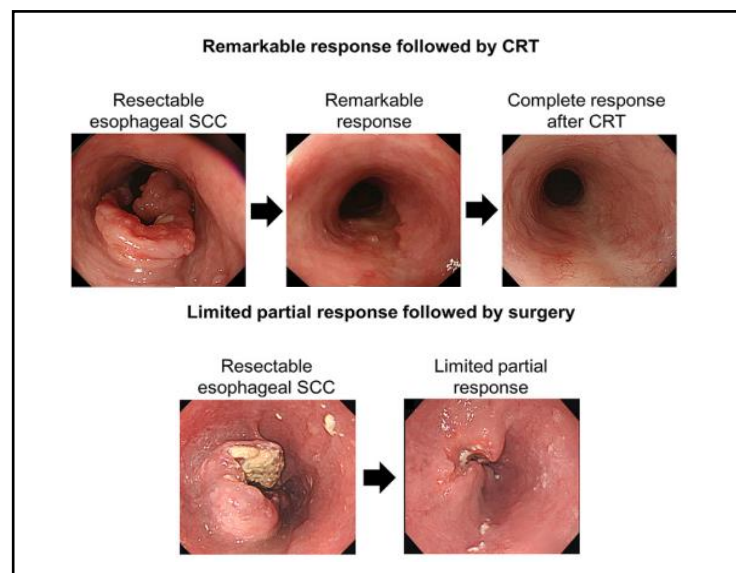
High surgical burden substantial expected loss of quality of life

The benefit of organ preservation depends on recurrence risk, salvageability, and the time horizon—not cCR alone.

Disease Progression in Patients Achieving cCR

Japanese Multicenter Prospective, Multicenter Randomized Phase 2 Trial

Organ Preservation After Downstaging for Locally Resectable ESCC (IB-III Stage)



cCR patients during the 36-month follow-up period

30% (16 cases) showed local progression or distant metastasis

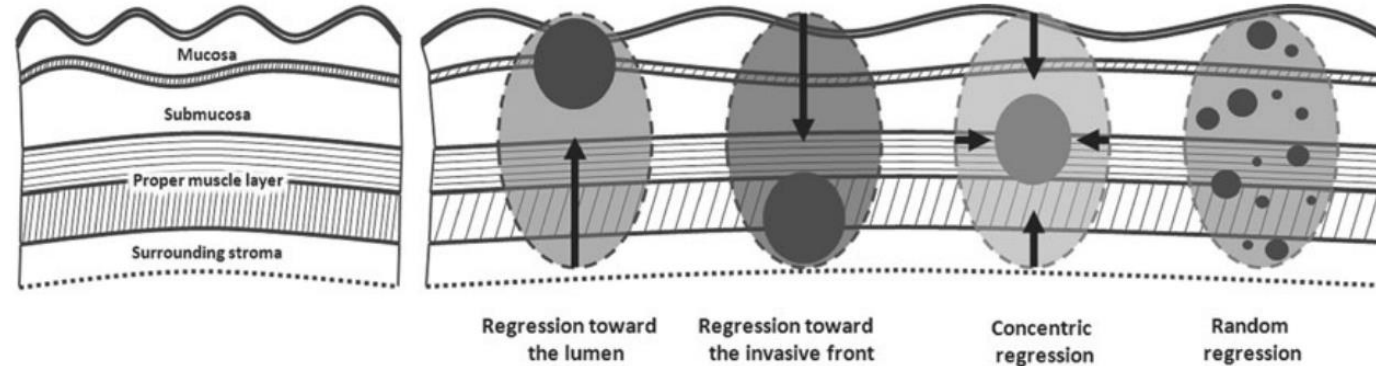
How to preserve organs in patients achieving cCR?

Int J Radiat Oncol Biol Phys. 2024

Tumor Regression Patterns for ESCC

102 esophageal cancer patients after neoadjuvant therapy :

- 71 (70%) were in pathological partial regression ($\geq$ TRG2), with
- 89% of residual tumor cells located in the mucosal or submucosal layer
- 5 cases had residual tumor cells in the muscularis propria
- 3 cases had residual cells in the single lymph node



Tumor regression patterns after neoadjuvant therapy

Ann Surg. 2013

Organ Preservation For Advanced ESCC

MDT Discussion



Neoadjuvant Therapy



Endoscopic Resection

➤ Clinical Staging (cT1b-3 N0 M0)

➤ Lesion Biopsy

➤ Assessment of tumor regression

➤ Lesion Biopsy

➤ Post-operative follow-up

➤ Maintenance treatment



Improve Local Tumor Control



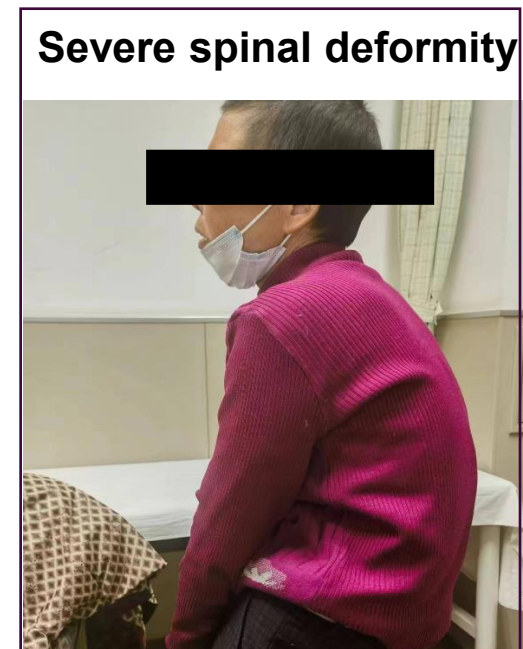
Reduction of Organ Destruction

Improved Quality of Life



ER as an important supplement to surgery

For patients who are unable (or refuse) to undergo surgical treatment



High surgical difficulty High risk of postoperative complications

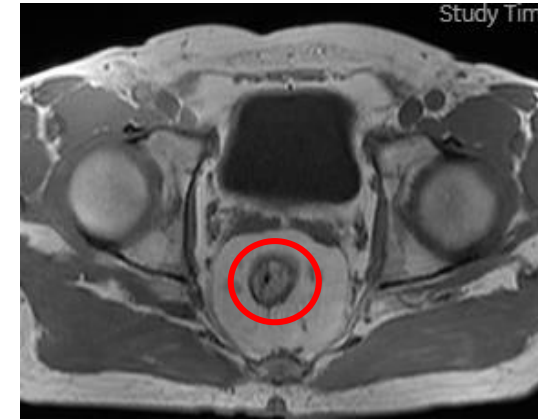
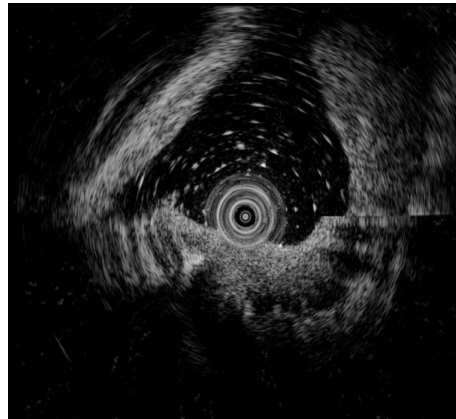
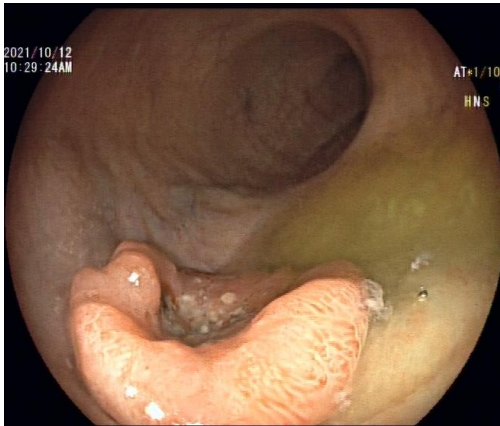
Experience in our center

Advanced Rectal Adenocarcinoma

Case Rectal cancer nCRT+EFTR

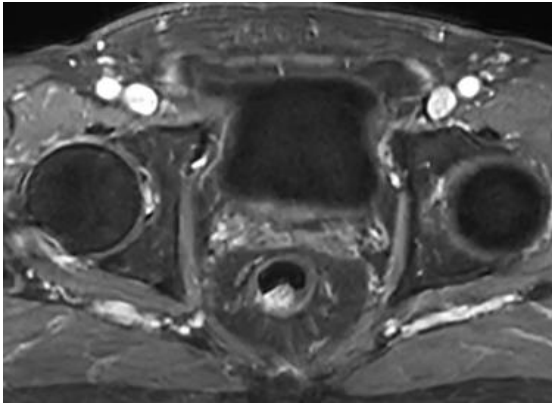
Male, 57 years old

Colonoscopy: A roughly **4.0 cm neoplasm** is observed in the rectum, **3 cm from the anal verge**.

