



# **Üst özofagus kanserinde cerrahi düşünülebilir mi?**

## **Seçilecek yöntem ve sonuçlar**

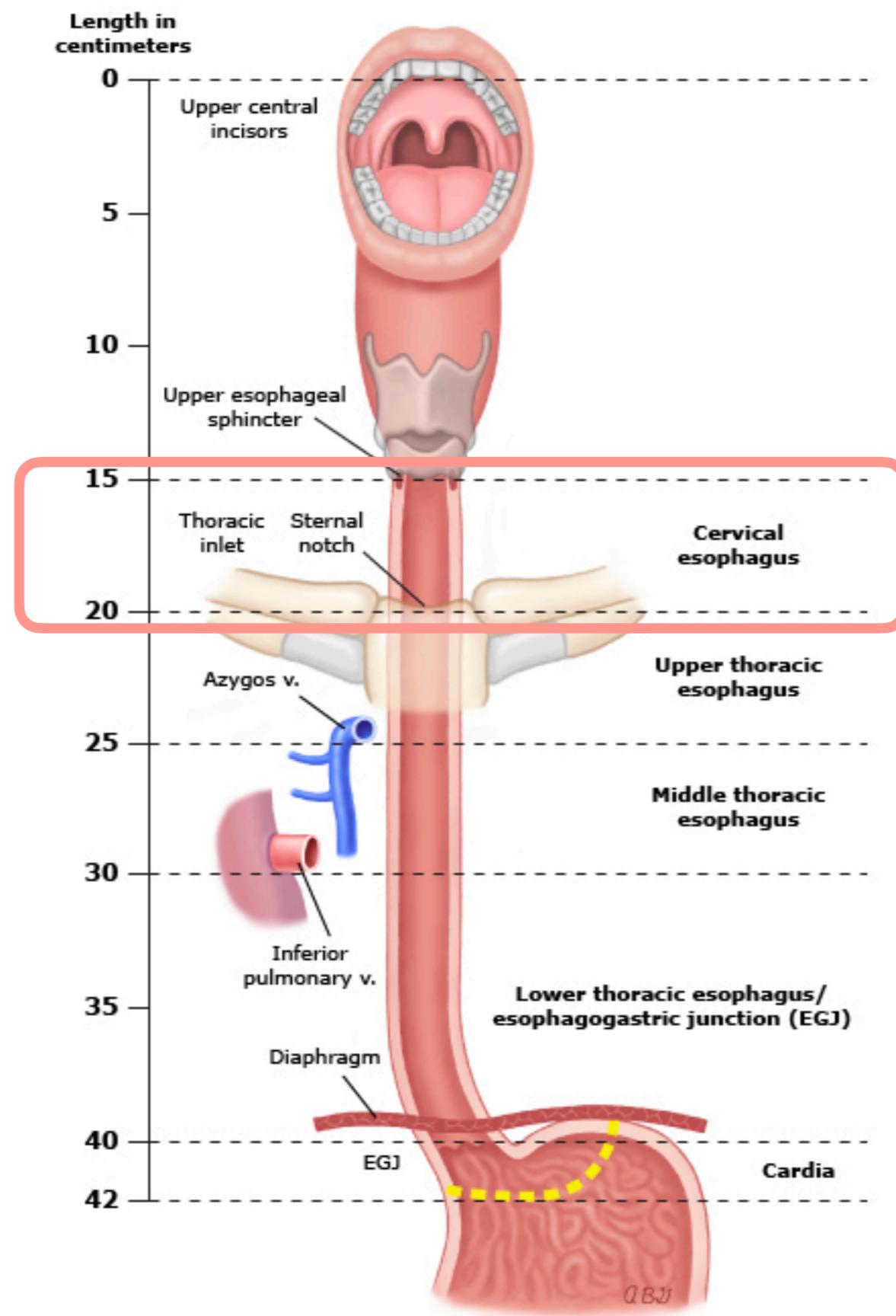
**Ali Güner**

MD, PhDc, BA, FACS, FTBS

KTÜ Genel Cerrahi ABD

X. Gastroenteroloji Cerrahisi Kongresi, 24 Kasım 2022

Herhangi bir biomedikal firma ile  
çıkar çatışmam bulunmamaktadır.



Surgery

CRT

Surgery

RT

Surgery

RT

RT

Surgery

CT

Surgery

Surgery

RT

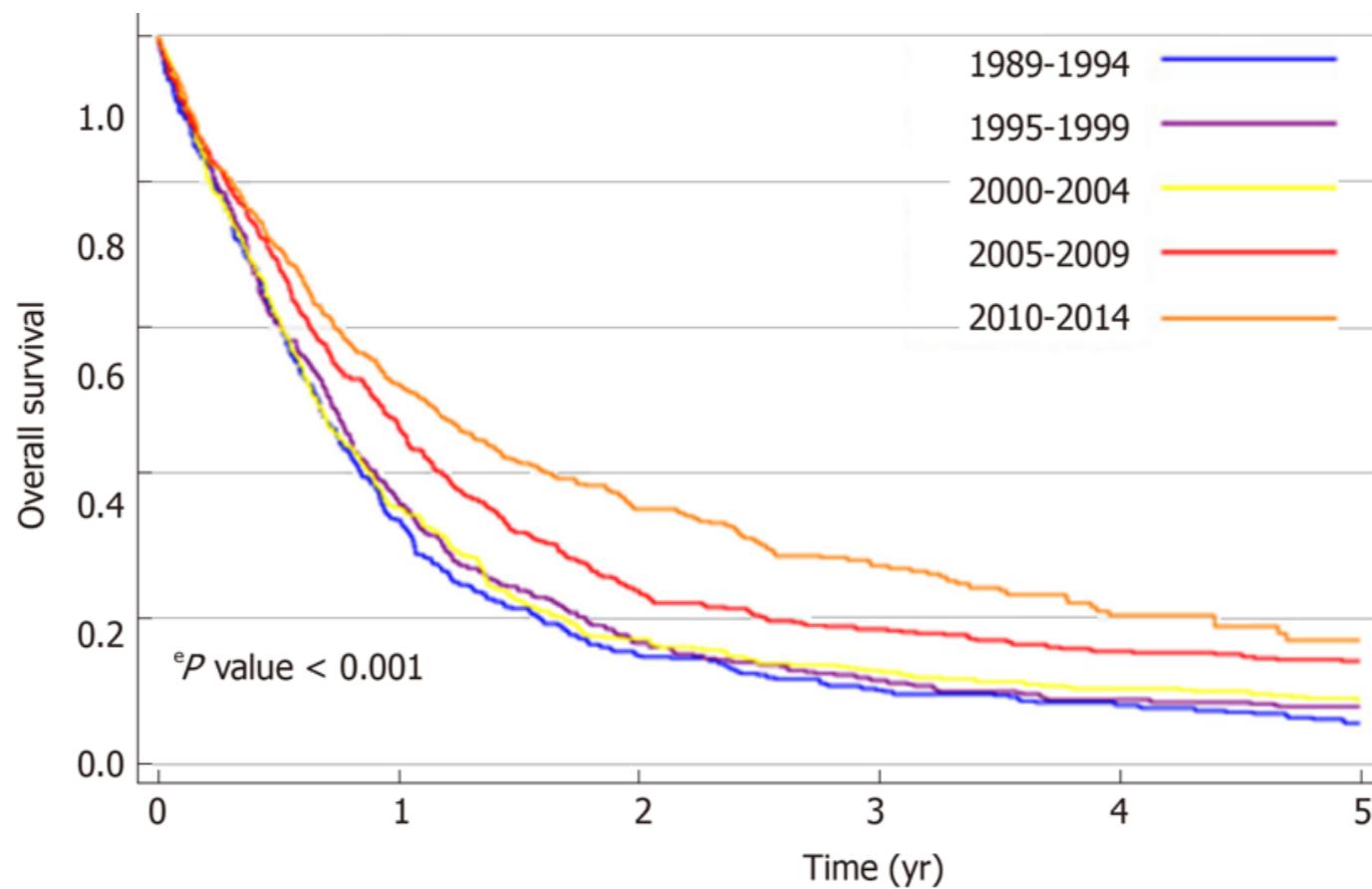
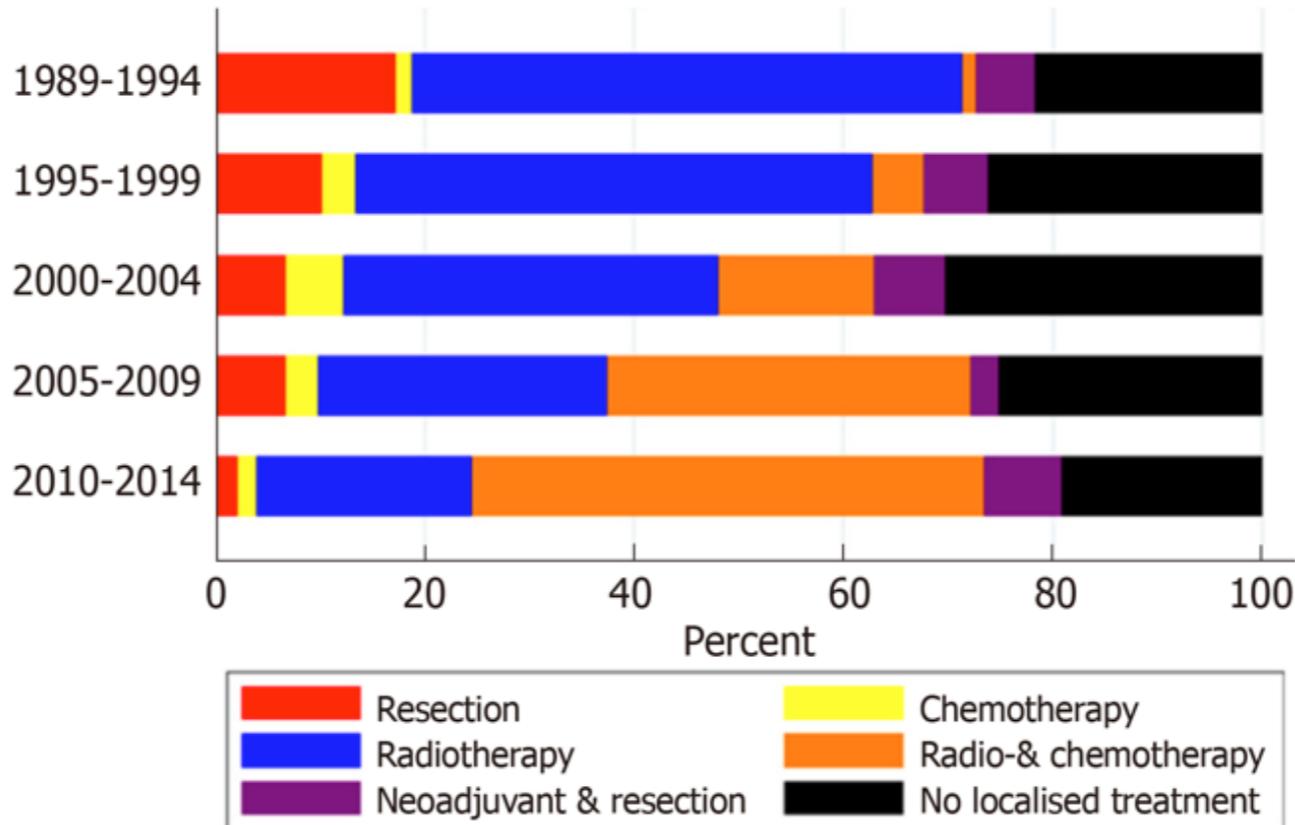
CT

