TÜRK RADYASYON ONKOLOJİSİ DERNEĞİ
Bilimin ışığıyla aydınlık yarınlara...

Nüks ve Oligometastazda Yaklaşım

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Prof. Dr. Cemil Taşcıoğlu Şehir Hastanesi Konferans Salonu, 11 Mayıs 2024

European Journal of Surgical Oncology 45 (2019) 2059–2069

Contents lists available at ScienceDirect

European Journal of Surgical Oncology

journal homepage: www.ejso.com

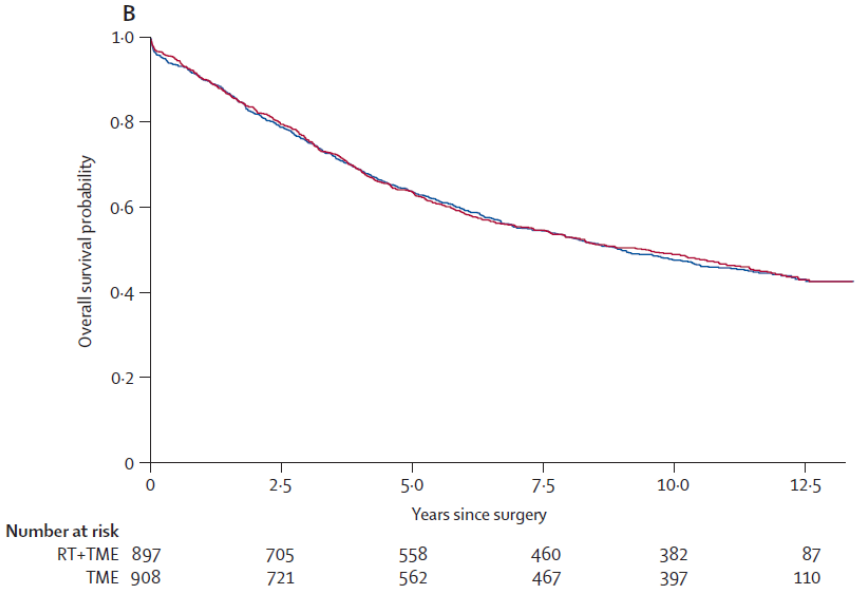
Treatment and survival of locally recurrent rectal cancer: A cross-sectional population study 15 years after the Dutch TME trial

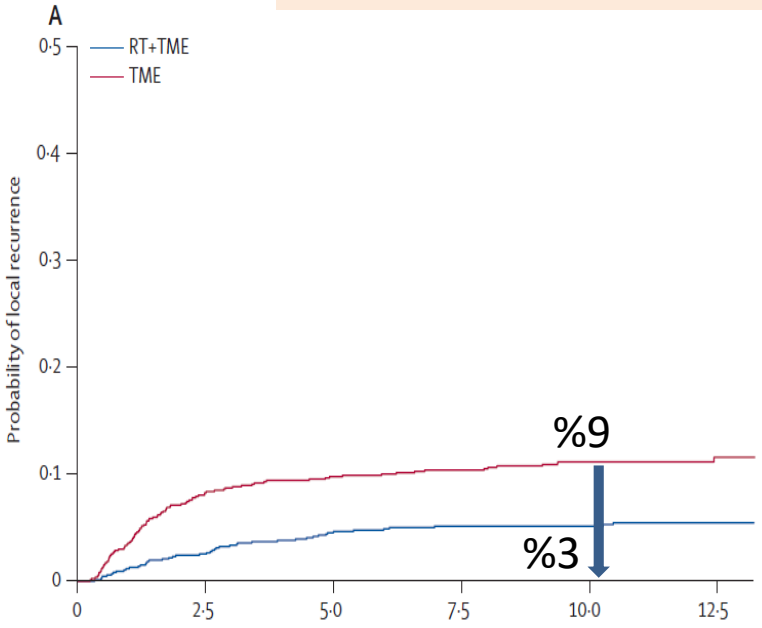
Robin Detering [a, *, 1], Eleonora G. Karthaus [b, 1], Wernard A.A. Borstlap

Duch-TME çalışması

*Willem van Gijn,**Lancet Oncol 2011; 12: 575–82***

5x5Gy + TME vs **TME**





10 y kümülatif LR

Int. J. Radiation Oncology Biol. Phys., Vol. 71, No. 4, pp. 1175–1180, 2008

0360-3016/08/$–see front matter

ELSEVIER

doi:10.1016/j.ijrobp.2007.11.018

PATTERNS OF LOCOREGIONAL RECURRENCE AFTER SURGERY AND RADIOTHERAPY OR CHEMORADIATION FOR RECTAL CANCER

TSE-KUAN YU, M.D., PH.D.,* PRIYA R. BHOSALE, M.D.,† CHRISTOPHER H. CRANE, M.D.,*

Table 2. Patterns of locoregional recurrence

Region	No. of recurrences (%)
In-field	28 (65)
Marginal	7 (16)
Out-of-field	8 (19)

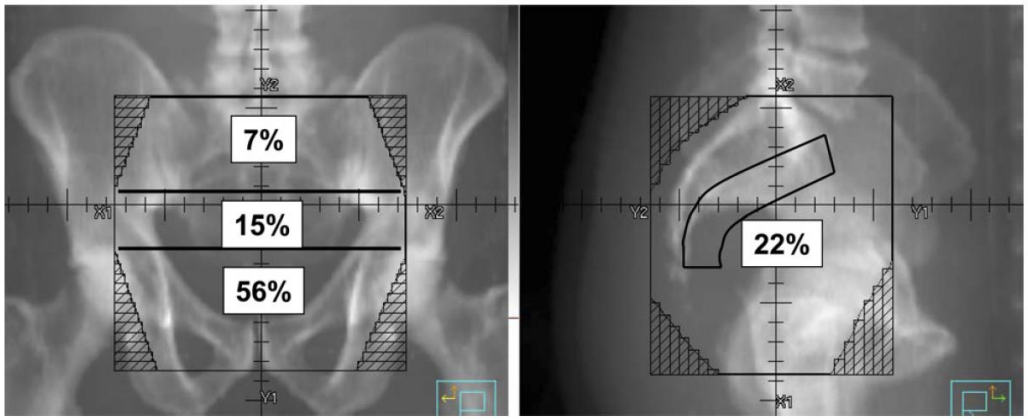


Fig. 1. Distribution of in-field recurrences. The numbers denote the percentage of in-field recurrences at each region.

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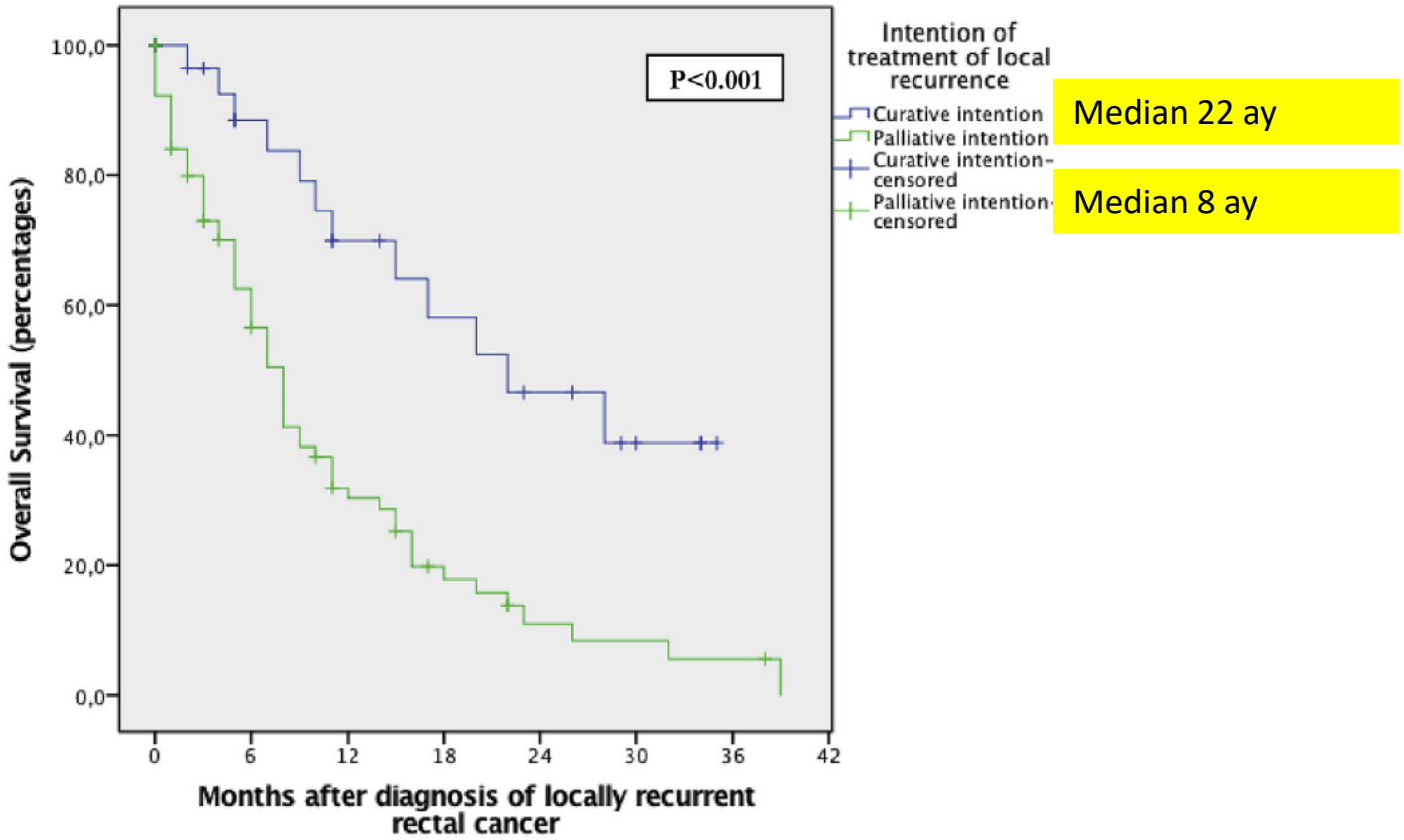
Treatment and survival of locally recurrent rectal cancer: A cross-sectional population study 15 years after the Dutch TME trial

Robin Detering [a, *, 1], Eleonora G. Karthaus [b, 1], Wernard A.A. Borstlap [a],

Characteristics and outcomes of patients with local recurrence of rectal cancer, stratified by intention of treatment.

107/2095 hasta (%5)

		Preoperative radiotherapy + surgery	Surgery alone	Intention of treatment		P-value
		No. of patients (n = 88)	No. of patients (n = 19)	Curative (n = 31)	Palliative (n = 76)	
Distant metastasis at time of primary tumour resection (synchronous)**				5/31 (16%)	13/76 (17%)	0.903
Distant metachronous metastasis diagnosed between primary tumour resection and local recurrence***				1/31 (3%)	15/76 (20%)	0.030
Distant metachronous metastasis diagnosed simultaneous with local recurrence and thereafter****				3/31 (10%)	25/76 (33%)	**0.013**
Curative treatment of recurrent rectal cancer						
Preoperative therapy for local recurrence	None			10/31 (32%)	NA	NA
	Systemic therapy			3/31 (10%)	NA	
	CRT without prior irradiation			1/31 (3%)	NA	
	CRT with prior irradiation			6/31 (19%)		
	Systemic therapy & CRT without prior irradiation			1/31 (3%)	NA	
	Systemic therapy & CRT with prior irradiation			4/31 (13%)		
	Unknown/missing			6/31 (19%)	NA	
Surgical treatment for local recurrence	Yes			20/31 (65%)		
Intra-operative Radiotherapy*****	Yes			11/20 (55%)	NA	NA
Adjuvant Chemotherapy	Yes			5/20 (25%)	NA	NA



Median 22 ay

Median 8 ay

Follow-up time (median, IQR) (months)	11 [4–23]	6 [2.25–11.75]
Patients alive at end of follow-up	19/31 (61%)	15/76 (20%)
Overall Survival (median, 95% CI) (months)	22 [9.2–34.7]	8 [6.4–9.5]

Br J Surg. 2016 May ; 103(6): 753–762. doi:10.1002/bjs.10079.