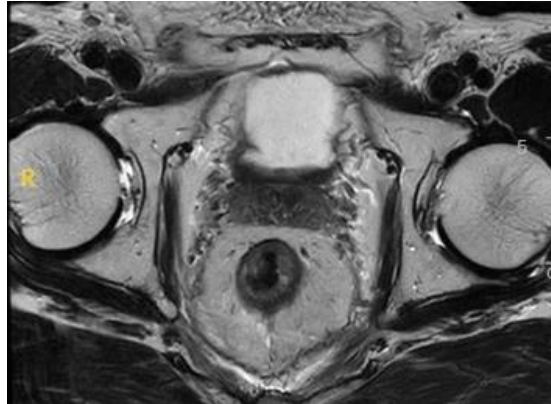


Case Rectal cancer nCRT+EFTR

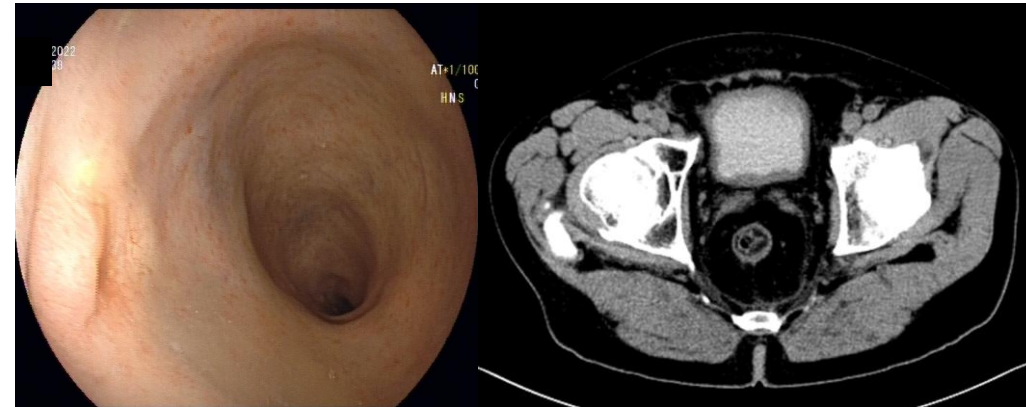
3 months after nCRT



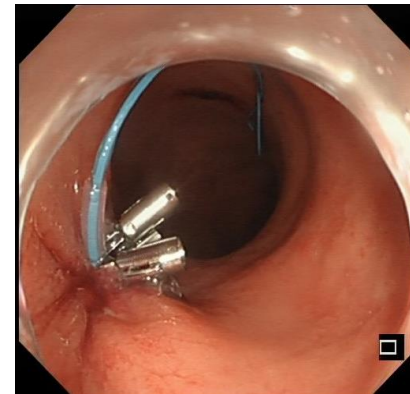
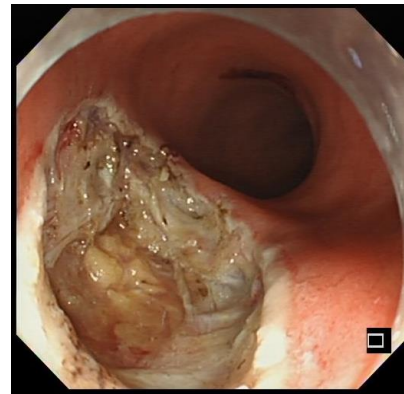
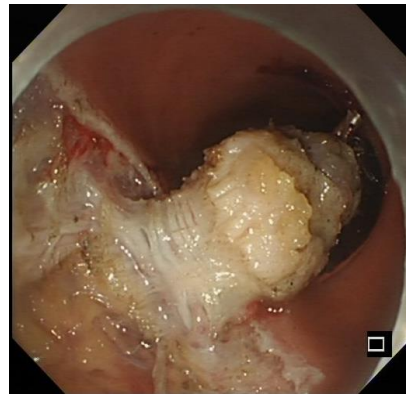
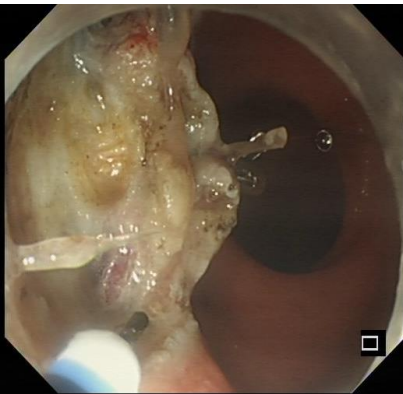
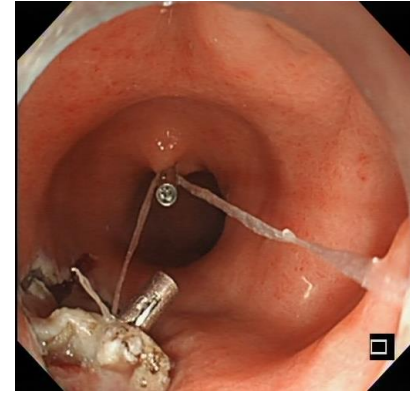
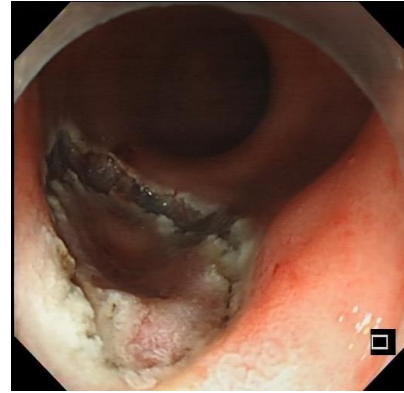
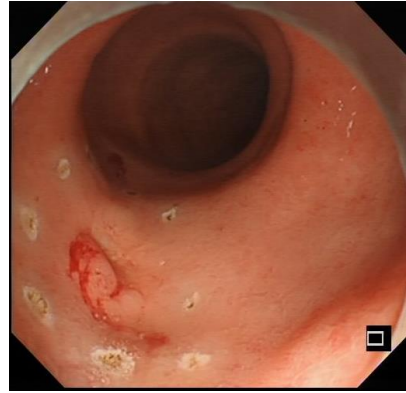
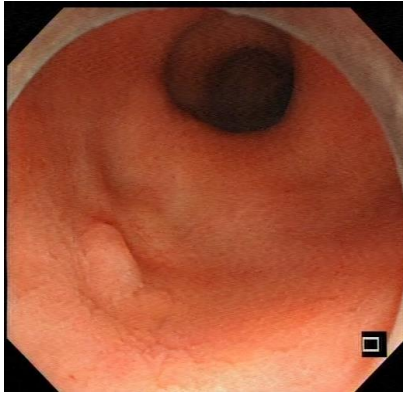
5 months after nCRT