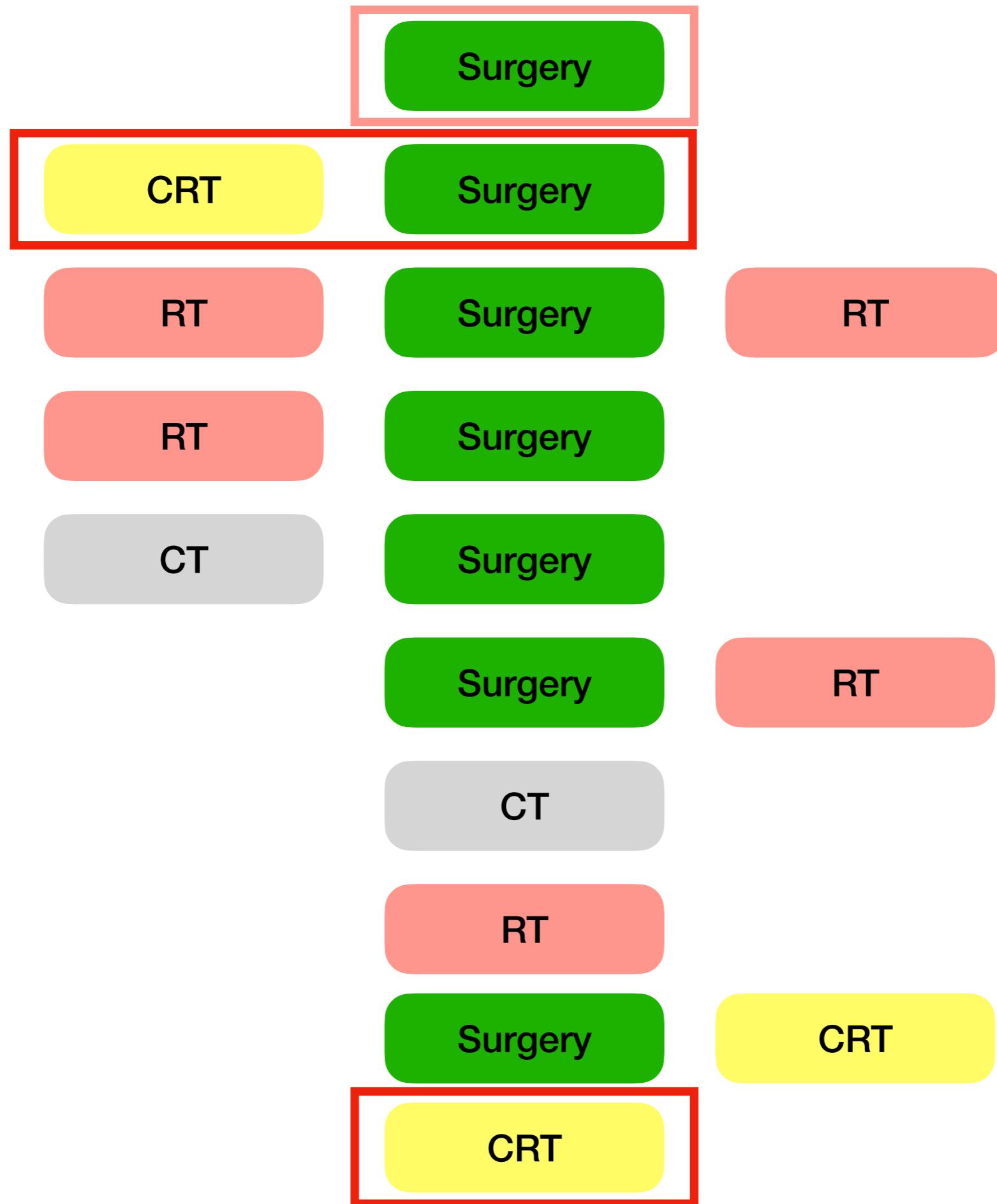
RT

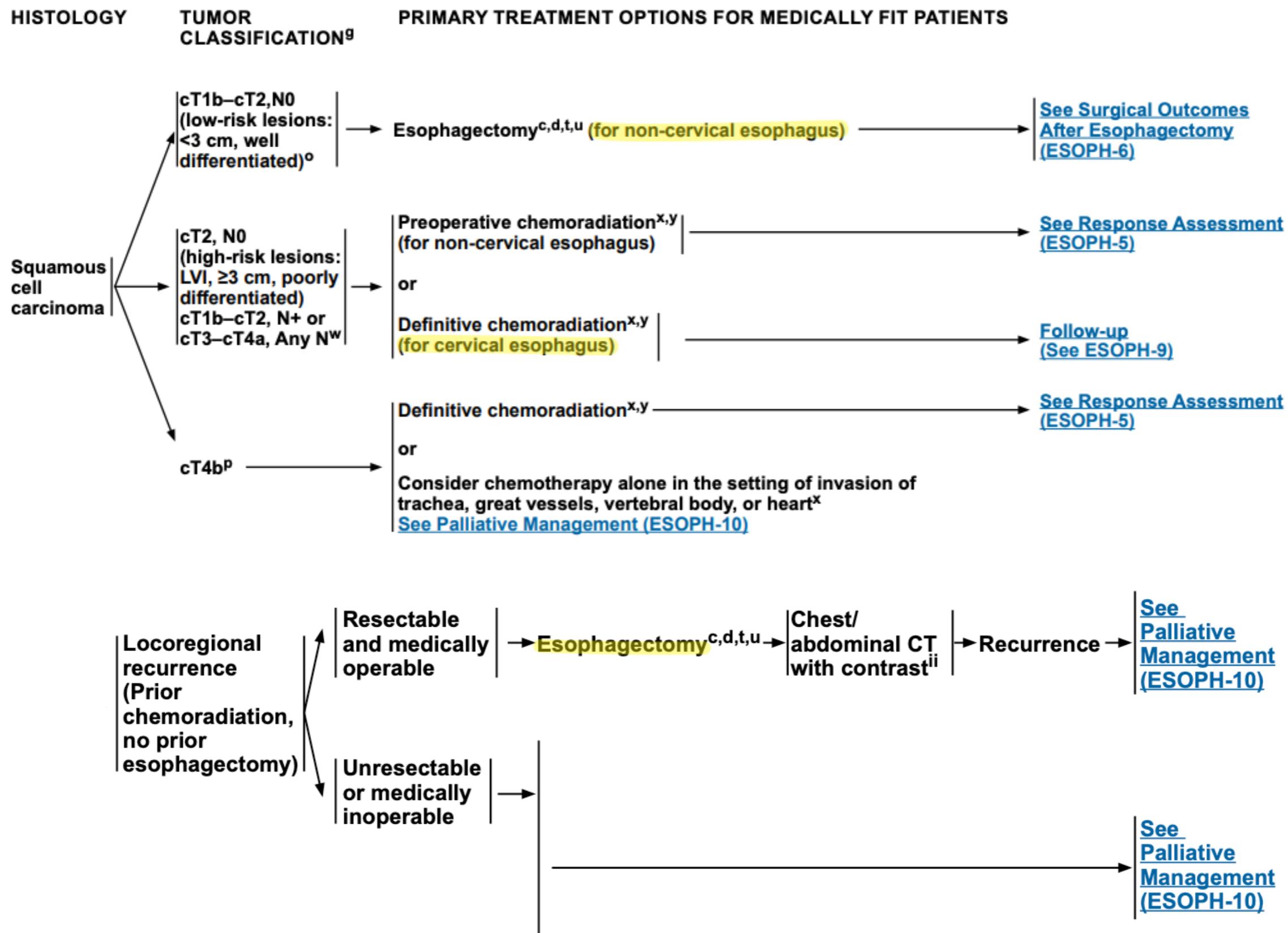
Surgery

CRT

CRT







cTNM staging (endoscopy, EUS, MS-CT, FDG-PET)  
Functional assessment (symptoms, comorbidity, nutritional status, patient preferences)

Early disease  
(cT1 cN0 M0)

Locally advanced disease  
(cT2-T4 or cN1-3 M0)

SCC<sup>c</sup>

AC and OGJ cancer<sup>d</sup>

Neoadjuvant CRT  
[I, A]

Definitive CRT  
[II, B]

Neoadjuvant FLOT  
[I, A; MCBS A]<sup>e</sup>

Neoadjuvant CRT  
[I, A]

Restaging  
(exclusion of M1)

Follow-up  
(every 3 months)

Restaging  
(exclusion of M1)

Restaging  
(exclusion of M1)

Resection<sup>a,b</sup>  
[III, A]

Resection  
[IV, C]

Salvage resection<sup>f</sup>  
[IV, C]

Resection  
[IV, C]

Resection  
[IV, C]