Improved Long-term Salvage Potential of Locally Recurrent Rectal Cancer with Evolving Multimodality Therapy

Y. Nancy You, MD, MHSc[1], John M. Skibber, MD[1], Chung-Yuan Hu, PhD[1], Christopher H. Crane, MD[2], Prajnan Das, MD, MPH[2], E. Scott Kopetz, MD, PhD[3], Cathy Eng, MD[3], Barry W. Feig, MD[1], Miguel A. Rodriguez-Bigas, MD[1], and George J. Chang, MD, MS[1]

[1]Department of Surgical Oncology, University of Texas M.D. Anderson Cancer Centre, Houston, TX

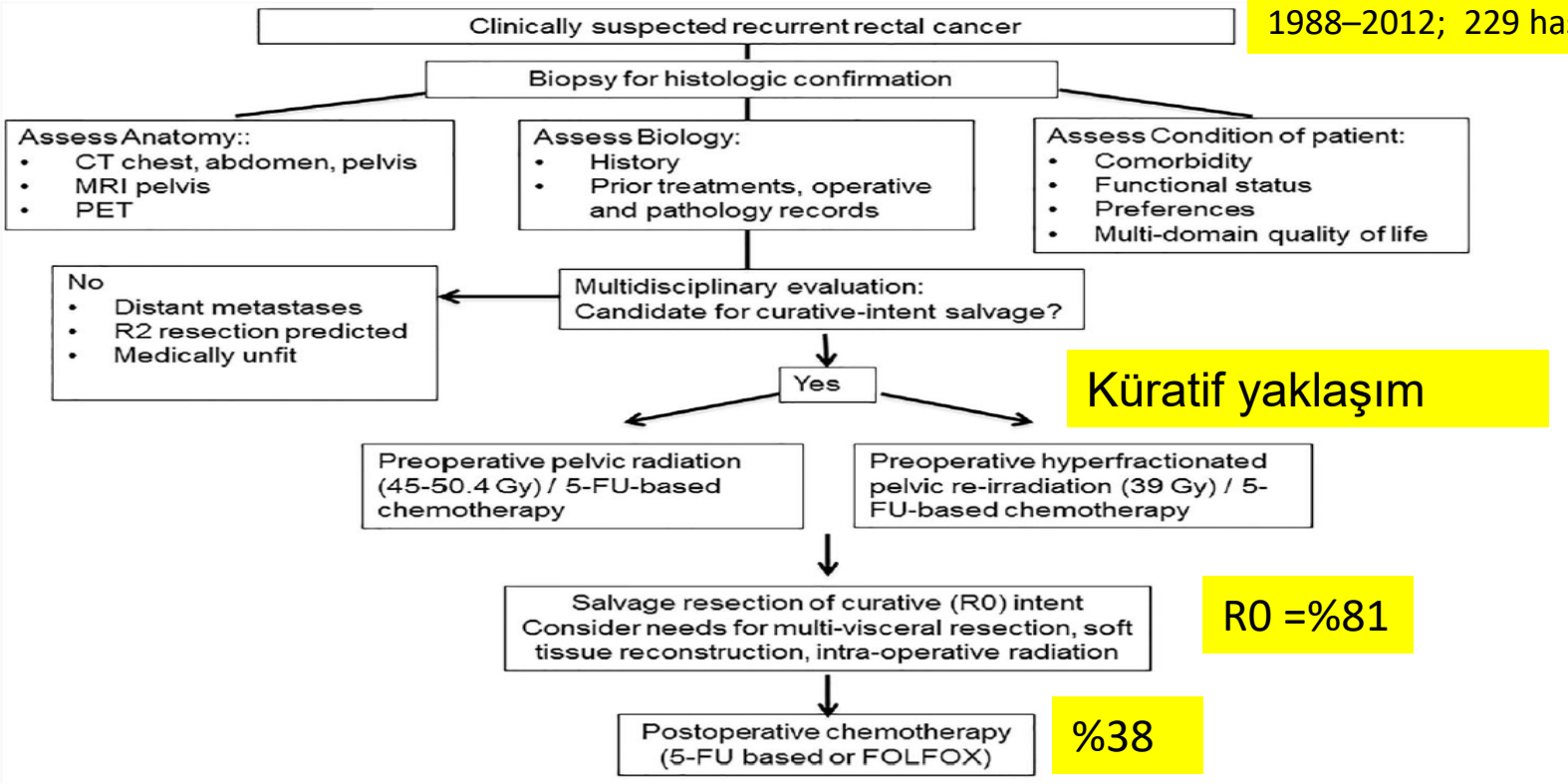
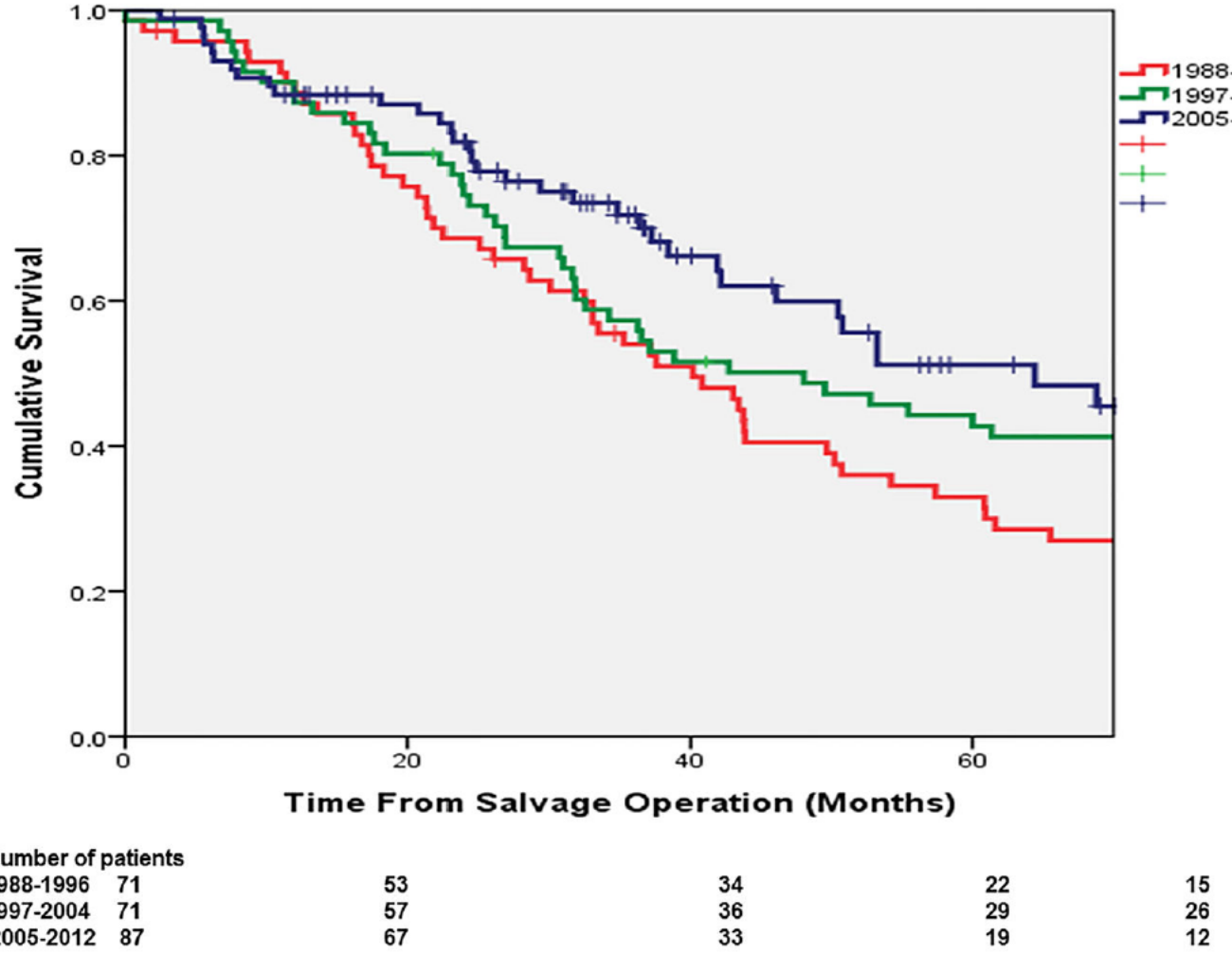


Figure 1.

A management algorithm for recurrent rectal cancer at University of Texas MD Anderson Cancer Centre.

You, 2016



5 y OS=%31,5

5 y OS=%49,8

Figure 4.
Increased salvage potential of patients over the evolving era of multimodality treatments

You, 2016

Factor	Hazard ratio for poorer 5-year overall survival	95% Confidence Interval	p-value
LRRC salvage, resection status			
R0	1.0		
Non-R0	1.69	1.10–2.61	0.017
LRRC salvage, additional LN retrieved			
No	1.0		
Yes	0.79	0.28–6.37	0.72
LRRC salvage, radiation treatment			
No	1.0		
Yes	0.87	0.58–1.30	0.51
LRRC salvage, systemic chemotherapy			
Yes	1.0		
No	1.41	0.91–2.14	0.11
Secondary failure			
No	1.0		
Yes %55 (125/229)	1.79	1.22–2.65	0.003

Original article

BJS 2018; 105: 650–657

Factors affecting outcomes following pelvic exenteration for locally recurrent rectal cancer

2004-2014; 1184 HASTA

The PelvEx Collaborative*

Neoadjuvant therapy	
Yes	614 (51·9)
No	515 (43·5)
Unknown	55 (4·6)
Type of neoadjuvant therapy	
Chemoradiotherapy	463 (75·4)
Radiotherapy alone	54 (8·8)
Chemotherapy alone	61 (9·9)
Unknown	36 (5·9)
Type of exenteration	
Total	418 (35·3)
Posterior	395 (33·4)
Anterior	80 (6·8)
Modified	91 (7·7)
Unknown	200 (16·9)
Bone resection	
Yes	240 (20·3)
No	944 (79·7)
Margin status	
R0	656 (55·4)
R1	365 (30·8)
R2	87 (7·3)
Unknown	76 (6·4)

Original article

BJS 2018; **105**: 650–657

Factors affecting outcomes following pelvic exenteration for locally recurrent rectal cancer

The PelvEx Collaborative*

Table 3 Postoperative duration of hospital stay and complications

	No. of patients* ($n = 1184$)
Duration of hospital stay (days)†	15 (10–26)
Readmission within 30 days	
Yes	70 (5·9)
No	1114 (94·1)
Major complications within 30 days	
Yes	380 (32·1)
No	804 (67·9)
Inpatient at 30 days	
Yes	179 (15·1)
No	867 (73·2)
Unknown	138 (11·7)
Reintervention	
Yes	118 (10·0)
Only surgical	63
Only radiological	33
Both surgical and radiological	22
No	1066 (90·0)
30-day mortality	
Yes	21 (1·8)
No	1163 (98·2)

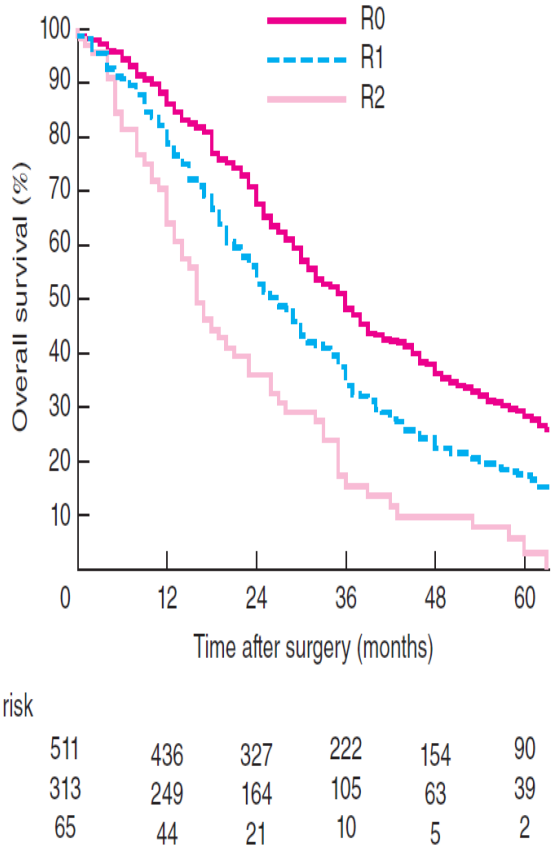


Fig. 1 Kaplan–Meier curves for overall survival according to resection margin status. $P < 0{\cdot}001$ (log rank test)

Original article

BJS 2018; **105**: 650–657

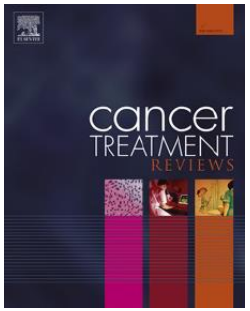
Factors affecting outcomes following pelvic exenteration for locally recurrent rectal cancer

The PelvEx Collaborative*

Table 4 Univariable and multivariable analyses of factors that influenced survival of pelvic exenteration for locally recurrent rectal cancer