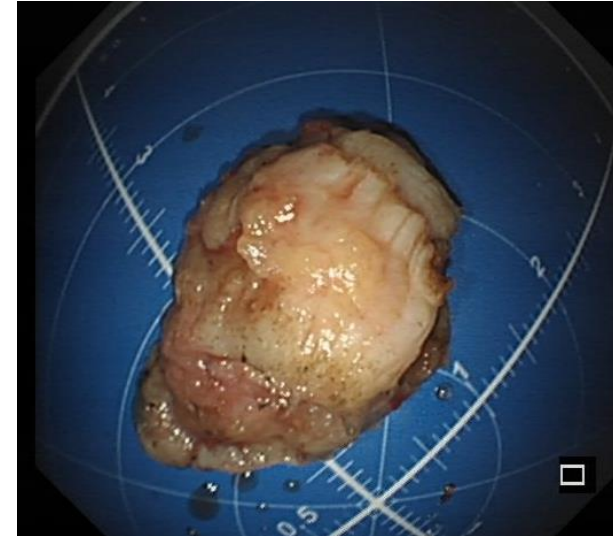
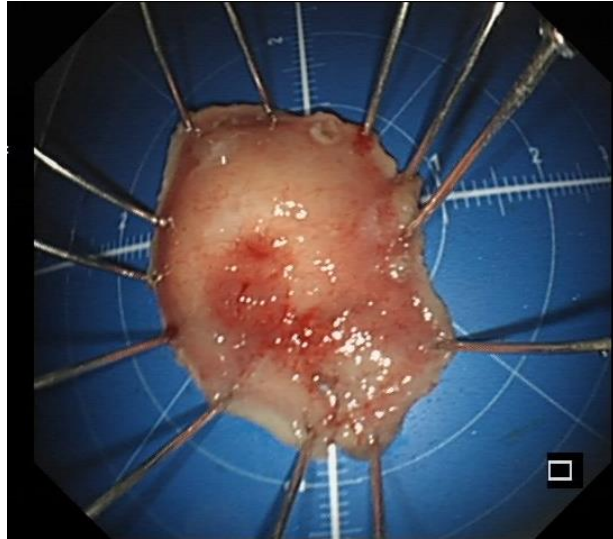
8 months after nCRT



Case EFTR procedure following nCRT



Case Pathological Evaluation



Pathology: (Rectum) **Adenocarcinoma**, with differentiation between Grade II and Grade III, measuring approximately 1.2 x 0.7 cm, infiltrating into the **submucosal layer (SM2, depth >1000um)** (ypT1).

Case Follow up

1 year after EFTR:



Experience in our center

Refining watch-and-wait in low rectal cancer after neoadjuvant chemoradiotherapy: pilot study of endoscopic full-thickness resection

Zhipeng Qi,¹ Mingyan Cai ¹, Ayimukedisi Yalikong,¹ Haixing Wang,² Xian Zhang,³ De-xiang Zhu,⁴ Yunshi Zhong ¹

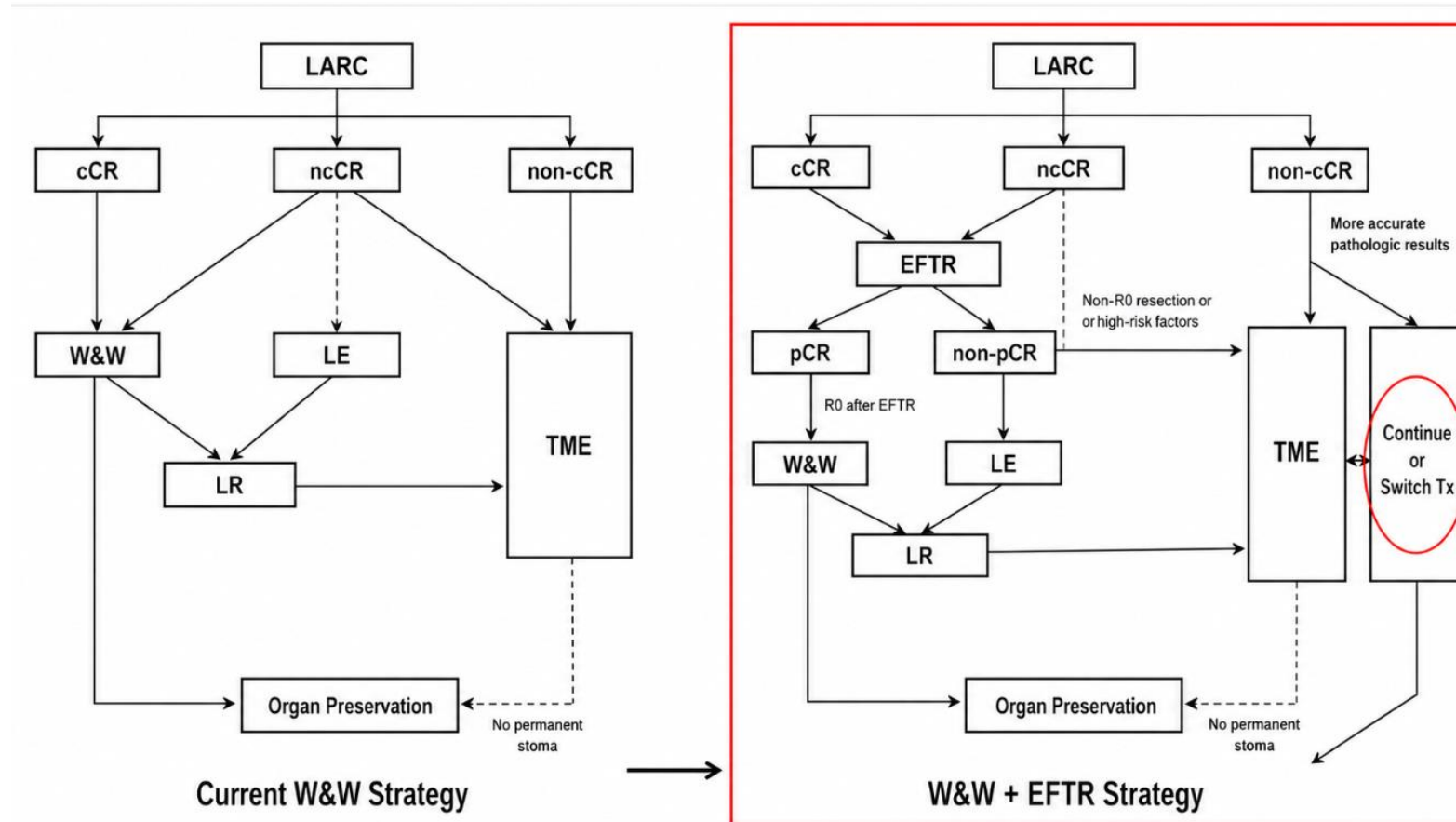
Table 1 Demographic characteristics (n=28)	
Variable	Value, n (%)
Gender	
Male	18 (64.29)
Female	10 (35.71)
Age, median (IQR), years	65 (58–70.25)
Minimum	41
Maximum	84
Lesion	
Diameter, median (IQR), cm	4(3–5)
Distance from anal verge, median (IQR), cm	3.25(2–5)
Clinical staging before therapy (all M0)	
cT2 (9 cN0 1 cN1)	10
cT3 N0 (14 MRF+14; 2 EMVI+)	18
EMVI, extramural vascular invasion; MRF, mesorectal fascia.	