Adjuvant nivolumab<sup>g</sup>  
[I, A; MCBS A]<sup>e</sup>

Adjuvant FLOT  
[I, A; MCBS A]<sup>e</sup>

Adjuvant nivolumab<sup>g</sup>  
[I, A; MCBS A]<sup>e</sup>





## Oncological outcomes of squamous cell carcinoma of the cervical esophagus treated with definitive (chemo-)radiotherapy: a systematic review and meta-analysis

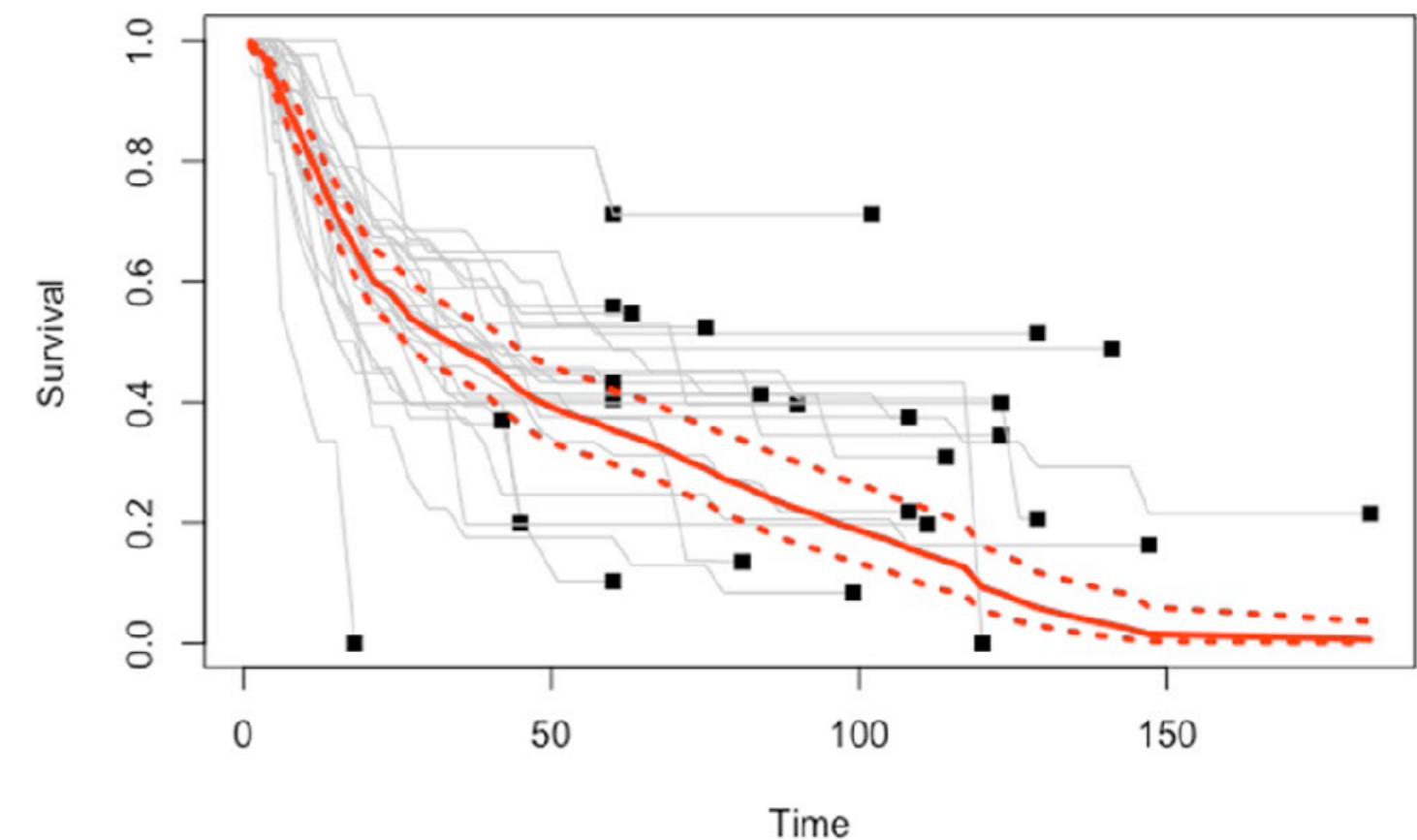
- 22 çalışma (19 retrospektif, 3 prospектив)
- 1255 patients
- Median takip 34 ay

References	Multicenter	Aim	Inclusion/exclusion criteria	Outcome	Prospective	Consecutive	Main findings	Stratified
Burmeister et al. (2000)	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Cao et al. (2016)	No	Yes	Yes	Yes	No	Yes	Yes	No
Chen et al. (2020)	No	Yes	Yes	Yes	No	Yes	Yes	No
Gkika et al. (2014)	No	Yes	Yes	Yes	No	Yes	Yes	No
Herrmann et al. (2017)	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Inada et al. (2021)	No	Yes	Yes	Yes	No	Yes	Yes	No
Ito et al. (2017)	No	Yes	Yes	Yes	No	Yes	Yes	No
Kim et al. (2019)	No	Yes	Yes	Yes	No	Yes	Yes	No
Li et al. (2018)	No	Yes	Yes	Yes	Yes	Yes	Yes	No
McDowell et al. 2017	No	Yes	Yes	Yes	No	Yes	Yes	No
Nakata et al. (2017)	No	Yes	Yes	Yes	No	Yes	Yes	No
Okamoto et al. (2018)	No	Yes	Yes	Yes	No	Yes	Yes	No
Sakanaka et al. (2018)	No	Yes	Yes	Yes	No	Yes	Yes	No
Takebayashi et al. (2017)	No	Yes	Yes	Yes	No	Yes	Yes	No
Tong et al. (2011)	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Uno et al. (2007)	No	Yes	Yes	Yes	No	Yes	Yes	No
Yang et al. (2017)	No	Yes	Yes	Yes	No	Yes	Yes	No
Yamada et al. (2006)	No	Yes	Yes	Yes	No	Yes	Yes	No
Zenda et al. (2016)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Zhang et al. (2015)	No	Yes	Yes	Yes	No	Yes	Yes	No
Zhao et al. (2020)	No	Yes	Yes	Yes	No	Yes	Yes	No
Zhao et al. (2017)	No	Yes	Yes	Yes	No	Yes	Yes	No



## Oncological outcomes of squamous cell carcinoma of the cervical esophagus treated with definitive (chemo-)radiotherapy: a systematic review and meta-analysis

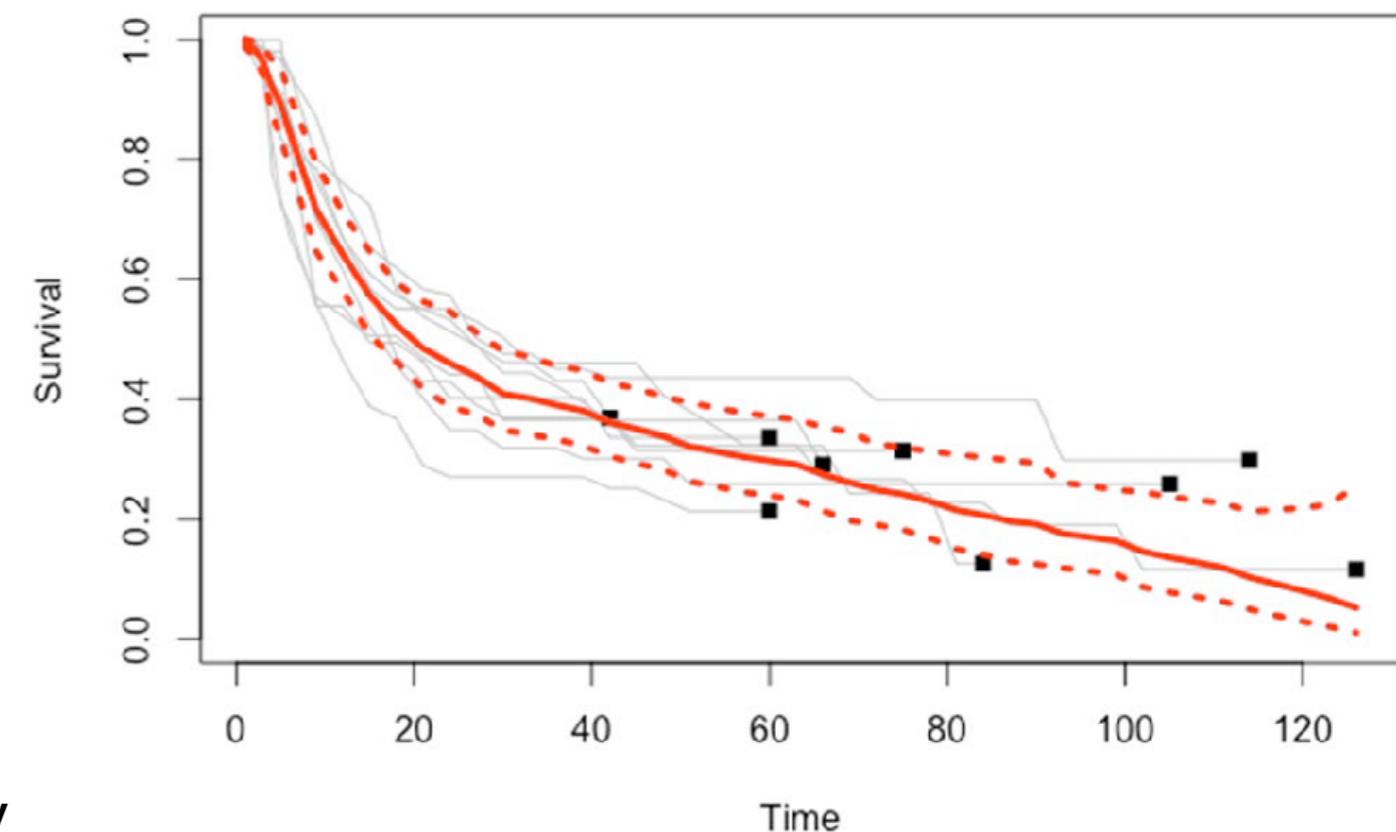
- OS
  - 1-yıl: 77.9% (73.9–82.2)
  - 3-yıl: 48.4% (43.2–54.3)
  - **5-yıl: 35.3% (29.7–41.9)**
- Median OS: 33.4 (25.8-42.2) ay





## Oncological outcomes of squamous cell carcinoma of the cervical esophagus treated with definitive (chemo-)radiotherapy: a systematic review and meta-analysis