	Median overall survival (months)	3-year overall survival (%)	5-year overall survival (%)	Univariable *P**	Multivariable Cox regression	
					Hazard ratio	*P*
Margin status (*n* = 839)				< 0·001		
R0 (*n* = 511)	36	48·1	28·2		1·00 (reference)	
R1 (*n* = 313)	27	33·9	17·3		1·28 (0·97, 1·69)	0·076
R2 (*n* = 65)	16	15	3		4·84 (2·77, 8·48)	< 0·001
Neoadjuvant therapy (*n* = 913)				0·008		
Yes (*n* = 530)	32	43·5	25·6			0·260
No (*n* = 383)	27	34·1	16·4			
Bone resection (*n* = 825)				< 0·001		
Yes (*n* = 184)	36	48·9	35·3		0·74 (0·55, 0·99)	0·049
No (*n* = 641)	29	38·8	19·0		1·00 (reference)	
Node status (*n* = 337)				0·014		
Positive (*n* = 76)	22	21	11			0·164
Negative (*n* = 261)	29	38·0	22·8			

Cancer Treatment Reviews 109 (2022) 102419



Oncological outcomes of multimodality treatment for patients undergoing surgery for locally recurrent rectal cancer: A systematic review

Michael G Fadel [a,b,*]

Studies included in systematic review (n = 15)

13 Retrospective studies
2 Prospective studies

1997-2021

974 patients in total

Treatment groups

	Neoadjuvant radiotherapy 346 patients	Neoadjuvant chemoradiotherapy 279 patients	Adjuvant chemotl RT 136 pati	Surgery only 189 patients	Surgery and IORT 24 patients
R0	% 52.4	**% 64.07**	% 47.0	% 74 tek çalışma	% 29.2
5 yıl LK	% 22	**% 49.5**	%13		%37.5 3 yıl
5 yıl OS	% 28.94	% **34.92**	% 20.67	% 29.74	

Original Article Asian Journal of Surgery 44 (2021) 298–302

Early recurrence after neoadjuvant chemoradiation therapy for locally advanced rectal cancer: Characteristics and risk factors

Han-Gil Kim [a], Ho Seung Kim [b], Seung Yoon Yang [b], Yoon Dae Han [b], Min Soo Cho [b],

Patterns of recurrence.

Patterns	Recurrence		
	Early %35 (<12 months, n = 49)	Late %65 (≧12 months, n = 90)	*P = 0.013*
Local only	0 (0%)	10 (11.1%)	
Local + Systemic	16 (32.7%)	18 (20.0%)	
Systemic only	33 (67.3%)	62 (68.9%)	

2010 -2016
KRT+C:
n=139/714 (%19)

Uni- and multivariate analysis of risk factors associated with early recurrence using cox regression model.

Factors	Early Recurrence			
	Univariate	Multivariate		
	P	HR	95% CI	*P*
Age (<60 vs. ≥60 years)	0.886			
Gender (male vs. female)	0.556			
BMI (<25 vs. ≥25 kg/m2)	0.376			
preCEA (<5 vs. ≥5 ng/mL)	0.071			
LVI	0.004			
PNI	0.035			
mrT stage ≧ T3c	0.166			
mrN (+)	0.683			
mrEMVI	0.046			
mrCRM	0.655			
Resection margin (+)	0.236			
Histology (WD/MD vs. PD/Mucinous)	0.655			
ypT stage (T0-2 vs. T3-4)	0.002			
ypN stage (N0 vs. N1-2)	0.002	2.110	1.144–3.892	0.017
Pathologic CRM (+)	0.003			
TRG (12 vs. 345)	0.001	2.962	1.434–6.119	0.003
Adjuvant CTx (Yes vs. No)	0.694			

Locally recurrent rectal cancer; long-term outcome of curative surgical and non-surgical treatment of 447 consecutive patients in a tertiary referral centre

J.A.W. Hagemans, J.M. van Rees, W.J. Alberda, J. Rothbarth, J.J.M.E. Nuyttens, E. van Meerten, C. Verhoef, J.W.A. Burger *European Journal of Surgical Oncology* (2019)

2000-2015

		Total (N=447)	Surgical (N=193)	Non-surgical (N=254)	P-value
Symptoms at diagnosis LRRC	Yes	262 (55%)	86 (45%)	176 (69%)	<0.001**
	No	185 (45%)	107 (55%)	78 (31%)	
Metastases at diagnosis LRRC	None	285 (64%)	172 (89%)	113 (45%)	<0.001**
	Lung	55 (12%)	11 (6%)	44 (17%)	
	Liver	45 (10%)	7 (4%)	38 (15%)	
	Lung & Liver	23 (5%)	0 (0%)	23 (9%)	
	Other	39 (9%)	3 (2%)	36 (13%)	
Location LRRC	Central	74 (18%)	54 (29%)	20 (9%)	<0.001**
	Anterior	62 (15%)	31 (17%)	31 (14%)	
	Posterolateral	53 (13%)	24 (13%)	29 (13%)	
	Anterolateral	34 (8%)	14 (8%)	20 (9%)	
	Lateral	59 (14%)	29 (16%)	30 (13%)	
	Pre-sacral	133 (31%)	33 (18%)	100 (44%)	
	Missing***	32	8	24	

Table 2. Treatment and follow up of LRRC in surgical and non-surgical treatment

	Surgical (N=193)	Non-surgical (N=254)
Neoadjuvant therapy LRRC		
None	19 (10%)	205 (81%)
Irradiation (50Gy)	38 (20%)	13 (5%)
Re-irradiation (30Gy)	9 (5%)	3 (1%)
Induction chemotherapy*	20 (10%)	9 (2%)
Chemoradiotherapy (50Gy)	61 (32%)	14 (6%)
Re-Chemoradiotherapy (30Gy)	59 (31%)	15 (6%)
Surgical procedure		
Total pelvic exenteration	43 (22%)	N/A
Posterior pelvic exenteration	27 (14%)	N/A
APR with MVR	26 (14%)	N/A
LAR with MVR	18 (9%)	N/A
Local resection with MVR	11 (5%)	N/A
APR only	25 (13%)	N/A
LAR only	26 (13%)	N/A
Local resection only	17 (7%)	N/A
IOBT**	86 (45%)	N/A

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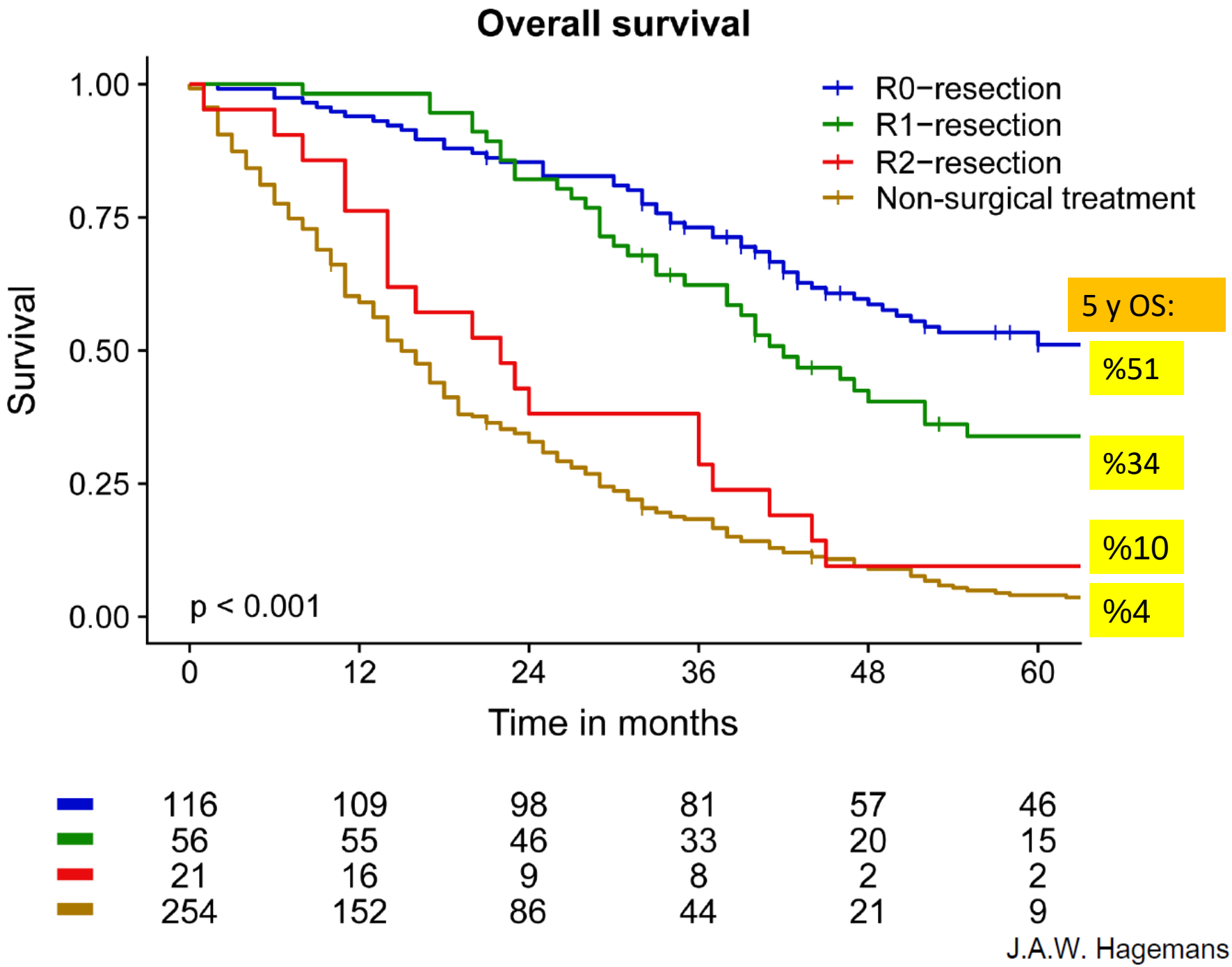
%90

intraoperative brachytherapy

J.A.W. Hagemans


Overall survival
R0−resection
R1−resection
R2−resection
Non-surgical treatment
Survival
1.00
0.75
0.50
0.25
0.00
p < 0.001
0
12
24
36
48
60
Time in months
5 y OS:
%51
%34
%10
%4
116 109 98 81 57 46
56 55 46 33 20 15
21 16 9 8 2 2
254 152 86 44 21 9
J.A.W. Hagemans

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Published online: 19 March 2020

Improved Outcomes for Responders After Treatment with Induction Chemotherapy and Chemo(re)irradiation for Locally Recurrent Rectal Cancer

E. L. K. Voogt, MD[1], D. M. G. I. van Zoggel, MD[2], M. Kusters, MD[3], G. A. P. Nieuwenhuijzen, MD[1],

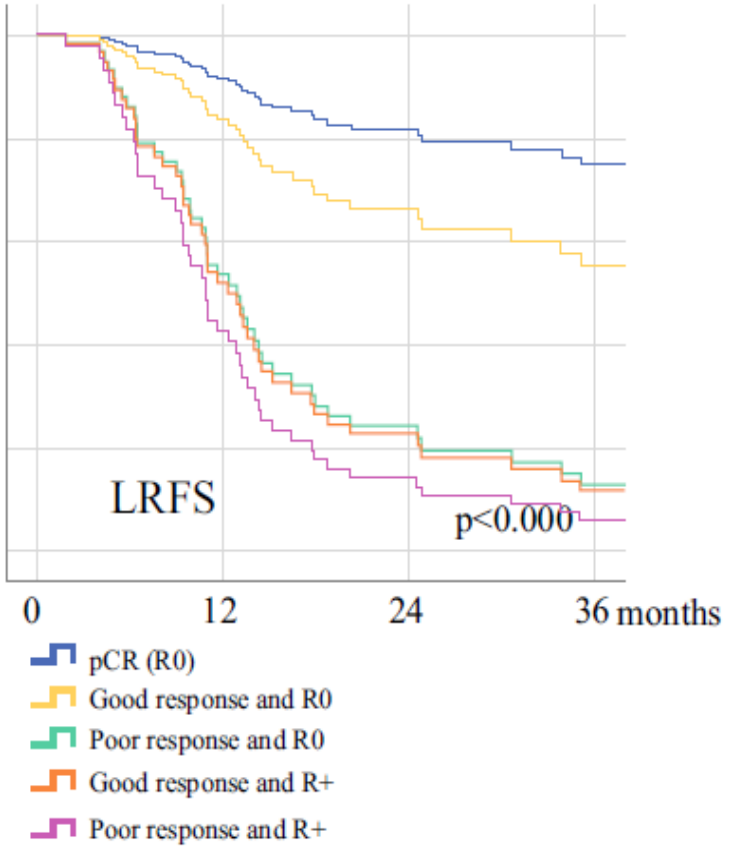
Characteristics recurrent tumor and treatment