Table 2 Treatment, histopathology and postoperative details (n=28) of patients undergoing EFTR

Variable	All (n=28)	cCR (n=6)	ncCR (n=22)
Interval between radiotherapy and EFTR, median (IQR), weeks	12 (8–14.5)	13.5 (12.25–15.5)	11.5 (8–13.75)
Pathological T staging			
ypT0*	17 (60.71%)	6	11
ypT1	5 (17.86%)	0	5
ypT2	6 (21.43%)	0	6
Lesion diameter after treatment, median (IQR), cm	3 (2.5–3.5)	2.75 (1.75–3.625)	3.25 (2.5–4)
En bloc and R0 resection	28	6	22
Salvage surgery	1 (3.57%)	0	1
Postresection adjuvant chemotherapy	5	0	5
LARS score			
0–20 (no LARS)	27 (96.43%)	6	20
30–40 (major LARS)	1 (3.57%)	0	1
Adverse event			
Postoperative bleeding	2 (7.14%)	0	2
Urogenital injury	0	0	0
Follow-up time, median (IQR), months	25 (18–28)	25 (18–26)	25 (11–27)
Local regrowth or distant metastasis reported	0	0	0

GUT. 2026

Potential algorithm for role of EFTR in Rectal Cancer



GUT. 2026

Experience in our center

Advanced Esophageal Squamous Cell Carcinoma

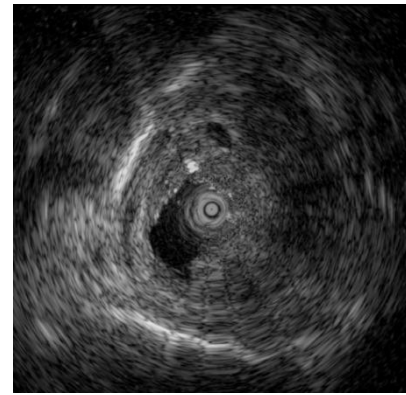
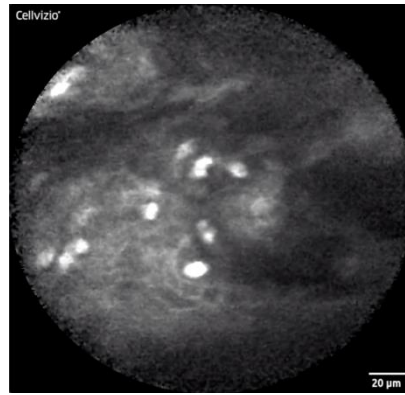
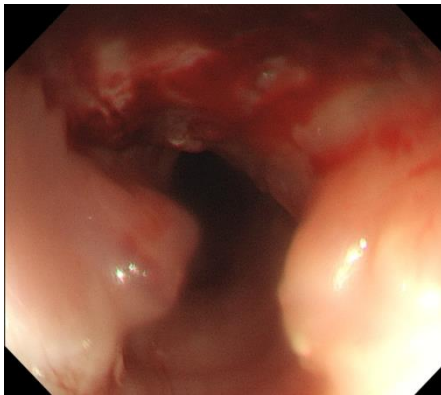
Case 1 : Cervical ESCC Patient

Male, 76 years old

CC: Intermittent choking on food for more than 3 months.

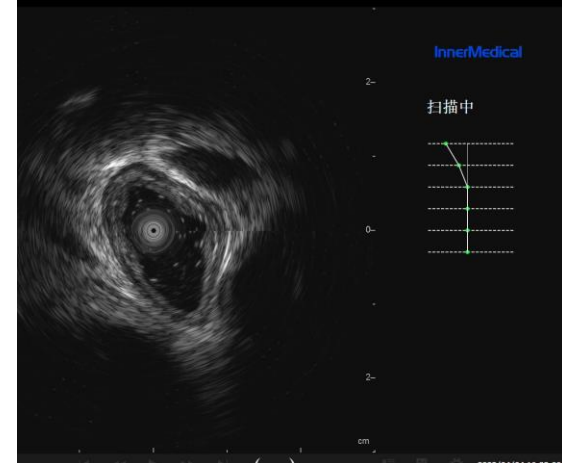
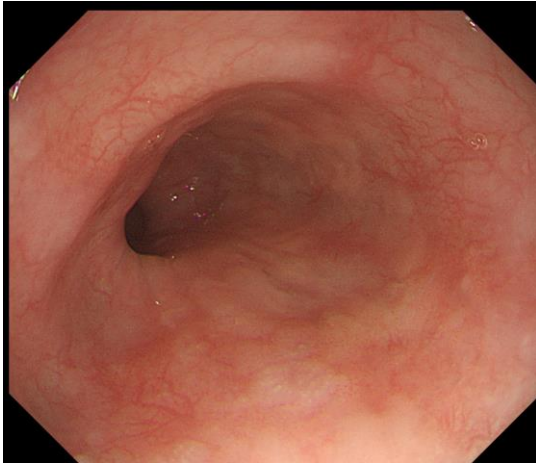
Gastroscopy: Esophageal mass was seen 16-24 cm from the incisors, occupying the lumen of the esophagus for 3/4 weeks.

Pathology: Low differentiated squamous carcinoma.