- PFS
  - 1-yıl: 64.1% (57.9–71.0),
  - 3-yıl: 38.0% (33.3–45.5),
  - **5-yıl: 29.8% (23.9–37.1)**
- Median PFS: 19.8 (14.9–26.6) ay



# Üst özofagus kanserinde cerrahi düşünülebilir mi?

**Definitive CRT**

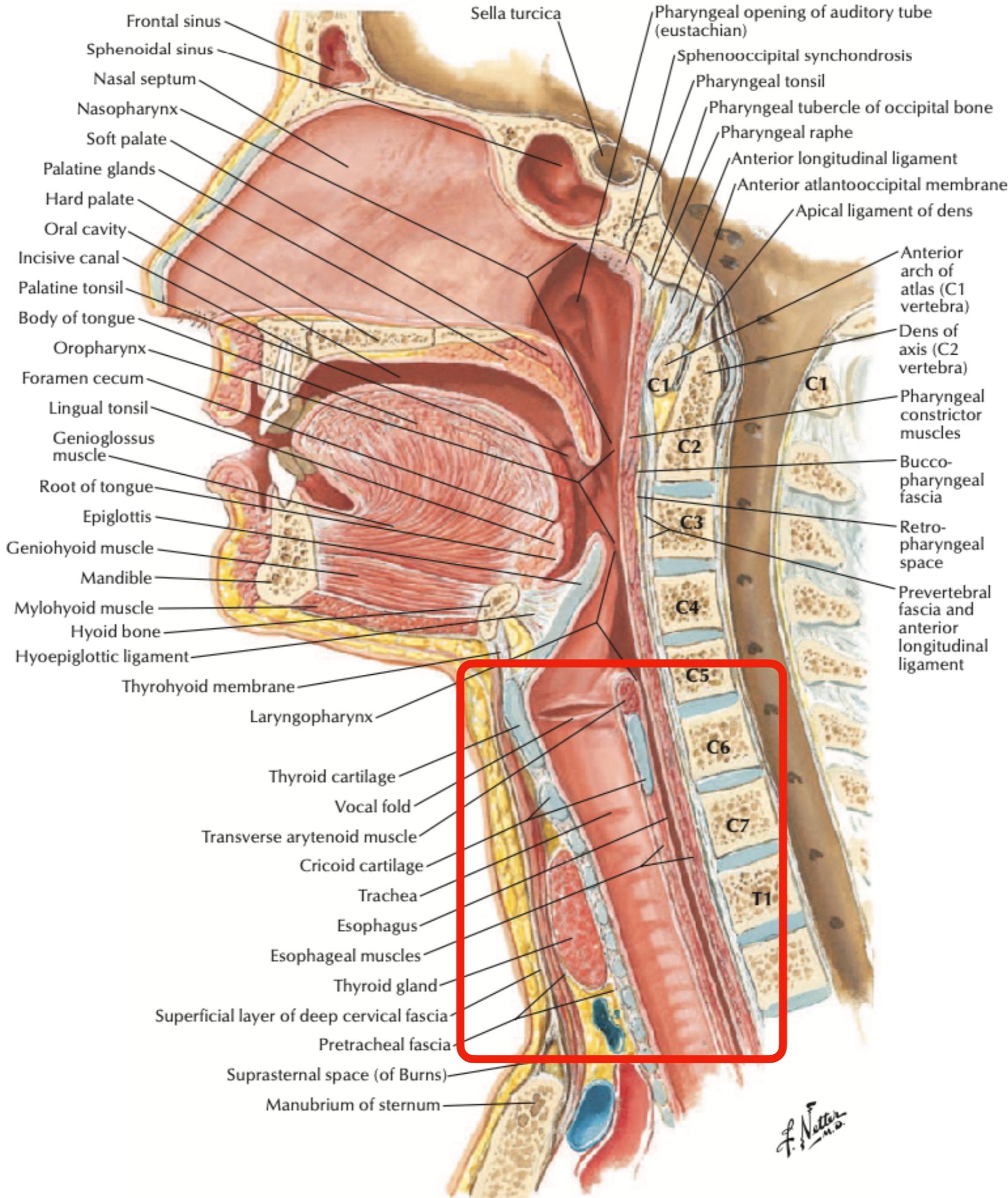
**Surgery**

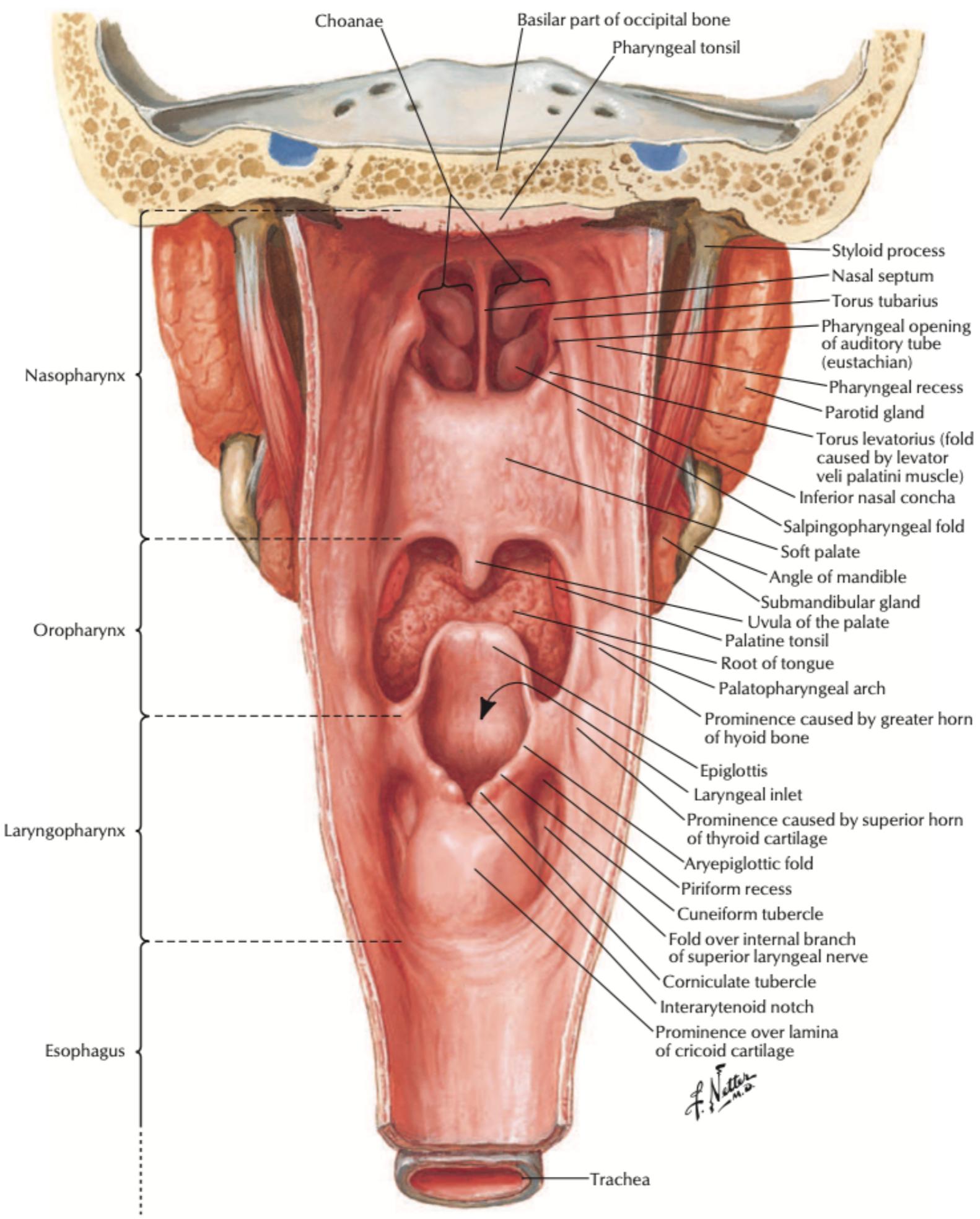
# **Definitive CRT**

# **Surgery**



Morbidity/Mortality  
Survival  
**QoL**





# Üst özofagus kanserinde cerrahi düşünülebilir mi?

**Definitive CRT**

**Surgery**



dCRT vs. Surgery  
dCRT + Salvage surgery  
Larynx-preserving surgery  
Reconstruction