2010-2018

	Total (N = 132) N (%)
Neoadjuvant radiotherapy	
(Chemo)radiotherapy	24 (18)
(Chemo)reirradiation	108 (82)
Surgical procedure	
LAR	14 (11)
APR	16 (12)
Multivisceral resection	50 (38)
Total pelvic exenteration	25 (19)
Resection n.o.s	27 (20)
HIPEC	
Yes	8 (4)
No	124 (96)
IOERT	
Yes	111 (84)
No	21 (16)

45–50 Gy/25 fr.1.8–2 Gy. Reirradiation, 30–30.6 Gy / 15–17 fr.1.8–2 Gy. Eşzamanlı capecitabine (825 mg/m2 bid)

10-12,5 Gy



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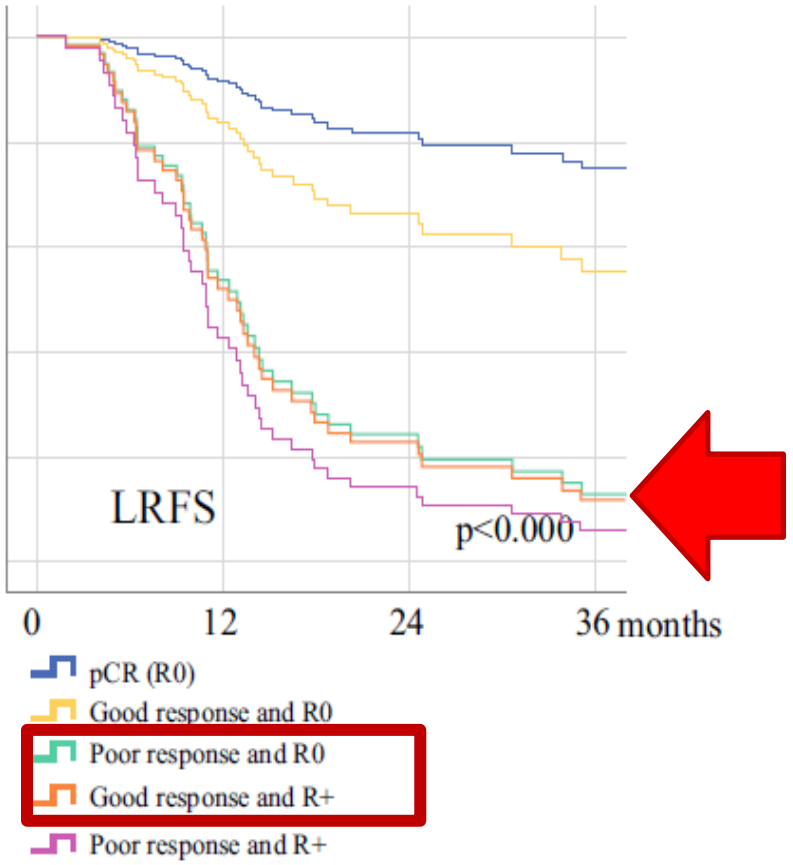
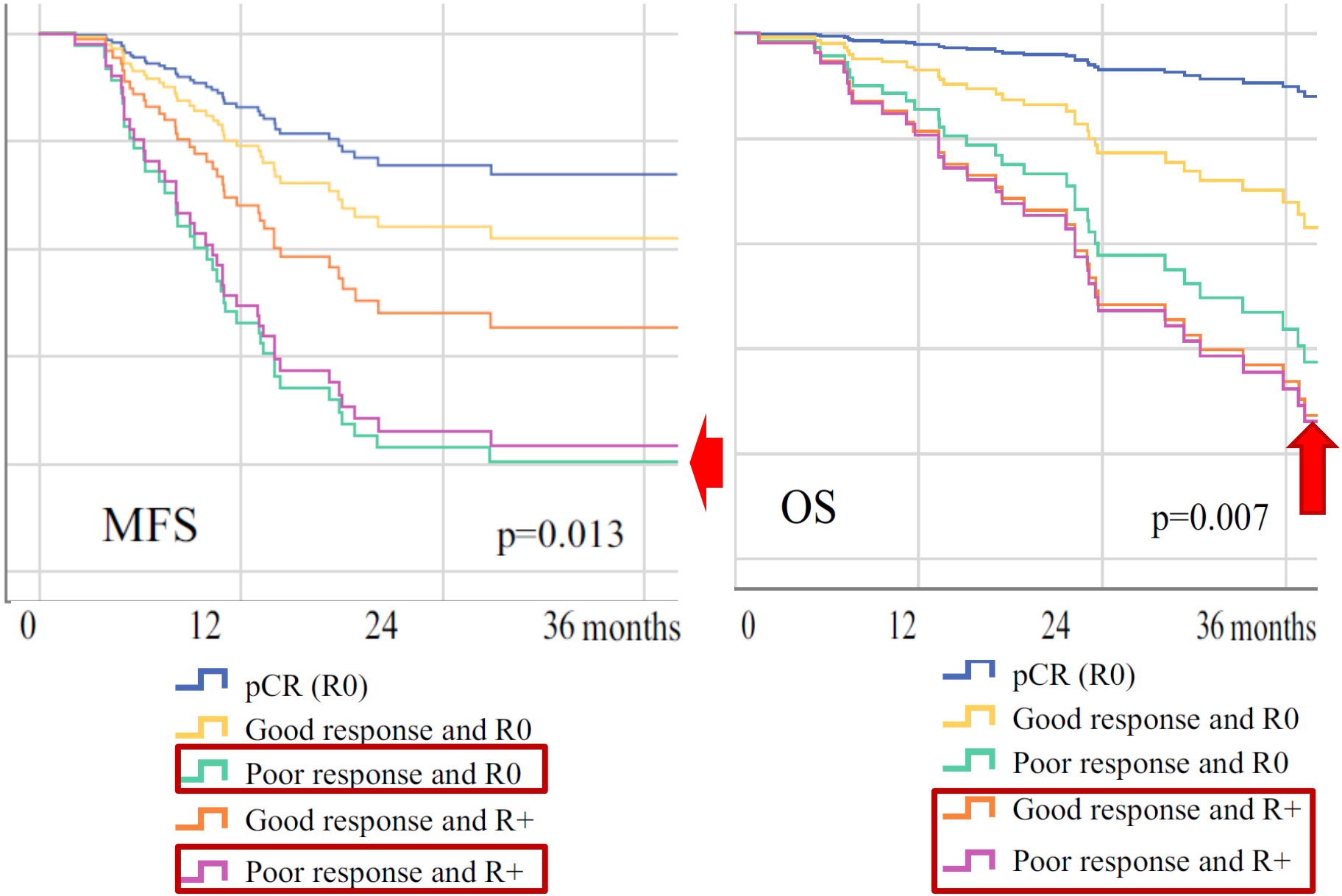
10-12,5 Gy

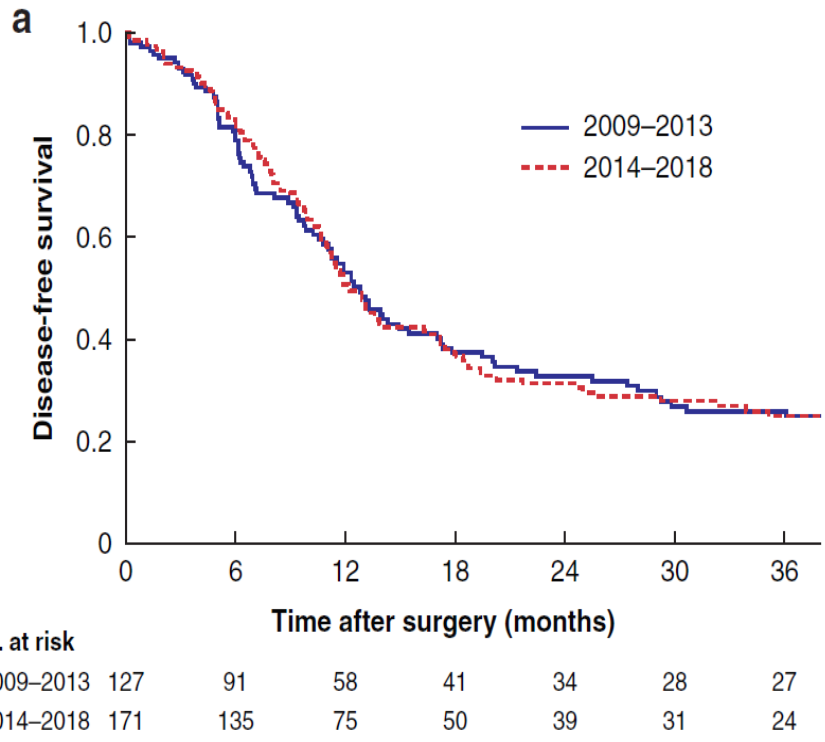


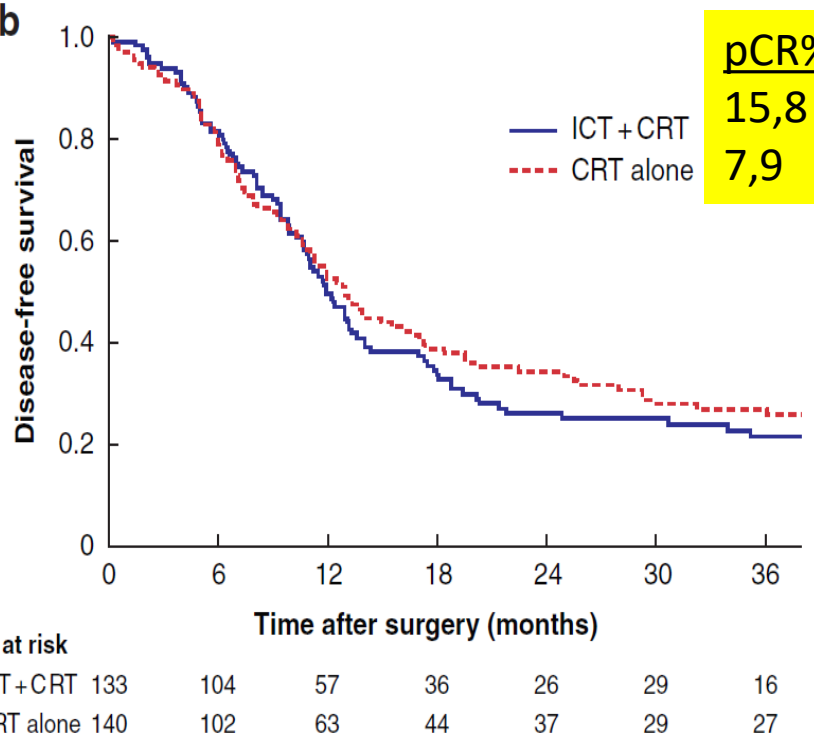

MFS
p=0.013
0
12
24
36 months
OS
p=0.007
0
12
24
36 months
pCR (R0)
Good response and R0
Poor response and R0
Good response and R+
Poor response and R+
pCR (R0)
Good response and R0
Poor response and R0
Good response and R+
Poor response and R+

BJS, 2021, **108**, e213–e214

Curative treatment of locally recurrent rectal cancer: is induction chemotherapy warranted?