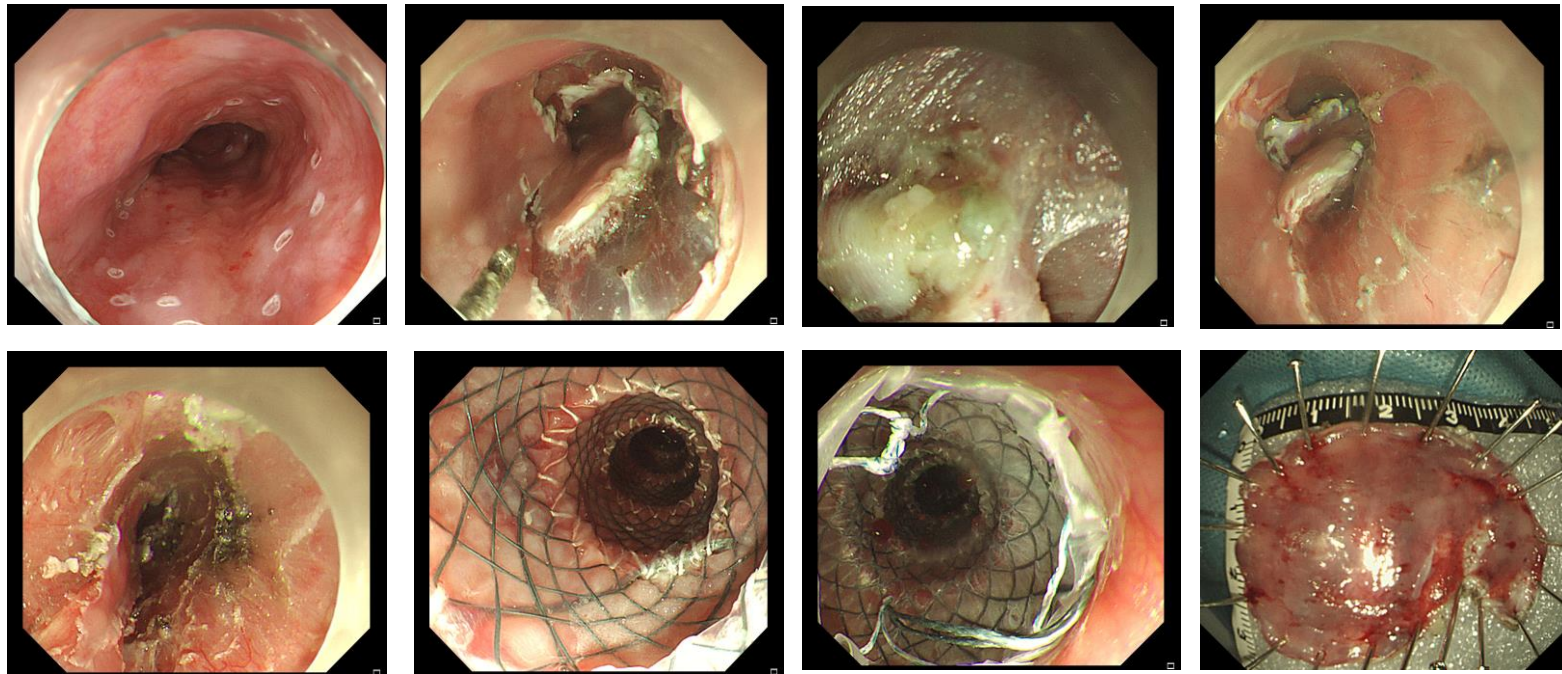
Case 1 : Cervical ESCC Patient

4 months after conversion therapy

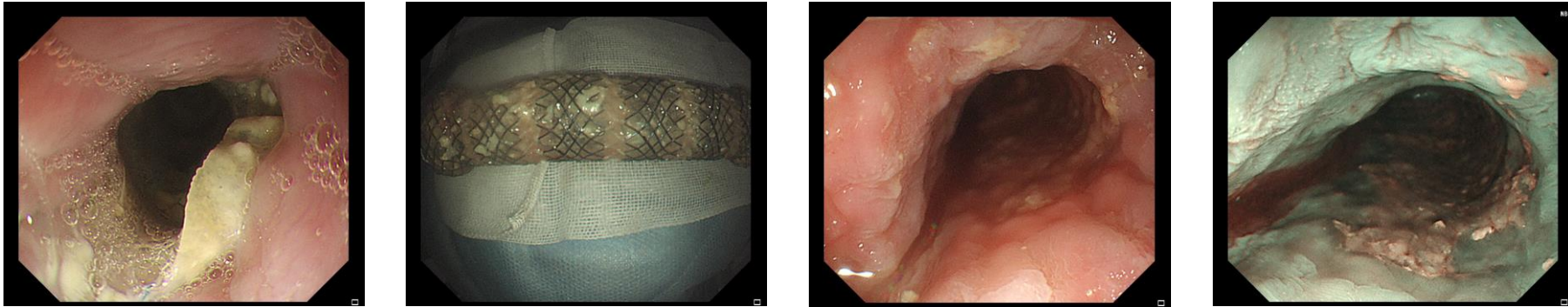


Case 1 : Cervical ESCC Patient

ESD after conversion therapy



Case 1 : Cervical ESCC Patient

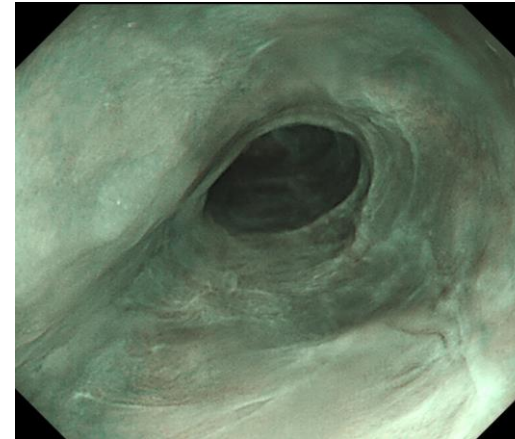
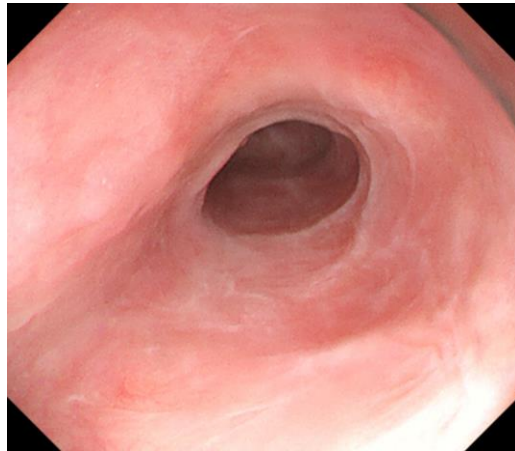


Postoperative Pathology:

Squamous cell high-grade intraepithelial neoplasia with carcinoma, squamous cell carcinoma moderately-highly differentiated, partially microinvasive squamous carcinoma, infiltration of the mucosal lamina propria (M2), horizontal margins and basal margins were negative.

Case 1 : Cervical ESCC Patient

Gastroscope at 12 months postoperatively:



**Postoperative patients were treated with immunotherapy
and followed up regularly for 44 months, with no recurrence**

CASE 2 : ESCC Patient with Comorbidities

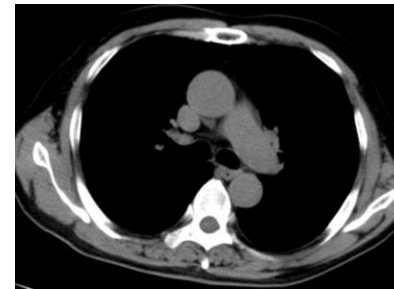
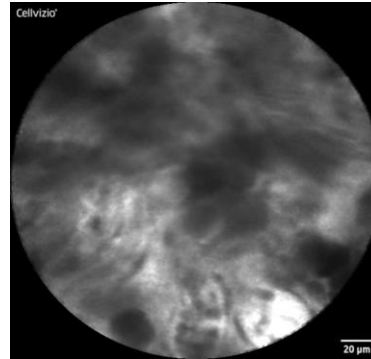
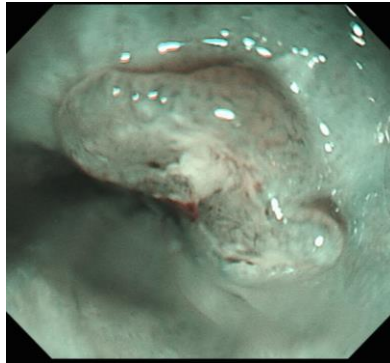
Male, 78 years old

CC: Intermittent dysphagia for 1 month.

Past medical history: COPD, pulmonary hypertension, coronary artery disease, and prior coronary stent placement (**Surgery was risky**)

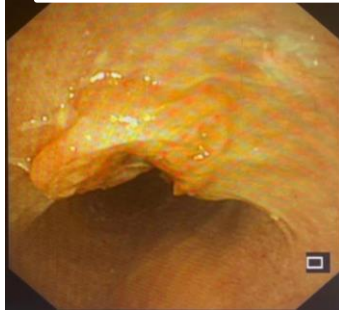
Gastroscopy: Esophageal mass was seen 31-34 cm from the incisors,

Pathology: Well differentiated squamous carcinoma.

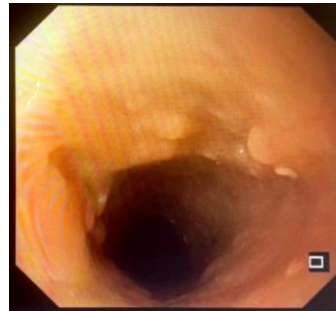


CASE 2 : ESCC Patient with Comorbidities

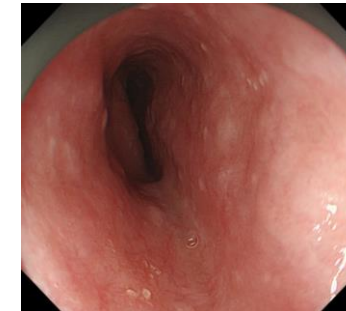
1 month



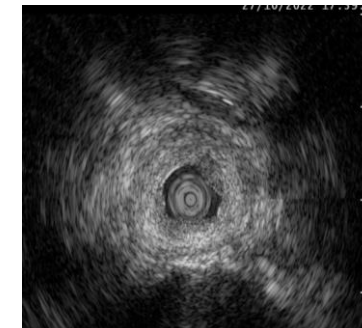
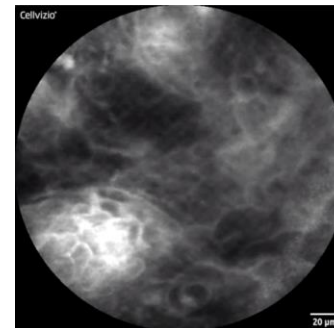
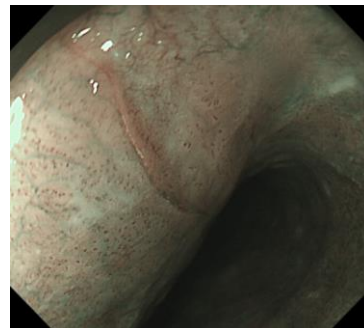
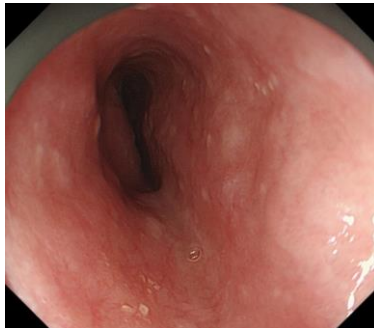
3 months