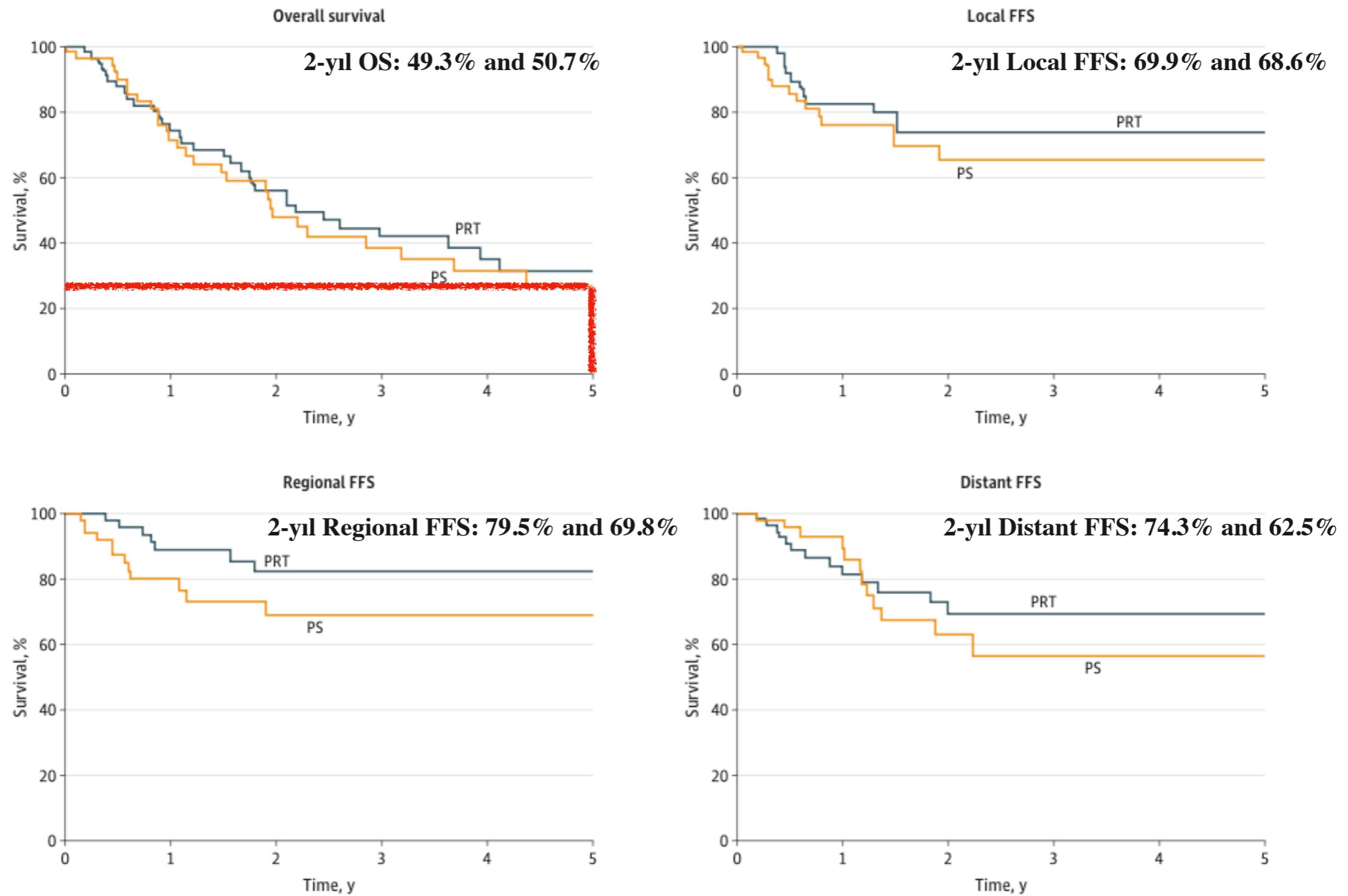
# Primary Radiotherapy Compared With Primary Surgery in Cervical Esophageal Cancer

Cai Neng Cao, MD; Jing Wei Luo, MD; Li Gao, MD; Guo Zhen Xu, MD; Jun Lin Yi, MD; Xiao Dong Huang, MD; Su Yan Li, MD; Jian Ping Xiao, MD; Shao Yan Liu, MD; Zhen Gang Xu, MD; Ping Zhang Tang, MD

Characteristic	All Patients (n = 224)			Case-Matched Patients (n = 116)		
	PRT (n = 161)	PS (n = 63)	P Value	PRT (n = 58)	PS (n = 58)	P Value
Age, median (range), y	58 (38-87)	58 (24-73)	.38	58 (41-74)	58 (37-73)	.99
Sex						
Male	124	53		50	50	
Female	37	10	.24	8	8	>.99
Dysphagia grade <sup>a</sup>						
0-1	53	26		20	23	
2-3	108	37	.24	38	35	.56
Hoarseness						
Yes	38	15		18	14	
No	123	48	.97	40	44	.41
Weight loss, %						
≥10	20	6		7	6	
<10	141	57	.54	51	52	.77
Histologic type						
SCC	161	62		58	57	
Adenocarcinoma	0	1	.28	0	1	>.99
Histologic grade						
1, 2, x	140	49		47	47	
3	21	14	.09	11	11	>.99
Tumor extension						
CE	64	24		21	24	
HP + CE	41	22		18	18	
CE + TE	45	10	.16	17	9	>.99
HP + CE + TE	11	7		2	7	
Stage						
I	1	1		1	1	
II	46	29	.02	24	24	>.99
III	114	33		33	33	
Multiple primary carcinoma						
Synchronous	7	7		3	7	
Metachronous	11	8	.65	4	7	>.99

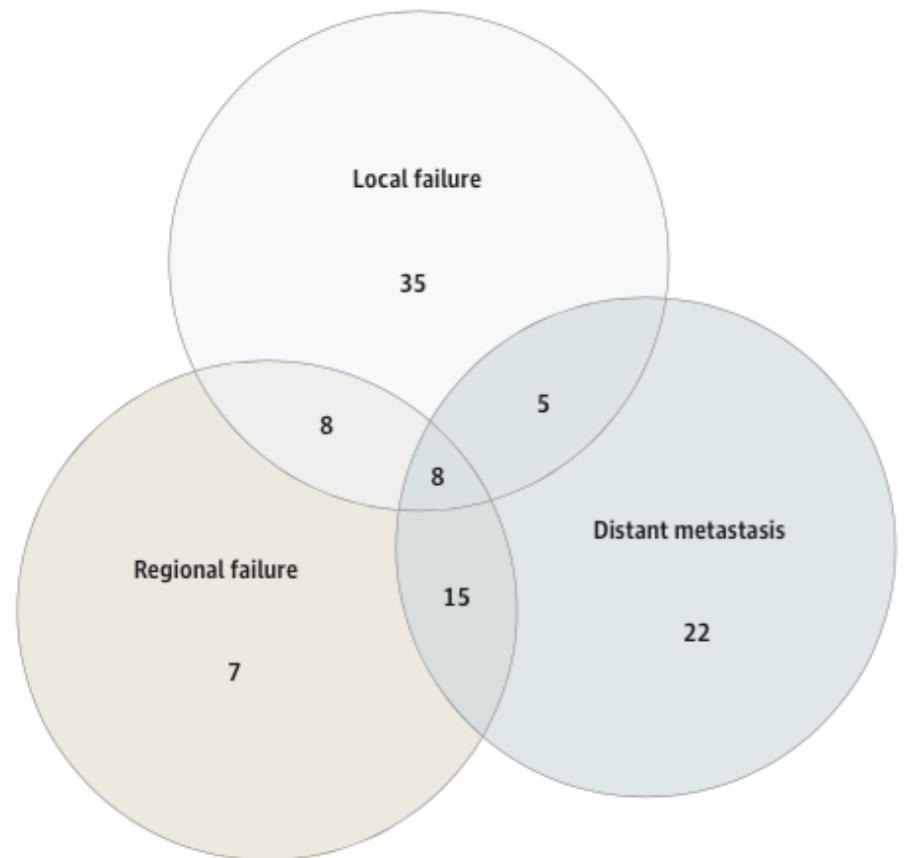
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Source	Patients, No.	Survival, %		
		Operative Mortality	2-Year Overall	5-Year Overall
Kakegawa et al, <sup>4</sup> 1985	64	11.0	NA	27.0
Triboulet et al, <sup>2</sup> 2001	78 (131) <sup>a</sup>	4.8 <sup>b</sup>	NA	14.0
Nishimaki et al, <sup>3</sup> 2002	32 (20) <sup>a</sup>	13.5 <sup>b</sup>	NA	31.2 <sup>b</sup>
Tong et al, <sup>5</sup> 2011	62	1.6	37.6	NA
Present study	68	1.5	50.7	NA

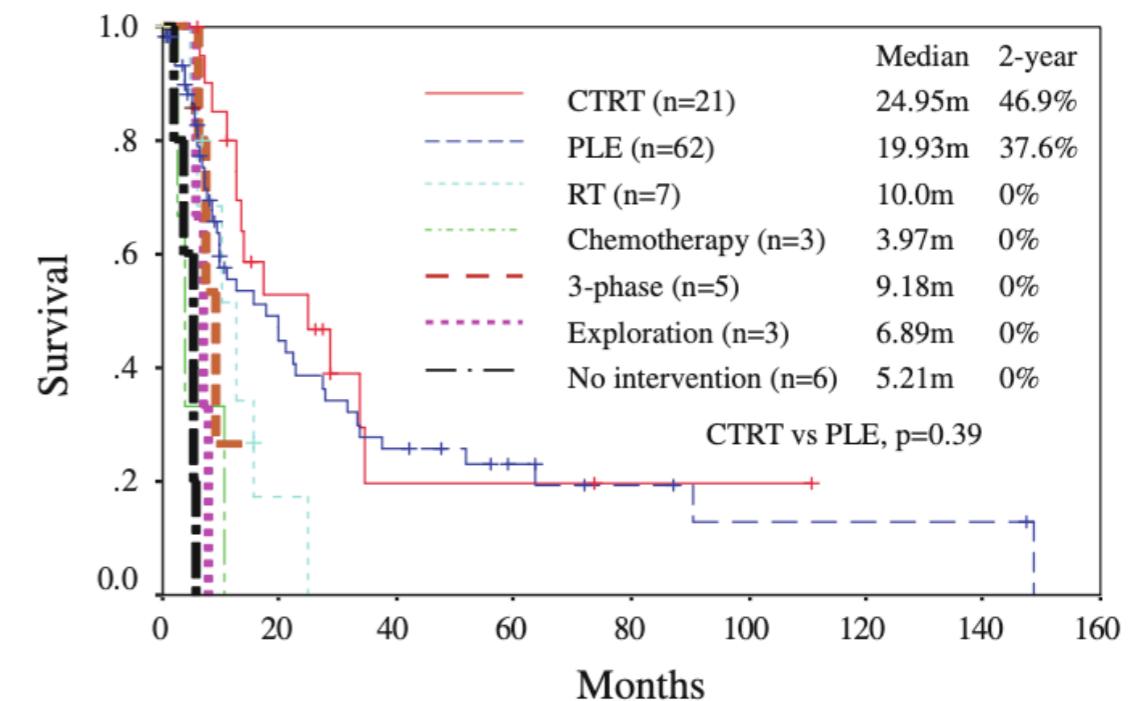
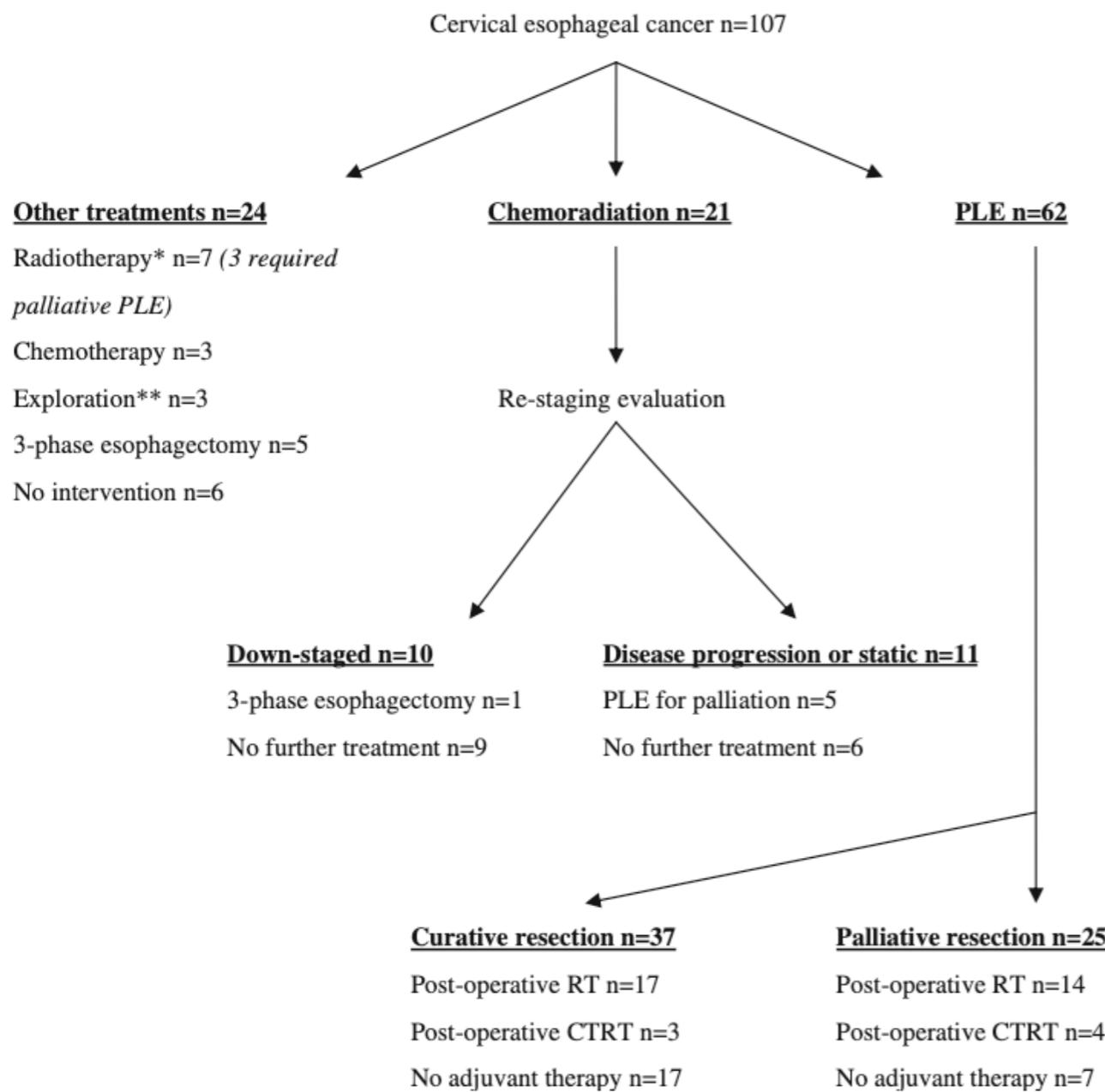
## 58% + postop RT (+CT)