E. L. K. Voogt [1,*], S. Nordkamp[1], G. A. P. Nieuwenhuijzen [1], G. J. Creemers[2], H. M. U. Peulen[3], H. J. T. Rutten[1,4] and J. W. A. Burger[1]



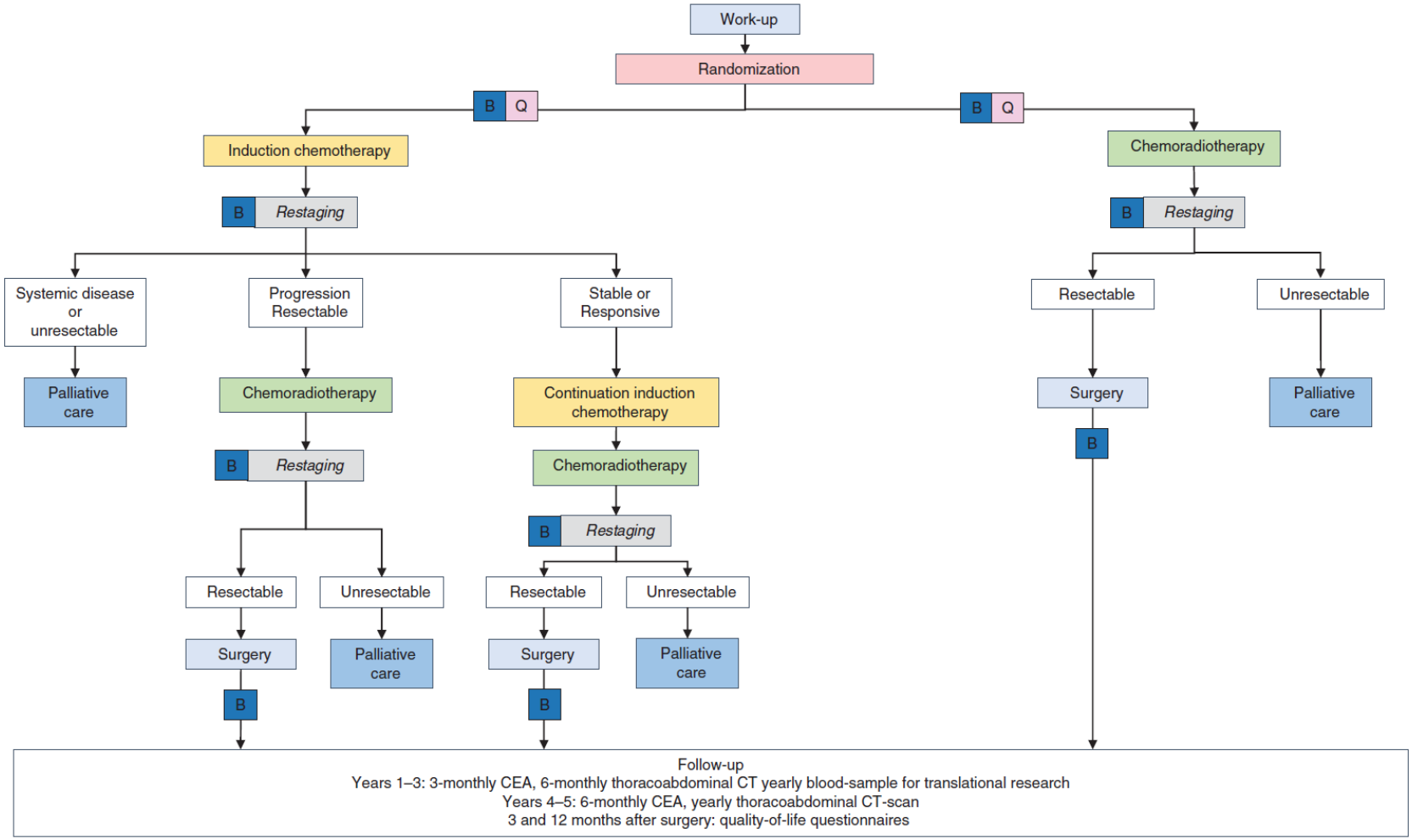


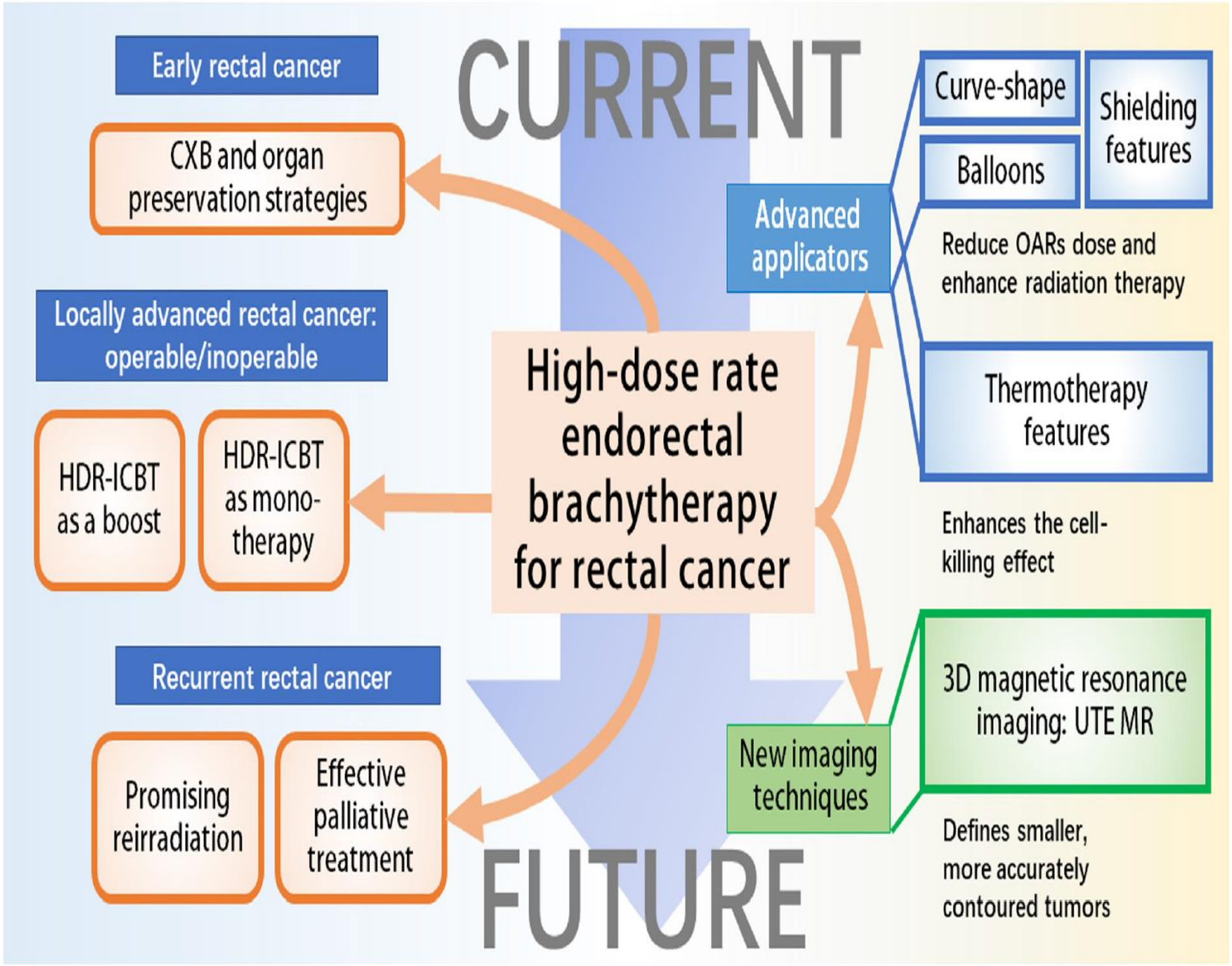
pCR%
15,8
7,9

Fig. 1 Disease-free survival according to treatment period and type of neoadjuvant treatment

Disease-free survival in **a** 2009–2013 (induction chemotherapy not local standard of care) *versus* 2014–2018 (induction chemotherapy local standard of care), and **b** after treatment with induction chemotherapy, chemo(re)irradiation and surgery *versus* chemo(re)irradiation and surgery alone. **a** $P = 0.893$, **b** $P = 0.412$ (log rank test).

Induction chemotherapy followed by chemoradiotherapy *versus* chemoradiotherapy alone as neoadjuvant treatment for locally recurrent rectal cancer: study protocol of a multicentre, open-label, parallel-arms, randomized controlled study (PelvEx II)





Cancer Science. 2023;114:4145–4156.

J Contemp Brachytherapy 2019; 11, 4: 343-348

Image-guided high-dose-rate interstitial brachytherapy for recurrent rectal cancer after salvage surgery: a case report

Bei Yanping, MD[1,2], Naoya Murakami, MD, PhD[1], Satoshi Shima, MD[1], Kana Takahashi, MD, PhD[1], Koji Inaba, MD, PhD[1],

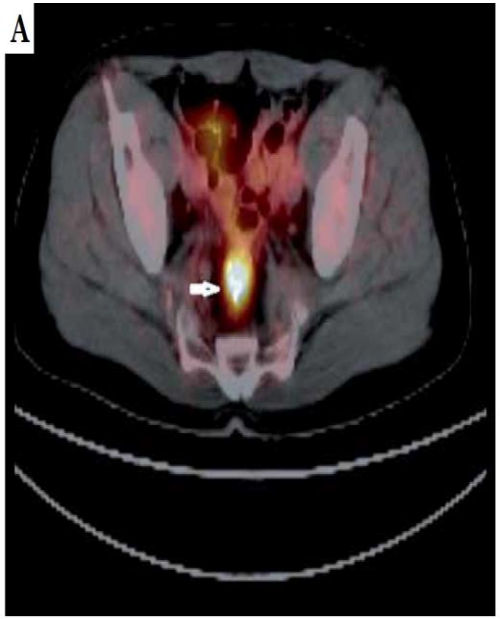


Fig. 1. Axial (**A**) and sagittal (**B**) images of PET-CT images of recurrent rectal carcinoma in the presacral area closed to the sigmoid colon

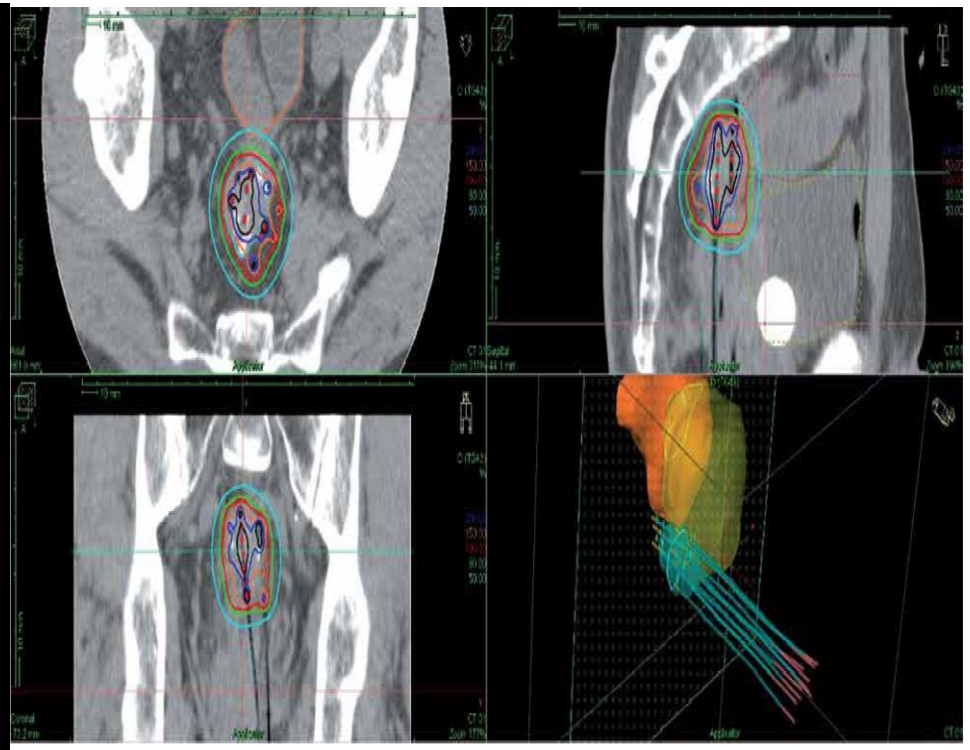


Fig. 2. The isodose dose distribution of the interstitial brachytherapy. From a dosimetric point of view, the sigmoid D_{2cc} was 272 cGy, bladder D_{2cc} was 212 cGy, and CTV D_{90} was 840 cGy per fraction, respectively

PTV margin =0; Total prescribed dose 100% CTV'ye 30 Gy/5 fr./3 gün, bid. EBRT HDR-ISBT'den sonra,39.6 Gy/ 22 fr.