4 months

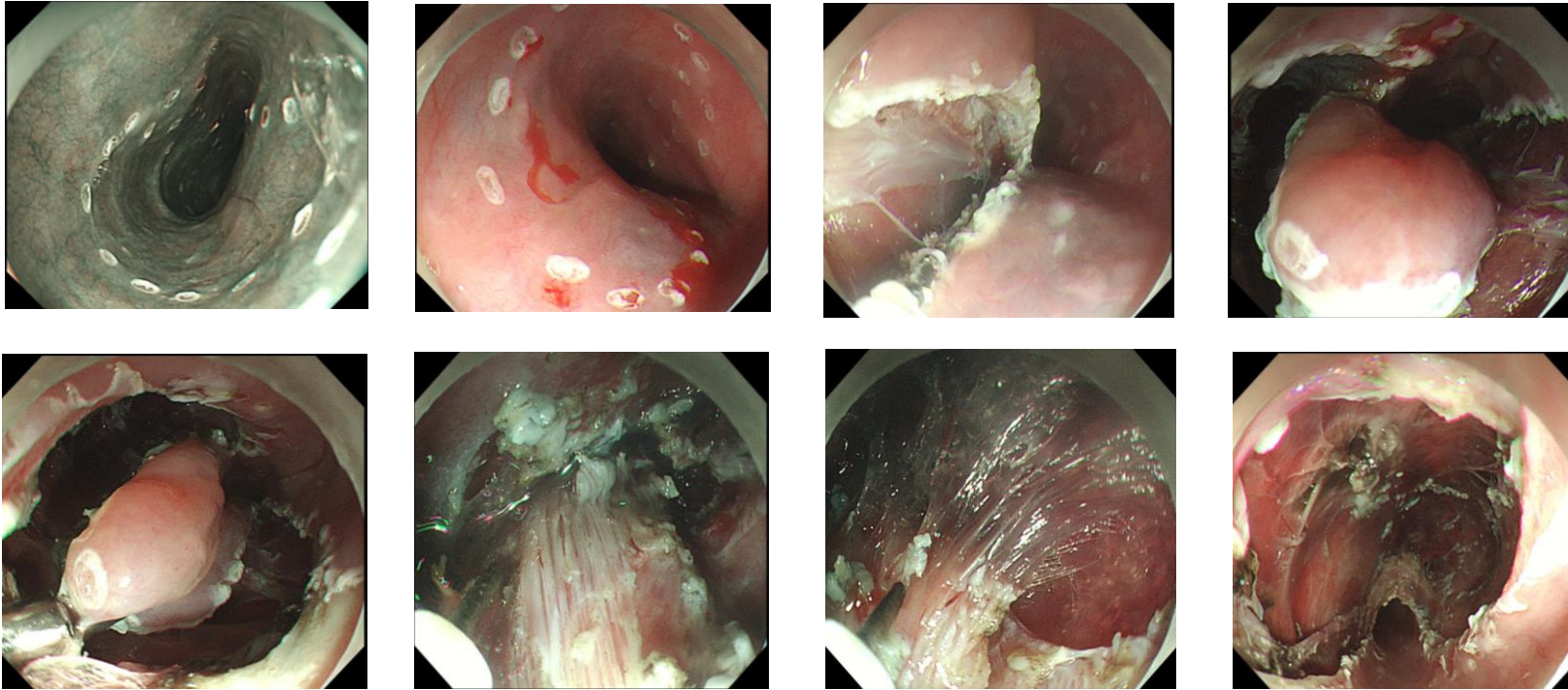


Significant tumor shrinkage



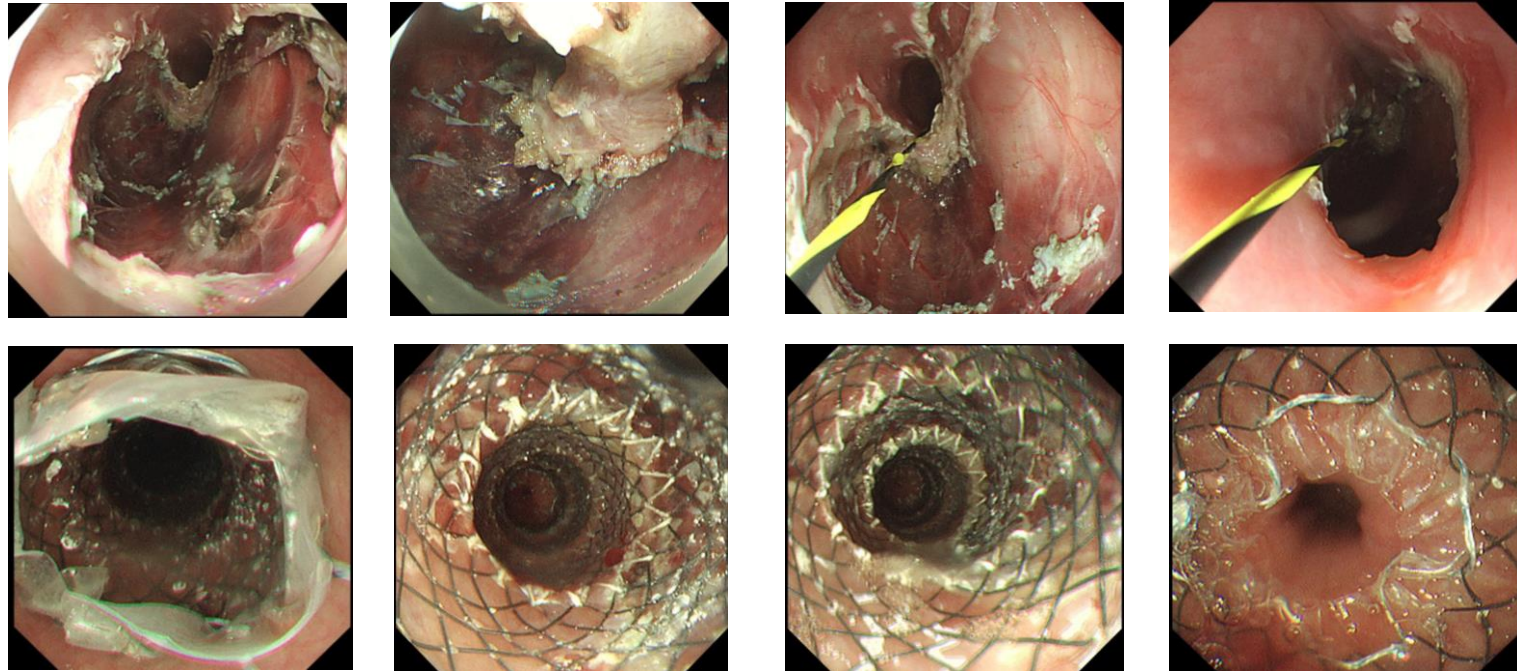
CASE 2 : ESCC Patient with Comorbidities