Surgery was to be performed on patients who did not respond after completion of RT  
27 patients received surgery alone

Source	Patients, No.	Radiation dose, Gy	Con-CT, %	LRC, %	Overall Survival, %	
					2-Year	5-Year
Mendenhall et al, <sup>6</sup> 1988	34	47-75 (mean, 67.5)	No	25.8 (5 y)	34	17
Stuschke et al, <sup>7</sup> 1999	17	60-66	Yes	33 (2 y)	24	NA
Burmeister et al, <sup>8</sup> 2000	34	50.4-65 (mean, 61.2)	Yes, 100	NA	NA	55
Yamada et al, <sup>9</sup> 2005	27	44-73.7 (mean, 66)	Yes, 85.2	13 (5y) <sup>a</sup>	38	38
Wang et al, <sup>10</sup> 2006	22 (13)	24.5-64.8 (median, 50.4)	Yes	47.7 (5 y)	NA	18.5 <sup>b</sup>
Tong et al, <sup>5</sup> 2011	21	60-68	Yes, 100	NA	46.9	NA
Present study	171 <sup>c</sup>	59.4-80	Yes, 23.4	69.9 (2y) <sup>d</sup>	51	NA

# Current Management of Cervical Esophageal Cancer

Daniel King Hung Tong · Simon Law ·  
Dora Lai Wan Kwong · William I. Wei ·  
Raymond Wai Man Ng · Kam Ho Wong



We propose that patients with early or localized disease, when it is judged to be surgically resectable, be offered primary surgical resection.

# Comparison of curative surgery and definitive chemoradiotherapy as initial treatment for patients with cervical esophageal cancer

## Chemoradiotherapy (*n* = 36)

### Treatment completion

Radiation dose of 60 Gy	36
Two additional courses of chemotherapy	26

### Response rate

CR	21
PR	13
SD/PD	2

### Toxicity (grade 3 or 4)

White blood cell count	18
Platelets	5
Creatinine	1
Esophagitis	3

### Treatment for residual tumor

Additional treatment for residual tumor	0
Chemotherapy	3
Salvage surgery	11
Best supportive care	1

## Surgery (*n* = 13)

### Surgical procedure

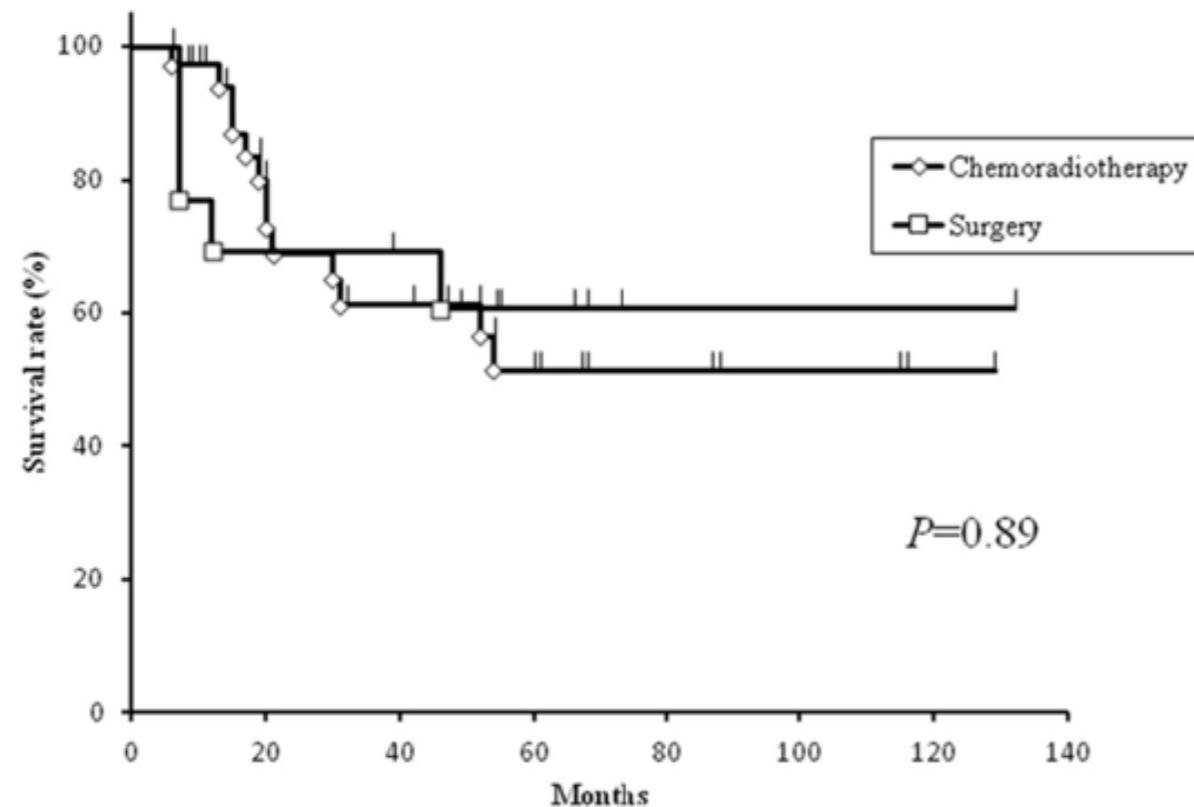
TPLCE	10
Cervical esophagectomy	3

### Reconstruction

FJT	13
Gastric tube	0
Operation time (min)	609.9
Bleeding (mL)	439.7

Patients ( <i>n</i> = 49)	Surgery ( <i>n</i> = 13)	Chemoradiotherapy ( <i>n</i> = 36)	P value
Median follow-up time (range) (months)	47.4 (7–122)	40.0 (6–129)	0.06
Median disease free survival (months)	6	8	0.63
Recurrence pattern after initial treatment			
Residual or progressive disease	0	15	
Loco-regional	7	7	
Distant	0	4	
Mixed	1	1	0.24
First treatment for recurrence			
Resection	1	6	
Chemotherapy	0	3	
Chemoradiotherapy	5	1	
Best supportive care	2	2	0.09
Recurrence within 1 year	4	9	0.68
Recurrence within 3 years	4	10	0.83

## Comparison of curative surgery and definitive chemoradiotherapy as initial treatment for patients with cervical esophageal cancer