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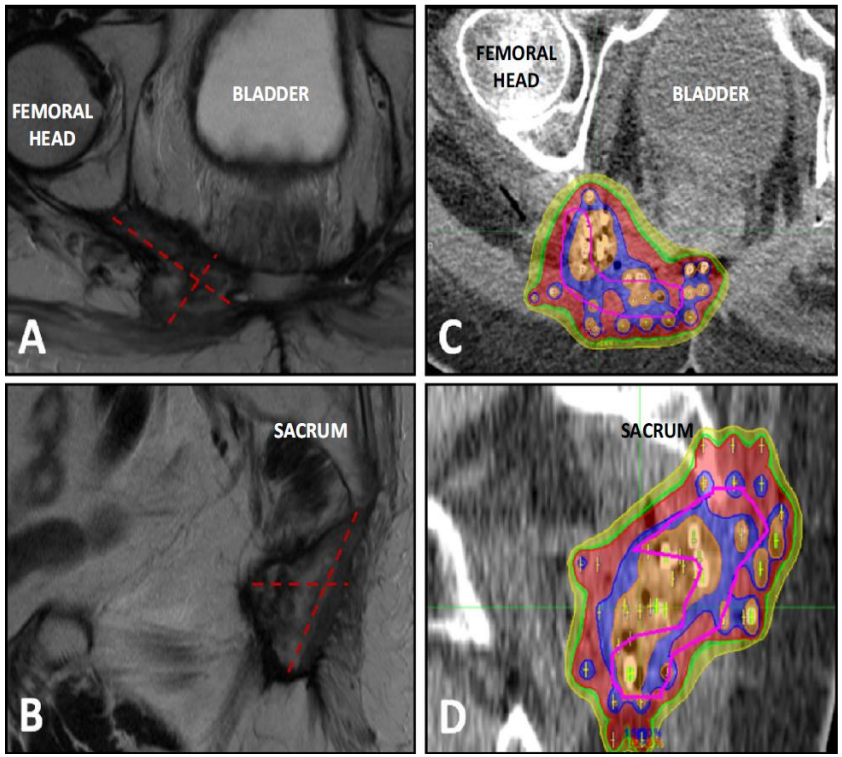
ORIGINAL ARTICLE – COLORECTAL CANCER

Interstitial Brachytherapy for the Treatment of Locally Recurrent Anorectal Cancer

The University of Texas MD Anderson Cancer Center

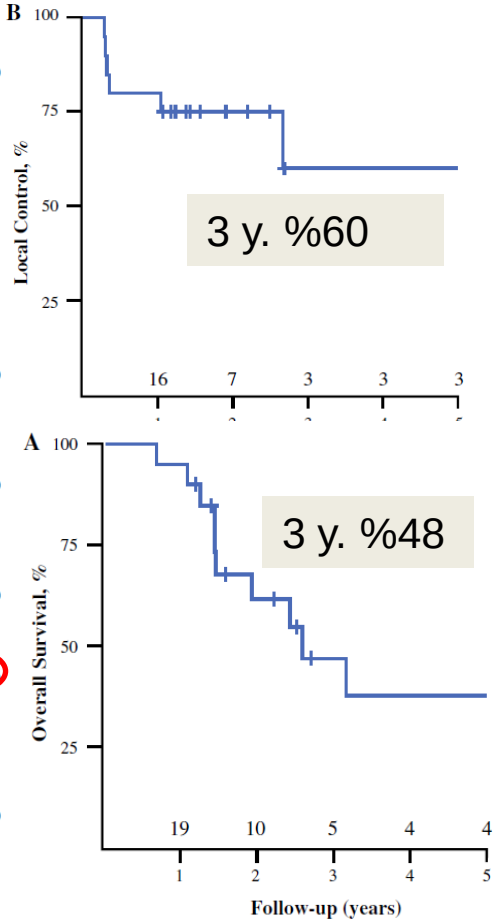
Andrew J. Bishop, MD[1], Sanjay Gupta, MD[2], Mandy G. Cunningham, BS[3], Randa Tao, MD[1], Paula A. Berner, BS[3],

2000 -2012, n= 20 (17 rektum, 3 anal kanal); Med. Takip: 23 ay (range 13–132)



prescribed to 80 Gy at a 1-cm margin or 120 Gy to 100 % of the GTV.

Primary site	
Rectal	17 (85)
Anal	3 (15)
Treatment of first pelvic recurrence	
EBRT alone	7 (35)
Brachytherapy	4 (20)
Chemoradiation	3 (15)
Exenteration	3 (15)
Abdominoperineal resection	2 (10)
Chemotherapy alone	1 (5)
No. of surgeries before implant	
0	3 (15)
1	10 (50)
2	5 (25)
3	1 (5)
No. of EBRT courses (before implant)	
1	12 (60)
2	7 (35)
3	1 (5)
Number of IORT courses (before implant)	
0	16 (80)
1	4 (20)
Site of implanted recurrence	
Presacral	10 (50)
Sciatic notch	6 (30)
Pelvic sidewall	2 (10)
Other	2 (10)
Sites involved at time of implant	
Pelvis only	14 (70)
Pelvis + distant	6 (30)



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ORIGINAL ARTICLE – COLORECTAL CANCER

Interstitial Brachytherapy for the Treatment of Locally Recurrent Anorectal Cancer

Andrew J. Bishop, MD[1], Sanjay Gupta, MD[2], Mandy G.

TABLE 2 Physician reported pre-implant symptoms and palliation rates

Variable	Value or no. of patients (%)
Symptoms present before the implant	
Pain	13
Paresthesia/weakness	6
Hydronephrosis	3
Bleeding	1
None	3
Symptoms palliated after implant	
Yes	13 (76)
No	4 (24)
Type of symptoms palliated	
Pain	9
Anesthesia	3
Other	2
Time to symptom relief (months)	
Median	3
Range	1–6
Durability of palliation	
Permanent	7
Symptoms returned	6
Time to loss of palliation (months)	
Median	8
Range	5–17

11 ay (9-43)

12 ay (6-15)

12 ay sonra

48 ay sonra

Type of toxicity	Value or no. of patients (%)	Grade 1	Grade 2	Grade 3	Grade 4
Neurologic					
None	16 (80)				
Sciatic pain	1 (5)	–	1	–	–
Anesthesias	1 (5)	1	–	–	–
Foot drop + pain	1 (5)	–	1	–	–
Foot drop + anesthesias	1 (5)	–	1	–	–
Urologic					
None	16 (80)				
Ureteral stricture	3 (15)	–	2	1	–
Bleeding without intervention	1 (5)	1	–	–	–
Rectal					
None	18 (90)				
Stricture-asymptomatic	1 (5)	1	–	–	–
Bleeding without intervention	1 (5)	1	–	–	–

Clinical Investigation Volume 110 • Number 4 • 2021

Intraoperative Electron Beam Radiation Therapy (IOERT) Versus High-Dose-Rate Intraoperative Brachytherapy (HDR-IORT) in Patients With an R1 Resection for Locally Advanced or Locally Recurrent Rectal Cancer

Eva L.K. Voogt, MD,* Jan M. van Rees, MD,† Jan A.W. Hagemans, MD,

International Journal of Radiation Oncology biology • physics

Table 3 Patient, tumor, and surgical characteristics in patients with locally recurrent rectal cancer*

Characteristic	Total, No. (%) (N = 158)	IOERT, No. (%) (n = 112)	HDR-IORT, No. (%) (n = 46)	*P* value
Neoadjuvant treatment, primary tumor				
None	67 (42)	39 (35)	28 (61)	.008
5x5 Radiation therapy	48 (30)	40 (35)	8 (17)	
(Chemo)radiation therapy	43 (27)	33 (30)	10 (22)	
Neoadjuvant radiation therapy recurrence				
5x5 Radiation therapy	4 (3)	1 (1)	3 (7)	.001
(Chemo)radiation therapy	56 (35)	32 (29)	24 (52)	
(Chemo)reirradiation	98 (62)	79 (71)	19 (41)	
Complications				
Clavien-Dindo 0-II	107 (68)	82 (74)	25 (54)	.017
Clavien-Dindo III-V	50 (32)	29 (26)	21 (46)	

Kellie L. Mathis

Table 4 Univariable and multivariable analysis for overall and local recurrence-free survival in patients with locally recurrent rectal cancer*

Variable	Overall survival						Local recurrence-free survival					
	HR	95% CI	*P* value	HR	95% CI	*P* value	HR	95% CI	*P* value	HR	95% CI	*P* value
Type of IORT												
IOERT	1.00	1[Ref]		1.00	1[Ref]		1.00	1[Ref]		1.00	1[Ref]	
HDR-IOBT	1.062	0.737-1.531	.747	1.168	0.792-1.722	.433	0.711	0.451-1.120	.141	0.567	0.349-0.920	.021
Pathologic lymph node stage, primary tumor												
N0	1.00	1[Ref]		1.00	1[Ref]		1.00	1[Ref]		1.00	1[Ref]	
N1	1.335	0.906-1.967	.144	1.236	0.820-1.864	.311	0.908	0.567-1.456	.690	0.986	0.602-1.616	.955
N2	1.820	1.165-2.842	.008	1.879	1.199-3.001	.006	1.914	1.135-3.229	.015	2.099	1.228-3.588	.007
Neoadjuvant therapy, primary tumor												
None	1.00	1[Ref]					1.00	1[Ref]				
5x5 Radiation therapy	1.346	0.904-2.003	.143				1.666	1.035-2.682	.036			
(Chemo)radiation therapy	1.594	1.046-2.428	.030				1.932	1.183-3.153	.008			

	Önceki RT	Hiperfr.RT	interval	Eşzamanlı KT	Toksisite	cevap	sonuç
Valentini, 2006 n=59 İtalya	50,4 Gy (30-55)	PTV1(GTV+4 cm), **30Gy(1.2 Gy,bid)** +boost PTV2 (GTV+2 cm) **10,8 Gy**	27 ay (9-106)	5FU,iv infüzyon	**Grad 3** alt GİS= %5.1	Rezeksiyon= 30/59 **(%50.8)** tam=%8.5 parsiyel=%35.6 Stabl=%52.6 Prog.=%3.4	**R0 =%35** **Med.OS=42 ay** LR=%47.5 UM=%30.5 5 y OS= **R0:%66.8** R+:%22.3
Das, 2010 2001-2005 n=50 ABD	47 Gy (25-70)	**GTV+2-3 cm; İnterval >1 yıl: 39 Gy(1.5 Gy,bid)** n=47 İnterval <1 yıl: 30 Gy (n=3)	2.3 yıl (0.4-29.5)	%96 eşzamanlı KT+	3 yıl **grad 3-4 geç toksisite %35**	Rezeksiyon= 18/50 (%36)	3 yıl OS= Rezeksiyon+ %66 Rezeksiyon- %21
Cai, 2014 2007-2012 n=22 Çin	48 Gy (36-62)	PTV(GTV+2-3 cm) 39 Gy/30 fr. 1.3 Gy bid	30 ay (18-93)	%80 RT'den sonra KT	Akut **Gr.4** toksisite **yok** **Geç toks. Nadir**	Tam=0 Parsiyel=%40.9 Stabl=%54.5 Prog.=%4.5	Med. LK=14 ay **Med.OS=19 ay**
Truelsen, 2023 n=16 2015-2019	50Gy (25-60)	40.8 Gy (37.2-45) (1.2 Gy bid)	3.74 yıl (2.73-4.73)		**Post-RT ≥ Gr.3 = 3 hasta**	R0= %27.3 R1=%64 R2=%9.1	**Med. RFS= 15.8 ay** **Med.OS= 47 ay** **CR/R0/R1 : 51 ay** **R2/non-rez: 12 ay**

cancers

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Systematic Review *Cancers* **2023**, *15*, 4838.

Modern Techniques in Re-Irradiation for Locally Recurrent Rectal Cancer: A Systematic Review

Giovanna Mantello [1], Elena Galofaro [1,*], Silvia Bisello [1], Giuditta Chiloiro [2], Angela Romano [2],

LRRC en az 10 hastalı, 7 çalışma (2011-2022); 6 retrospektif, 1 faz 2.
re-RT ± KT
IMRT/ VMAT veya SBRT.
Carbon Ion RT, ProtonBR

Author	N° Patients	Country	Year	Study Design	Study Period	Patient Population	Re-RT Technique	Age, (Range) Years	Previous RT Dose (Range), Gy	Interval between RT (Range), mo	Re-RT Total Dose, Gy	Re-RT Fx. Dose, Gy	CTx. Rate (%) (Agent)	Surgery
Chung SY	35	Japan-Korea	2022	R	2005–2019	LRRC	CIRT	62 (37–76)	50 (20–66)	NR	70.4 Gy (RBE) 101.38 Gy in BED10	4.4 Gy [RBE]	Not administered	0%
	31						29% 3D RT, 71% IMRT or Cyberknife	60 (35–87)	50.4 (45–60)	NR	50 Gy (range 25–62.5 Gy) 60 Gy in BED10		68% *	23% After, 13% Before re-RT
Yamada S	77	Japan	2022	R	2005–2017	LLRC	CIRT	60 (37–76)	50 (20–74)	50 (13–157)	70.4 Gy (RBE)	4.4 Gy [RBE]	Not administered	0%
Barcellini A	14	Italy	2020	R		LRRC	CIRT	58.5 (34–78)	45 (45–76)	65 (14–139)	60 Gy RBE (35–76.8)	3 Gy RBE (3–4.8)	NR	0%
Habermehl D	19	Germany	2014	R	2010–2013	Unresectable LRRC	CIRT	62 (14–76)	50.4 (50.4–60.4)	47.4 (17–110)	36 to 51 Gy (RBE)	3 Gy (RBE).	NR	NR
Cai G.	22	China	2014	Phase II	2007–2012	Unresectable LRRC	IMRT	53 (40–68)	48.6 (36–62)	30 (18–93)	39	1.3 BID	81.8% (5-FU based)	0%
Dagoglu N.	18	Turkey	2015	R	2006–2012	Pelvic RRC or CC	Cyberknife	68 (32–93)	50.4 (25–100.4)	22 (15–336)	25 (24–40)	5	Not administered	NR
DeFoe S.G.	14	USA	2011	R	2003–2008	Presacral RRC	Cyberknife	65.5 (42–77)	50.4 (20–81)	NR	16 (12–36)	12	NR	NR

cancers

MDPI

Systematic Review *Cancers* **2023**, *15*, 4838.