EFTR after conversion therapy

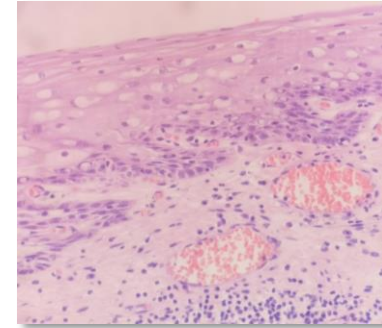
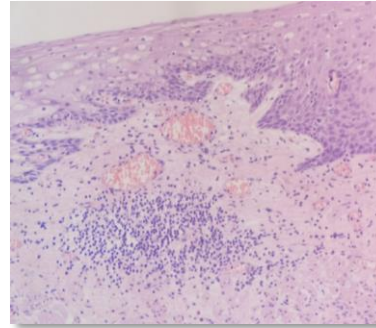
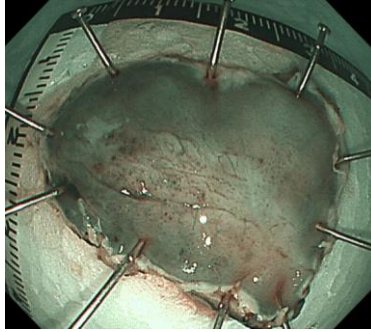
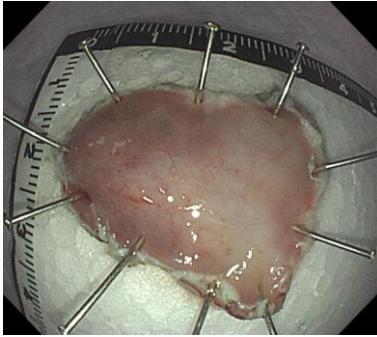


CASE 2 : ESCC Patient with Comorbidities

Stent placement after conversion therapy



CASE 2 : ESCC Patient with Comorbidities

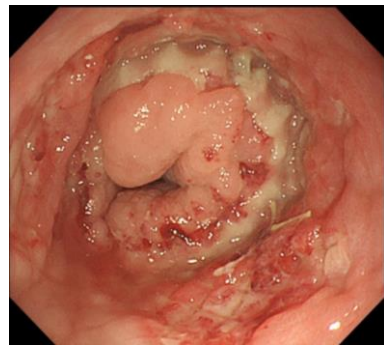
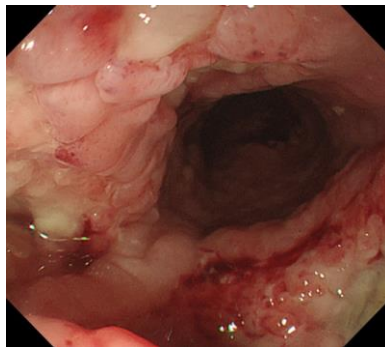
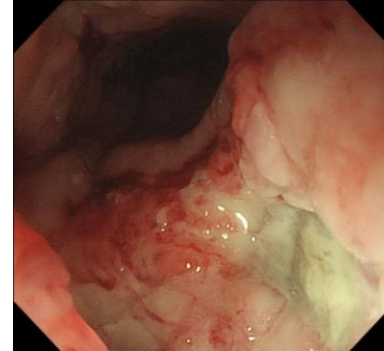
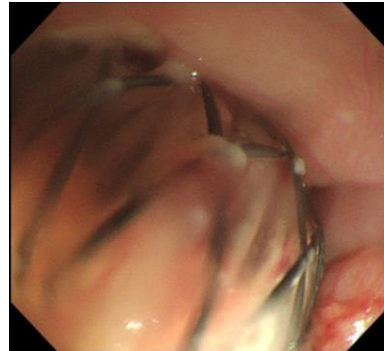
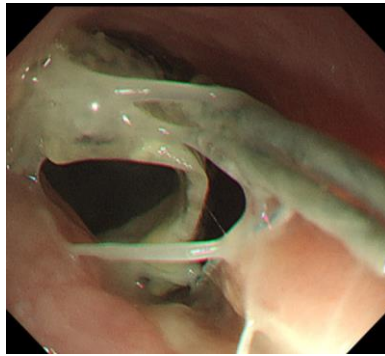


Postoperative Pathology

High-grade squamous intraepithelial. **Tumor regression grade (TRG) 0.**

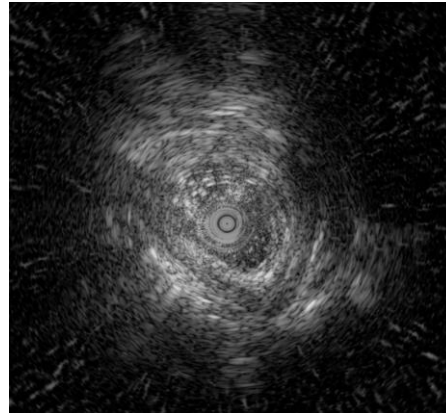
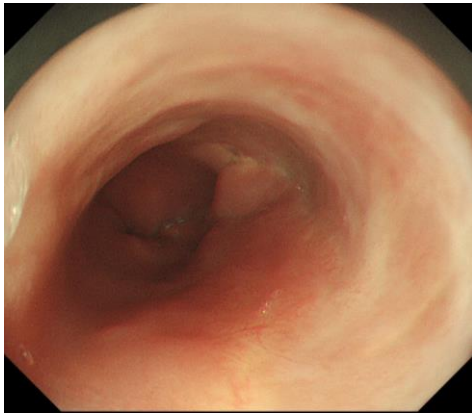
CASE 2 : ESCC Patient with Comorbidities

Esophageal stent removed 3 weeks after EFTR



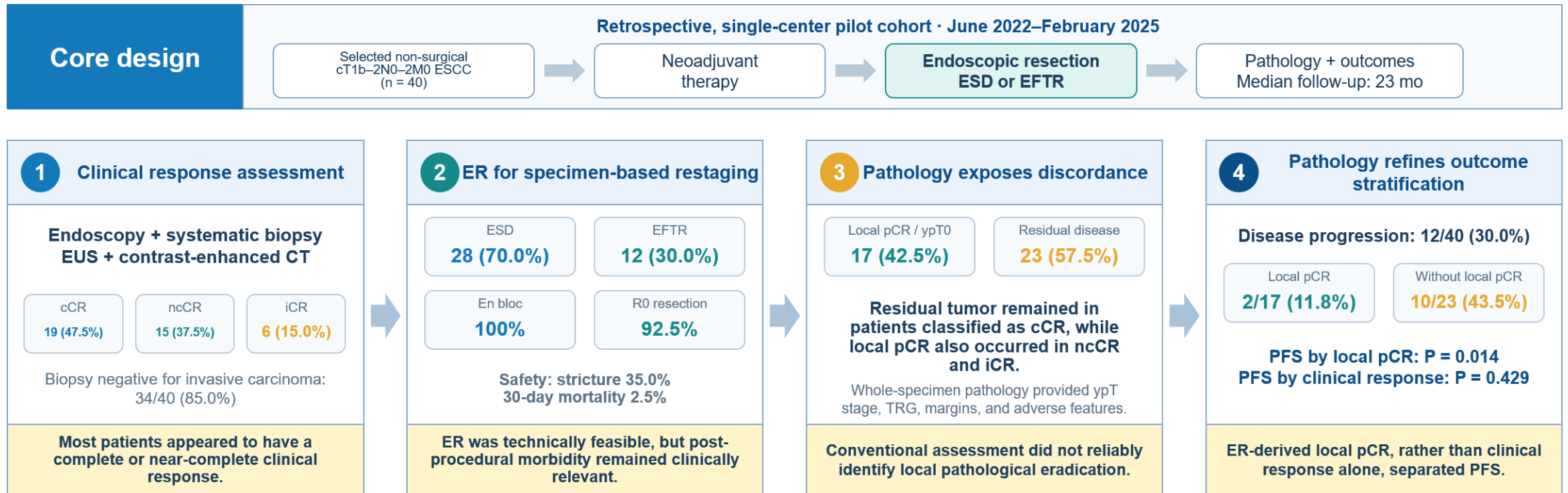
CASE 2 : ESCC Patient with Comorbidities

Gastrosocopy at 12 months postoperatively:



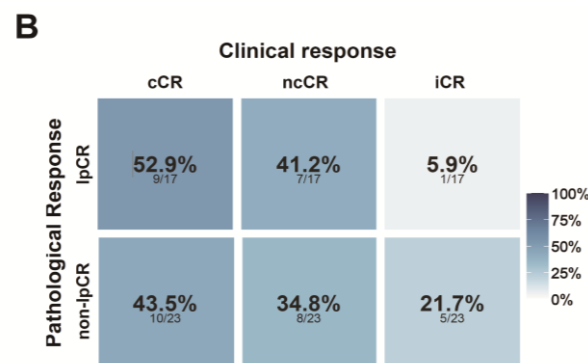
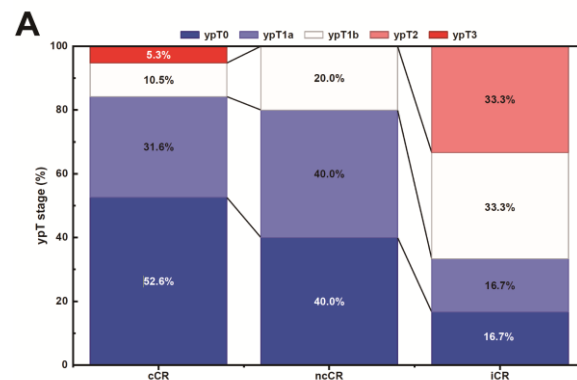
Postoperative patients were treated with immunotherapy and followed up regularly for 43 months, with no recurrence

Experience in our center

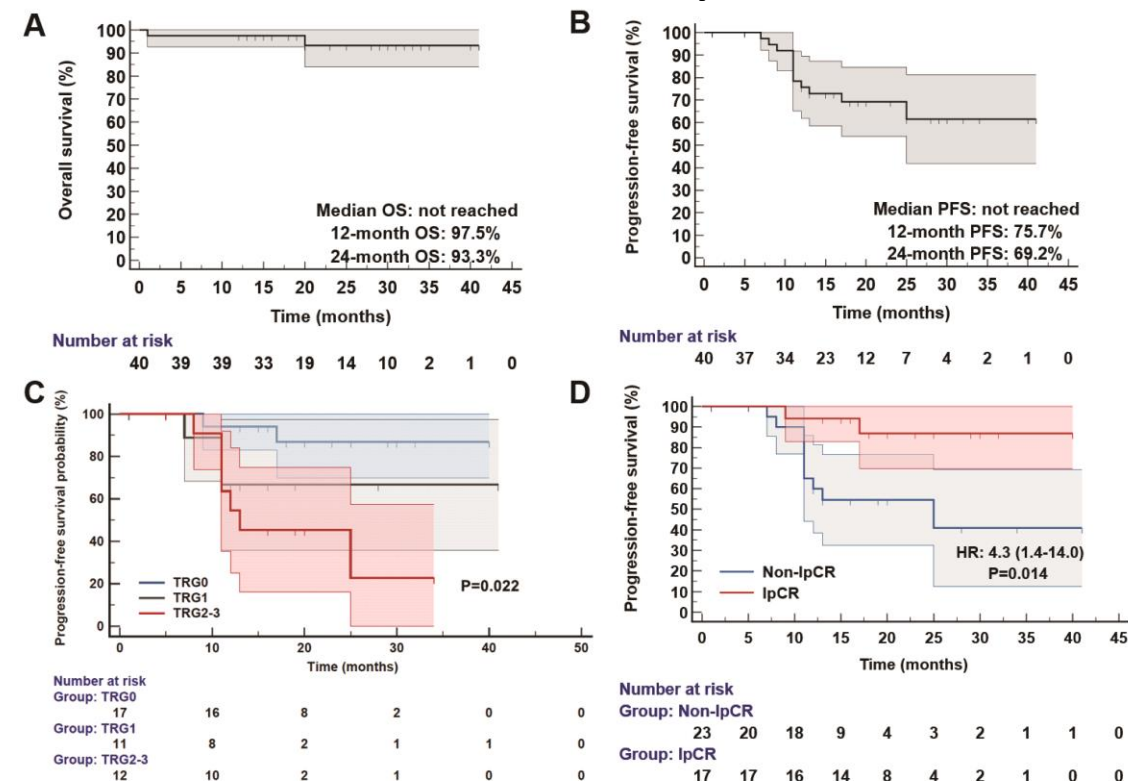


Experience in our center

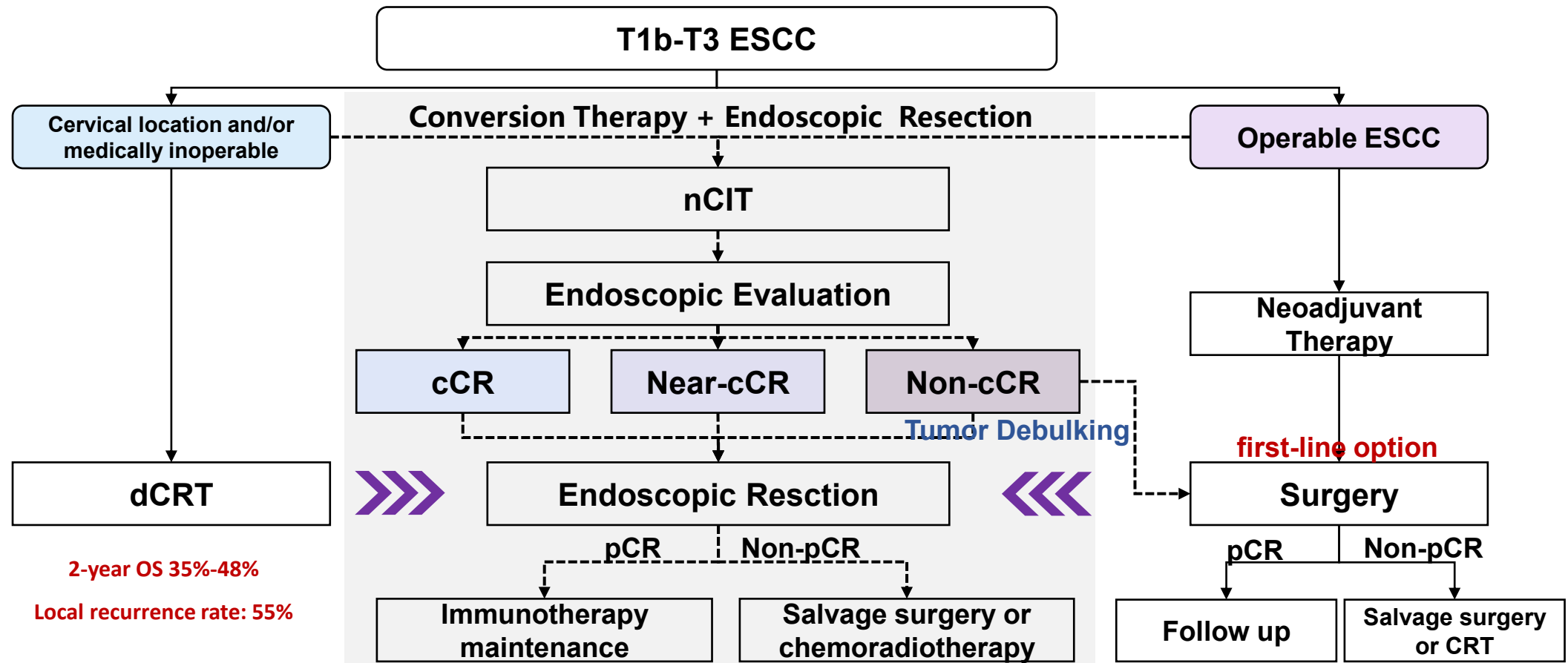
Discordance between clinical response and pathological response



Patients achieving TRG0 (IpCR) had no residual tumor and exhibited an improved PFS



Potential algorithm for role of ER in ESCC



Summary

- After conversion therapy, if the lesion significantly regresses after clinical evaluation, endoscopic resection of residual lesions can be attempted to preserve esophageal function
- Endoscopic resection after conversion therapy can be used as a supplementary treatment for advanced esophageal cancer that unsuitable (or refuse) surgical intervention

Thank you!



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