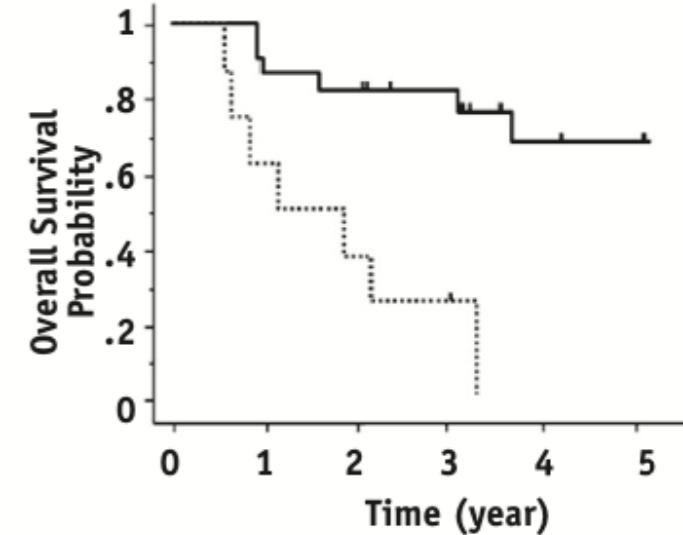
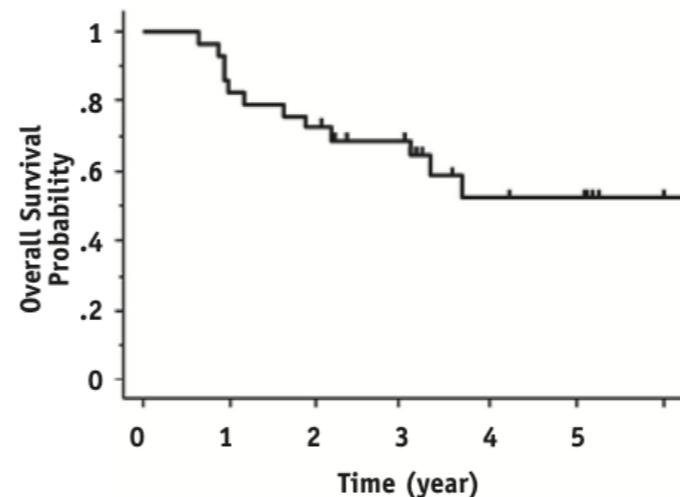
Patients (n = 49)	Surgery (n=13)	Chemoradiotherapy (n=36)
3-year survival rate (%)	69.2	61.2
5-year survival rate (%)	60.6	51.4

Curative surgery and dCRT as initial treatment for cervical esophageal cancer have comparable survival outcome.

Therefore, dCRT may be selected as initial treatment for cervical esophageal cancer, although non-complete responders require additional treatment, including salvage surgery.

**Multicenter Phase 2 Study of Cisplatin and 5-Fluorouracil With Concurrent Radiation Therapy as an Organ Preservation Approach in Patients With Squamous Cell Carcinoma of the Cervical Esophagus**

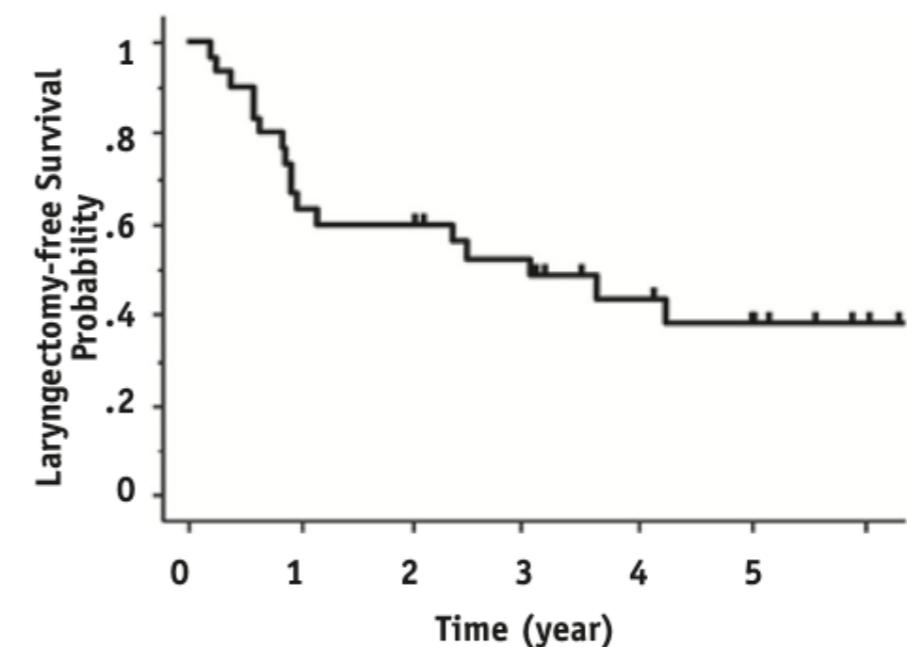
- 30 hasta (Operable)
  - 73.3% (22 hasta) Complete response
  - Recurrence:
    - 11 No recurrence
    - 9 Local only
    - 2 local + LNs
    - 2 local + distant met
    - 4 LNs
    - 2 distant met
  - Salvage Cerrahi: 5 of 13 local recurrence
  - Fotodinamik tedavi: 1



3-yıl OS: 66.5% (74.6% in CR)

3-yıl PFS: 36.6%

3-yıl LFS: 52.5%



# Salvage Resections for Recurrent or Persistent Cancer of the Proximal Esophagus After Chemoradiotherapy

Colin Schieman, MD, Dennis A. Wigle, MD, PhD, Claude Deschamps, MD, Francis C. Nichols, III, MD, Stephen D. Cassivi, MD, MS, K. Robert Shen, MD, and Mark S. Allen, MD

Division of General Thoracic Surgery, Mayo Clinic, Rochester, Minnesota

	Median	Range
Time from initial diagnosis to operation (mo)		
Persistent disease	9	1–15
Recurrent disease	60.5	14–148
Time from completion of chemoradiotherapy to operation (mo)		
Persistent disease	7	0–13
Recurrent disease	31	1–148
Technique of esophagectomy		
Pharyngolaryngectomy with gastric pull-up	8	67
Three-hole McKeown's esophagectomy	4	33
Incomplete resections		
Positive longitudinal margin	0	0
Positive radial margin	2	17

## Intraoperative complications

Splenic injury requiring splenectomy	1	8
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## Postoperative complications

Patients experiencing no postoperative complications <sup>a</sup>	7	58
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Patients experiencing 1 or more significant complications	5	42
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Pneumonia	2	17
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Anastomotic leak	2	17
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Leak with associated tracheoesophageal fistula	1	8
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Atrial fibrillation	1	8
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Chylothorax	1	8
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Wound infection	1	8
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Perioperative death	1	8
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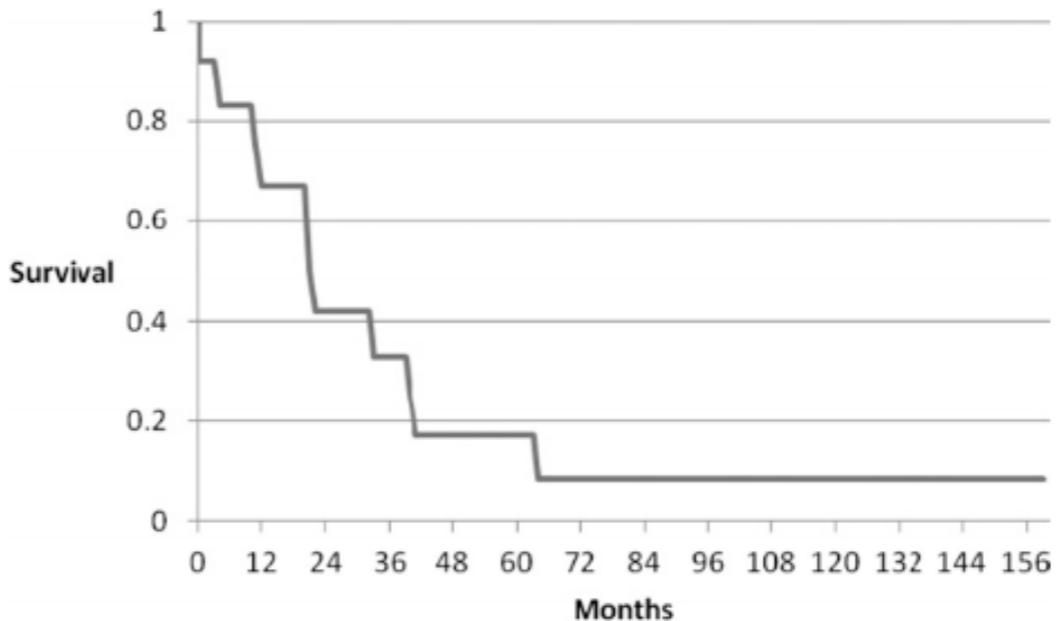
	Median	Range
Length of hospitalization (d)	15	9–29

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Division of General Thoracic Surgery, Mayo Clinic, Rochester, Minnesota

- 1-, 3-, 5-, 10-yıl
- 75%, 33%, 17%, 8%
- Median sağkalım: 21 ay



At last follow-up		
Alive	1	8
Dead	11	92
Cause of death		
Perioperative death	1	8
Cancer		
Locoregional recurrence	3	25
Locoregional and systemic recurrence	2	17
Systemic	1	8
Details of recurrence unknown	2	17
Died of different type of cancer (lymphoma, lung cancer)	2	17

The opportunity for long-term survival after salvage resection for persistent or recurrent cancer of the proximal esophagus **exists** but **is limited** and must be thoughtfully balanced with the perioperative morbidity of such challenging resections by both patients and physicians.