Modern Techniques in Re-Irradiation for Locally Recurrent Rectal Cancer: A Systematic Review

Giovanna Mantello [1], Elena Galofaro [1,*], Silvia Bisello [1], Giuditta Chiloiro [2], Angela Romano [2],

Author	Re-RT Technique	Follow up (Range), Months	Progression-Free Survival (PFS)					Overall Survival (OS)					Local Control (LC)				
			Median (months)	1-year PFS	2-year PFS	3-year PFS	5-year PFS	Median (months)	1-year OS	2-year OS	3-year OS	5-year OS	Median (months)	1-year LC	2-year LC	3-year LC	5-year LC
Chung S.Y.	CIRT	45.7 (7–148.4)	NR	NR	NR	NR	NR	Not achieved	97%	93%	86.4%	62%	NR	94%	NR	87%	70%
	3D—IMRT or Cyberknife	22.8 (7.2–148.4)	NR	NR	NR	NR	NR	36.9	88.9%	59%	54.5%	30%	NR	89%	NR	44%	55%
Yamada S.	CIRT	45 (7–159)	14	58%	36%	33%	25%	47	90%	73%	61%	38%	NR	85%	75%	69%	62%
Barcellini A.	CIRT	18	m-PFS 14.4 (2–40)	64.3%	43%	NR	NR	NR	100%	76.2%	76.2%	NR	14.5 (2.4–49.5)	78%	52%	NR	NR
Habermehl D.	CIRT	8	NR	NR	NR	NR	NR	9.1	NR	NR	NR	NR	20.6 *	85%	NR	NR	NR
Cai G.	IMRT	17 (2–59)	NR	67%	10.7%	NR	NR	19	85.9%	27.2%	NR	NR	14	NR	NR	NR	NR
Dagoglu N.	IMRT	38 (6–36)	38	80.2%	68.7%	61.1%	NR	40	76.8%	65.9%	59.3%	NR	NR	100%	93.7%	85.9%	NR
DeFoe S.G.	cyberknife	16.5 (6–69)	NR	NR	NR	NR	NR	NR	90%	78.8%	NR	60%	NR	90.9%	68.2%	30%	NR

scientific reports

(2022) 12:1845

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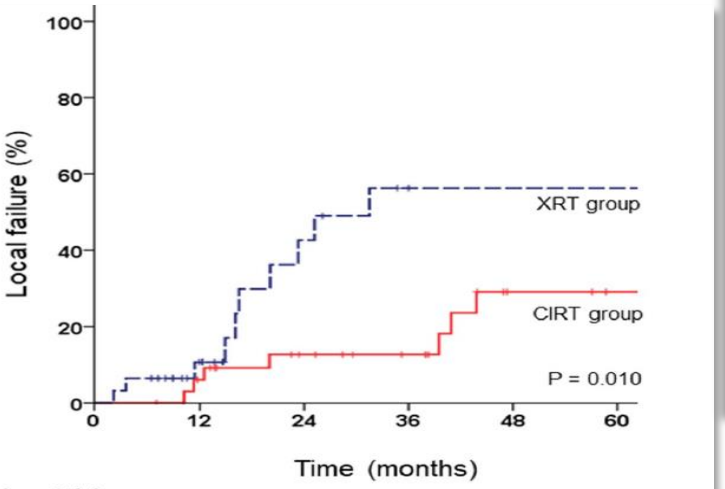
Comparison of clinical outcomes between carbon ion radiotherapy and X-ray radiotherapy for reirradiation in locoregional recurrence of rectal cancer

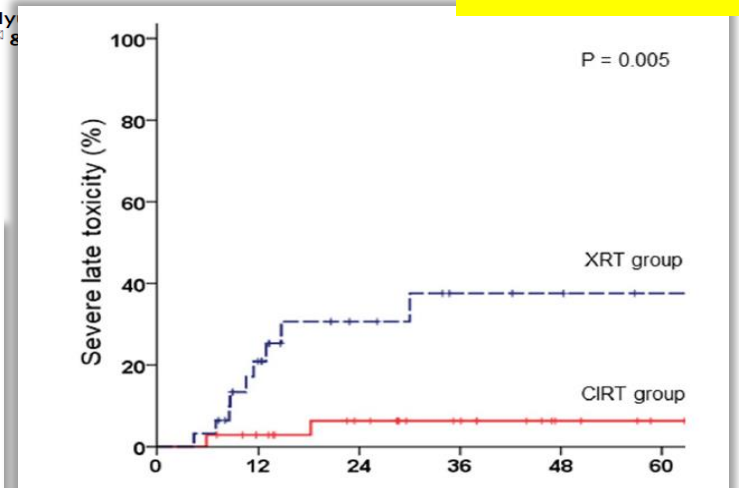
Seung Yeun Chung[1,2,5], Hirotoshi Takiyama[3,5], Jae Hy
Byung Soh Min[4], Hiroshi Tsuji[3], Shigeru Yamada[3,5]✉ 8

median BED10
prescribed dozlar
CIRT :101.4 Gy,
XRT : 60 Gy



Number at risk

CIRT	35	30	23	19	10	8
XRT	31	20	9	4	4	4



Number a

CIRT	
XRT	

Pre- or post-RT chemotherapy	CIRT		XRT		0.005
No	21	60	8	26	
Yes	14	40	23	74	
Concurrent chemotherapy					<0.001
No	35	100	10	32	
Yes	0	0	21	68	
ReRT total dose (cGy)					<0.001
Median (range)	7040 (7040–7040)		5000 (2500–6250)		<0.001

Radiotherapy and Oncology 132 (2019) 236–240

Contents lists available at ScienceDirect

Radiotherapy and Oncology

journal homepage: www.thegreenjournal.com

Original Article

Carbon-ion radiotherapy for locally recurrent rectal cancer: Japan Carbon-ion Radiation Oncology Study Group (J-CROS) Study 1404 Rectum

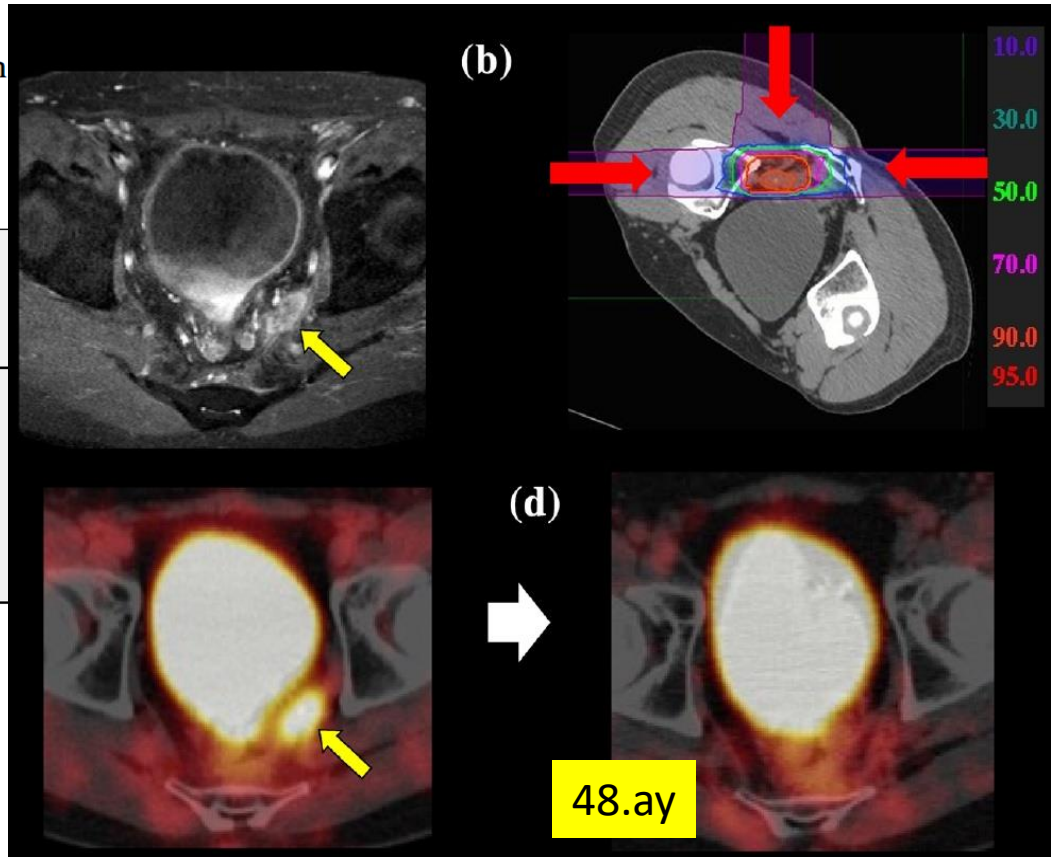
Makoto Shinoto [a,*], Shigeru Yamada [b], Masah

2003-2014, n:224

Treatment-related acute and late toxicities.

	Acute toxicity			Late toxicity		
	Grade 2 n (%)	Grade 3 n (%)	Grade 4/5 n (%)	Grade 2 n (%)	Grade 3 n (%)	Grade 4/5 n (%)
Skin	7 (3.1)	0	0	1 (0.4)	2 (0.9)	0
GI tract	3 (1.3)	1 (0.4)	0	1 (0.4)	2 (0.9)	0
Bladder	2 (0.9)	0	0	2 (0.9)	0	0
Pain	0	0	0	17 (7.6)	0	0
Neuropathy	2 (0.9)	0	0	10 (4.5)	1 (0.4)	0
Pelvic infection	0	2 (0.9)	0	2 (0.9)	7 (3.1)	0

	OS %	LK
3 yıl	73	93
5 yıl	51	88



90 % isodose of the prescribed dose. Yamada, 2022

Clinical and Translational Radiation Oncology 19 (2019) 59–65

Contents lists available at ScienceDirect

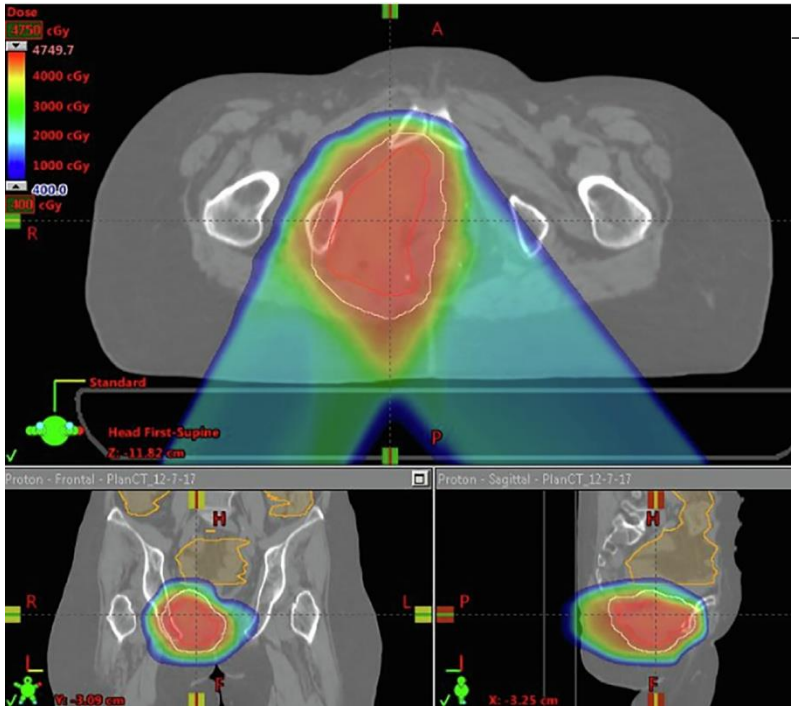
Clinical and Translational Radiation Oncology

journal homepage: www.elsevier.com/locate/ctro

Original Research Article

Definitive hyperfractionated, accelerated proton reirradiation for patients with pelvic malignancies

Shalini Moningi [a], Ethan B. Ludmir [a], Praveen P

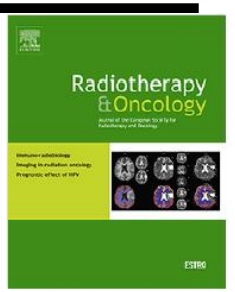


Patient Characteristics.