## Salvage pharyngolaryngectomy with total esophagectomy following definitive chemoradiotherapy

### 9/9 - 100% dCRT sonrası Salvage cerrahi

Patient	Age/ sex	Cancer site	Previous radiotherapy (Gy)	Residual, recurrent, or second primary lesions	Duration after radiation	pTNM	Method of esophagectomy	Reconstructive method	Reconstructive route	Neck lymph node dissection	Mediastinal lymph node dissection	Total number of lymph nodes retrieved	Clinical complications (Clavien-Dindo classification)	Hospital stay (days)	Outcome
1	77/M	CE	70.0	Recurrent	1 year 2 months	T1NXM0	Transhiatal	Colon	Posterior mediastinal	No	No	0	Venous thrombosis (II)	100	Alive at 38 months
2	49/M	CE	76.0	Residual	3 months	T4NXM0	Transthoracic	Gastric tube	Posterior mediastinal	No	No	9	Anastomotic leakage (IIIa)	131	Alive at 15 months
3	56/M	Ph CE	70.0	Recurrent	1 year 2 months	T0N0M0 T4N2M0	Transhiatal	Gastric tube	Posterior mediastinal	Yes	Yes	61	Tracheal necrosis (V) Pneumonia (II)	87	Dead at 80 days
4	58/M	Ph TE	70.4	Residual	1 month	T0N1M0 T0NXM0	Transhiatal	Whole stomach	Posterior mediastinal	Yes	No	43	Surgical site infection (IIIa)	59	Alive at 108 months
5	59/M	Ph TE	70.2	Residual	2 months	T0N0M0 T1N2M0	Transthoracic	Pedicled jejunal transfer	Subcutaneous	Yes	Yes	26	Lymphatic fistula (IIIa) Tracheal necrosis (IIIb) Phlebitis (II)	80	Alive at 62 months
6	64/M	CE TE	60.0	Residual	4 months	T1N0M0 T1N0M0	Transhiatal	Gastric tube + free jejunal transfer	Posterior mediastinal	Yes	No	54	Tracheal necrosis (V) Pneumonia (II)	66	Dead at 61 days
7	64/M	CE	64.0	Recurrent	11 months	T4N0M1*	Transhiatal	Pedicled jejunal transfer	Subcutaneous	Yes	No	25	Surgical site infection (IIIa)	79	Dead at 80 months
8	73/M	CE TE	73.0	Recurrent	9 months	T1N0M0 T1N0M0	Thoracoscopic	Gastric tube + free jejunal transfer	Subcutaneous	Yes	Yes	55	Anastomotic leakage (IIIa)	111	Alive at 5 months
9	69/M	CE TE	60.0	Second primary	8 years	T3N2M1* T1N0M0	Transhiatal	Gastric tube	Retrosternal	Yes	No	54	Tracheal necrosis (IIIb)	100	Alive at 5 months

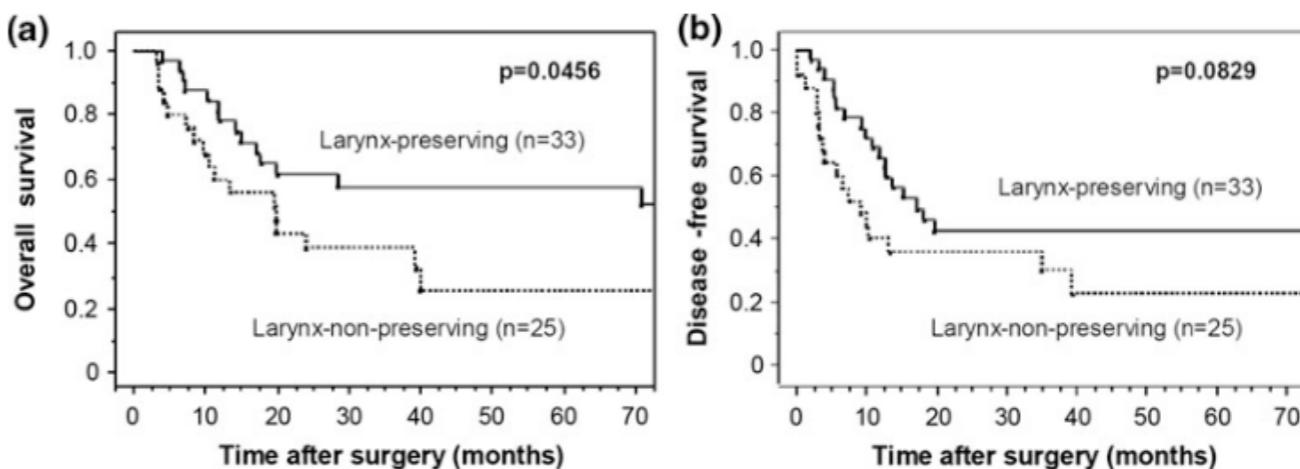
In-hospital mortality 22% (2/9)  
Major komplikasyon 89% (8/9)

In the present study, salvage PLTE was associated with high mortality and morbidity rates.

# Larynx-Preserving Limited Resection and Free Jejunal Graft For Carcinoma of the Cervical Esophagus

Hiroshi Miyata · Makoto Yamasaki · Tsuyoshi Takahashi · Yukinori Kurokawa ·  
Kiyokazu Nakajima · Shuji Takiguchi · Masaki Mori · Yuichiro Doki

- No tracheal invasion
- No bilateral recurrent nerve palsy
- Minimum 1 cm distance (tm-cricoid cartilage)



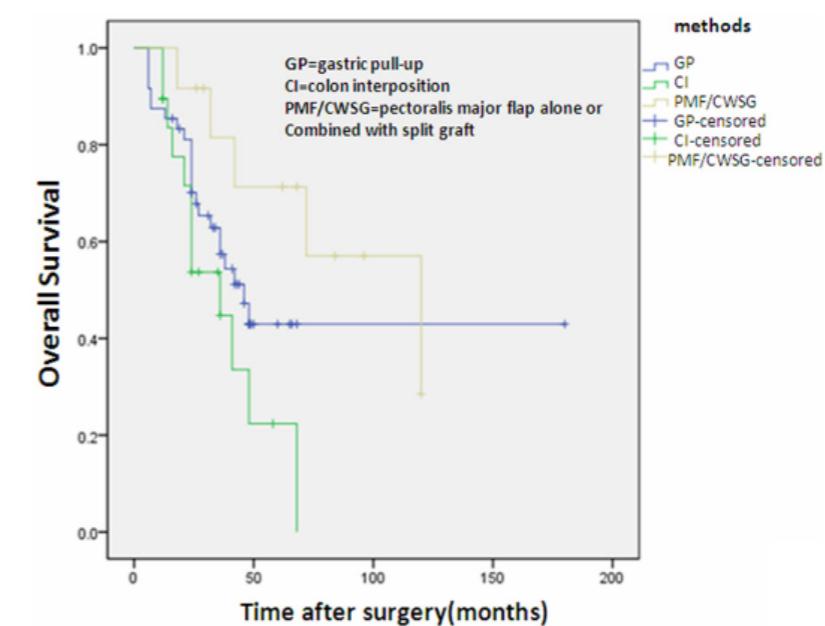
Complications	Larynx-preserving surgery		<i>p</i>
	Yes	No	
No. of patients	33	25	
Presence of complications			
No	16 (48 %)	11 (44 %)	0.7345
Yes	17 (52 %)	14 (56 %)	
Type of complication			
Anastomotic leakage	4 (12 %)	6 (24 %)	0.2356
Pneumonia	5 (15 %)	2 (8 %)	0.4077
Graft necrosis	1 (3 %)	2 (8 %)	0.3974
Recurrent nerve palsy	8 (24 %)	—	
Infection	9 (27 %)	10 (40 %)	0.3064
Hospital mortality	2 (6 %)	1 (4 %)	0.8411

Parameter	Larynx-preserving surgery		<i>p</i>
	Yes	No	
No. of patients	33	23	
Recurrence			
No	16 (48 %)	9 (39 %)	0.4855
Yes	17 (52 %)	14 (61 %)	
Recurrence site			
Local	2 (6 %)	4 (17 %)	0.1744
Cervical LN	3 (9 %)	6 (26 %)	0.0884
Upper mediastinal LN	3 (9 %)	3 (13 %)	0.6380
Lung	5 (15 %)	4 (17 %)	0.7101
Pleura	3 (9 %)	1 (4 %)	0.4978
Liver	2 (6 %)	0	0.2292
Bone	2 (6 %)	0	0.2292
Skin	2 (6 %)	0	0.2292
Others	2 (6 %)	2 (9 %)	0.7064

## Surgical management of cervical esophageal carcinoma with larynx preservation and reconstruction

Fenglin Sun<sup>1,2\*</sup>, Xuezhong Li<sup>1\*</sup>, Dapeng Lei<sup>1</sup>, Tong Jin<sup>1</sup>, Dayu Liu<sup>1</sup>, Hui Zhao<sup>3</sup>, Qiuhan Yang<sup>4</sup>, Guojun Li<sup>5</sup>, Xinliang Pan<sup>1</sup>

- 79 hasta
  - 48 Gastric pull-up
  - 19 Colon interposition
  - 12 Pectoralis major myocutaneous flap
- 3-yıl, 5-yıl OS; 66.4%, 45.5%



# Reconstruction techniques for hypopharyngeal and cervical esophageal carcinoma

Ming Jiang<sup>1\*</sup>, Xiaotian He<sup>2\*</sup>, Duoguang Wu<sup>2</sup>, Yuanyuan Han<sup>3</sup>, Hongwei Zhang<sup>4</sup>, Minghui Wang<sup>2</sup>

- 105 hasta
  - 45 Pectoralis major flap
  - 32 Whole stomach
  - 28 Gastric pull-up

Complication	Group A (n=45)	Group B (n=32)	Group C (n=28)	P value (B&C)	P value (A&C)
Pulmonary infection	2	4	1	0.212	0.855
Arrhythmia	6	13	4	0.024	0.908
Thoracic stomach syndrome	0	5	0	0.029	-
Incision infection	17	6	2	0.187	0.004
Neck swelling	17	3	0	0.096	0.000
Esophageal reflux	3	20	5	0.001	0.137
Anastomotic leakage	21	7	1	0.037	0.000
Discharged against advice or death	1		0		0.427

# Surgical Management of Carcinoma of the Hypopharynx and Cervical Esophagus

## Analysis of 209 Cases

Jean-Pierre Triboulet, MD; Christophe Mariette, MD; Dominique Chevalier, MD; Houcine Amrouni, MD

- 209 hasta (Pharyngolaryngectomy and total esophagectomy)
  - 127 Gastric pull-up
  - 77 Free-Jejunal transplant
  - 5 Colon transplant

Complication	No. (%) of Patients		
	Stomach Graft (n = 127)	Colon Graft (n = 5)	Small-Bowel Graft (n = 77)
Anastomotic leak	20 (15.7)	2 (40)	25 (32.5)
Necrosis	2 (1.6)	0	5 (6.5)
Pulmonary	25 (19.7)	0	5 (6.5)
Cardiovascular	3 (2.4)	0	0
Others	2 (1.6)	0	8 (1.1)
Total	42 (33.1)	2 (40)	36 (46.8)

# Özet

- dCRT vs. Surgery -> High-level evidence?
- dCRT; Primer tedavi?
- Salvage özofajektomi (Rekürren-persistan)?
- Larinks-koruyucu özofajektomi?
- Rekonstruksiyon: Gastrik tüp, Jejunal flap, Kolon