Initial Histology	Current Histology	Initial RT dose (Gy)	Initial # fractions	Re-RT dose (Gy (RBE))	Re-RT interval (years)	Acute toxicity	Late toxicity
RAC*	Adeno #	25	5	36	0.9	None	None
RAC*	Adeno #	54	27	36	25.7	G1 diarrhea	None
RAC*	Adeno #	50.4	28	39	10.7	None	None
RAC*	Adeno #	50.4	28	42	5.5	G1 pain, G3 lymphopenia	None
RAC*	Adeno #	50.4	28	39	18.8	G1 pain, dermatitis and constipation	None
RAC*	Adeno #	45	25	39	1.5	G1 diarrhea and fatigue	None
ASCC**	SCC†	50.4	28	45	2.2	None	None
ASCC**	SCC†	54	30	45	3.3	G1 diarrhea, fatigue, nausea, pain and G2 dermatitis	None
ASCC**	SCC†	50	25	45	4.7	G1 fatigue, nausea, constipation, dermatitis	G2 pelvic fracture
ASCC**	SCC†	54	30	39	2.4	G1 nausea, pain, diarrhea, fatigue	None
ASCC**	SCC†	50.4	28	39	1.4	G1 nausea, fatigue	G3 dysuria, G1 pain
PAC***	Adeno #	75.6	42	45	7.7	G1 diarrhea, fatigue, hematochezia	None
PAC***	Adeno #	80	40	45.5	14.1	G2 diarrhea, mucositis, pain	G3 rectal bleeding
Lymphoma	Adeno #	40	20	29	36.1	G1 pain, fatigue, diarrhea, headache	None
Neuro-endocrine carcinoma	Neuro-endocrine carcinoma	54	27	39	1.6	G1 fatigue, dysuria and G2 pain	None

*RAC: Rectal Adenocarcinoma; ** ASCC: Anal Squamous Cell Carcinoma; ***PAC: Prostate Adenocarcinoma; †SCC: Squamous Cell Carcinoma; # Adeno: Adenocarcinoma

Systematic Review Radiotherapy and Oncology 140 (2019) 10–19



Practical effectiveness of re-irradiation with or without surgery for locoregional recurrence of rectal cancer: A meta-analysis and systematic review

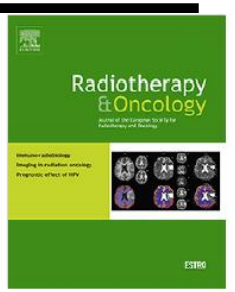
17 çalışma; 1993-2017; n=12-102 (744 hasta)
3DCRT-IMRT hiperFR,SBRT,

Jeongshim Lee [a,b], Chul Y

Study characteristics.

Author	N	Year	Country	Study design	Study period	Patient population	Age	Previous RT dose, Gy	Interval between RT, mo	ReRT total dose, Gy	ReRT Fx. dose, Gy	Cumulative dose, Gy	ReRT technique	CTx. Rate (%) (agent)
							median (range)							
Dagoglu	18	2015	USA	R	2006–2012	pelvic RRC or CC	68 (32–93)	50.4 (25–100.4)	22 (15–336)	mean 25 (24–40)	5	75.4	SBRT (100%)	72 (NR)
Sukso	33	2016	USA	R	2000–2014	LRRC	63 (IQR 58–70)	47	39 (IQR 25–50)	30 (18–36)	(1.8–2)	77.4 (65.4–86.4)	2D/3D RT (52%); IMRT (33%); IOERT (15%)	75 (fluoropyrimidine)
Jufferman	54	2003	Netherland	R	1990–2000	unresectable RRC	63 (38–77)	50 (25–70)	22 (4–97)	30 (24–32)	4, twice weekly	82 (57–94)	3DCRT (with hyperthermia)	
Cai	22	2014	China	P	2007–2012	unresectable RRC	53 (40–68)	48.6 (36–62)	30 (18–93)	39	1.3, bid		IMRT + hyperfractionated	81.8 (5-FU)
Tao	102	2017	USA	R	2001–2012	isolated pelvic RRC	58 (35–77)	50.4 (25–63)	30 (5–789)	39 (30–45)	1.5, bid	89.4 (55–104.5)	3DCRT (91%); IMRT (4%); others (5%) + hyperfractionated	91 (capecitabine or 5-FU or [5-FU and oxaliplatin] or [cisplatin and irinotecan])
Lingareddy	52	1997	USA	R	1987–1993	pelvic RRC	65 (37–79)	50.4 (40–70.2)	24 (3–86)	30.6 (19.8–40.8)	1.8 or 1.2, bid	84.4 (66.6–104.9)	3DCRT ± hyperfractionated	90 (5-FU)
Ng	56	2013	Australia	R	1997–2008	RRC	69 (26–88)	50.4 (21–64)	30 (8–176)	39.6 (20–39.6)	1.8	87.3 (44.4–108)	3DCRT or IMRT	80 (5-FU)
Haddock	51	2001	USA	R	1981–1994	LRRC	55 (31–73)	50.4 (27–70)	22 (9–51)	IOERT 20 (10–30)			IOERT (100%) (with preop EBRT [39%]; postop EBRT [22%]; preop and postop EBRT [12%])	47 (5-FU or 5-FU + leucovorin)
Kim	12	2010	Korea	R	2005–2008	LRRC	62 (46–77)	50.4 (45–57.6)		45	1.8	95.4	3DCRT	91.7 (NR) 100 (Capecitabine)
Sun	72	2012	China	P	2004–2008	unresectable LRRC	59 (29–78)	<50	25 (13–77)	(36–56.4)	1.2, bid		3DCRT + hyperfractionated	100 (5-FU)
Mohiuddin (1993, palliative)	15	1993	USA	R	1987–1991	LRRC	60 (31–79)	45 (41–64.8)	27 (3–79)	34.2 (19.8–47.6)	1.8	(70.6–111.6)	2D/3D RT	100 (5-FU)
Mohiuddin (1993, curative)	17							45.2 (30–66)	8 (3–456)	34.2 (19.8–40.6)	1.2, bid		2D/3D RT + hyperfractionated	
Mohiuddin (1997)	39	1997	USA	R	1987–1992	LRRC	61 (31–77)	50.4 (40–66)	18 (3–456)	36 (19.8–49.2)	1.8 or 1.2, bid	85.7 (70.6–99.8)	2D/3D RT ± hyperfractionated	100 (5-FU)
Valentini	59	2006	Italy	P	1997–2001	LRRC	62 (43–77)	50.4 (30–55)	27 (9–106)	40.8	1.2, bid		3DCRT + hyperfractionated	100 (5-FU)
Milani	24	2008	Germany	R	2000–2005	LRRC	59 (39–73)	50.4 (38–59.4)	34 (11.3–112.4)	39.6 (30.0–45.0)	1.8	(75.6 – 99.0)	3DCRT (with hyperthermia)	
Defoe	14	2011	USA	R	2003–2008	presacral RRC	65.5 (42–77)	50.4 (20–81)	NR	16 (12–36)	16 (12–18)	66.4	SBRT	

Systematic Review Radiotherapy and Oncology 140 (2019) 10–19



Practical effectiveness of re-irradiation with or without surgery for locoregional recurrence of rectal cancer: A meta-analysis and systematic review

Jeongshim Lee

Pooled OS %	Re-RT	Re-RT+C	overall	p
1 y	63.5	85.9	76.1	**<0.05**
2 y	34.2	71.8	49.1	
3 y	**23.8**	**51.7**	38.3	
Gr≥ 3 Geç komplikasyon	**11.7**	**25.5** (odds:6.39)		
Lokal kontrol				
1 y	72.0	72.0		P>0.05
2 y	54.8	63.8		
3 y	44.6	46.9		

17 çalışma; 1993-2017
n=12-102 (744 hasta)
3DCRT-IMRT
hiperFR,SBRT,

Study characteristics.

Author	N	Year	Country									
Dagoglu	18	2015	USA									
Sukso	33	2016	USA									
Jufferman	54	2003	Netherla									
Cai	22	2014	China									
Tao	102	2017	USA									
Lingareddy	52	1997	USA									
Ng	56	2013	Australia									
Haddock	51	2001	USA									
Kim	12	2010	Korea									
Sun	72	2012	China									
Mohiuddin (1993, palliative)	15	1993	USA									
Mohiuddin (1993, curative)	17											
Mohiuddin (1997)	39	1997	USA									
Valentini	59	2006	Italy									
Milani	24	2008	Germany									
Defoe	14	2011	USA	R	2003–2008	presacral RRC	65.5 (42–77)	50.4 (20–81)	NR	16 (12–36)	16 (12–18)	66.4	SBRT

A Narrative Review of Regional Hyperthermia: Updates From 2010 to 2019

Integrative Cancer Therapies
Volume 19: 1–13

DOI: 10.1177/1534735420932648
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SAGE

Reference	Type of study	Site	n	Treatment	Tumor response	Survival	HT-associated adverse events
Ott et al[21]		Squamous rectal cancer	112	CRT vs CRT + HT		5-year follow-up, overall (95.8% vs 74.5%, $P = .045$), disease-free (89.1% vs 70.4%, $P = .027$), local recurrence-free (97.7% vs 78.7%, $P = .006$), and colostomy-free survival rates (87.7% vs 69.0%, $P = .016$)	Comparable toxicity: skin reaction, diarrhea, stomatitis, and nausea/emesis were not increased with the additional use of HT.
Zwirner et al[15]	Nonrandomized prospective study	Locally advanced rectal cancer	86	Preoperative CRT + HT		5-year OS = 87.3%, DFS = 79.9%, and LRFS = 95.8%, respectively	ND
Gani et al[14]	Nonrandomized retrospective study	Adenocarcinoma of the middle or lower rectum	103	Neoadjuvant 43 CRT 60 CRT + HT		5-year CRT: OS = 76%, DFS = 73%, and LRFS = 77%, 5-year CRT − HT: OS = 88% ($P < .08$), DFS = 78%, and LRFS = 75%, respectively	ND
Shoji et al[16]	Nonrandomized prospective study	Rectal cancer	49	Preoperative CRT + HT	CR + pCR = 29%		One case of G3 perianal dermatitis
Kato et al[18]	Nonrandomized prospective study	Locally advanced rectal cancer	48	Preoperative CRT − HT	pCR = 69%		No hematological toxicity
Schroeder et al[19]	Nonrandomized prospective study	Locally advanced rectal cancer	106	Neoadjuvant 45 CRT vs 61 CRT + HT	pCR rate: CRT + HT = 22.5% ($P = .043$)		ND
Maluta et al[17]	Nonrandomized prospective study	Locally advanced adenocarcinoma of middle and lower rectum	76	Preoperative CRT − HT	CR = 23.6% Disease control = 94.8%	5-year OS = 86.5%, DFS = 74.5%, and LRFS = 73.2%, respectively	G0-G2 general or local discomfort in 15%, no G3, G4 subcutaneous burns in 5.2%

A Narrative Review of Regional Hyperthermia: Updates From 2

Integrative Cancer Therapies
Volume 19: 1–13

DOI: 10.1177/1534735420932648
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cancers

Cancers 2021, 13, 1279

MDPI

Article

Neoadjuvant Chemoradiation Combined with Regional Hyperthermia in Locally Advanced or Recurrent Rectal Cancer

Oliver J. Ott [1,*], Cihan Gani [2], Lars H. Lindner [3], Manfred Schmidt [1], Ulf Lamprecht [2],

	study					95.8%, respectively	
Gani et al[14]	Nonrandomized retrospective study	Adenocarcinoma of the middle or lower rectum	103	Neoadjuvant 43 CRT 60 CRT + HT		5-year CRT: OS = 76%, DFS = 73%, and LRFS = 77%, 5-year CRT − HT: OS = 88% ($P < .08$), DFS = 78%, and LRFS = 75%, respectively	ND
Shoji et al[16]	Nonrandomized prospective study	Rectal cancer	49	Preoperative CRT + HT	CR + pCR = 29%		One case of G3 perianal dermatitis
Kato et al[18]	Nonrandomized prospective study	Locally advanced rectal cancer	48	Preoperative CRT − HT	pCR = 69%		No hematological toxicity
Schroeder et al[19]	Nonrandomized prospective study	Locally advanced rectal cancer	106	Neoadjuvant 45 CRT vs 61 CRT + HT	pCR rate: CRT + HT = 22.5% ($P = .043$)		ND
Maluta et al[17]	Nonrandomized prospective study	Locally advanced adenocarcinoma of middle and lower rectum	76	Preoperative CRT − HT	CR = 23.6% Disease control = 94.8%	5-year OS = 86.5%, DFS = 74.5%, and LRFS = 73.2%, respectively	G0-G2 general or local discomfort in 15%, no G3, G4 subcutaneous burns in 5.2%

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cancers

Cancers 2021, 13, 1279

MDPI

Article

Neoadjuvant Chemoradiation Combined with Regional Hyperthermia in Locally Advanced or Recurrent Rectal Cancer

Oliver J. Ott [1,*], Cihan Gar

	Overall	LARC	LRRC
pCR	19/95 (%20)	16/84 (%19)	**3/11 (%27)**
LRFS 5 yıl		%77	% 49
Non-hem. toks Grad3	29/105 (%28)		

Shoji et al[16]	Nonrandomized prospective study	
Kato et al[18]	Nonrandomized prospective study	
Schroeder et al[19]	Nonrandomized prospective study	
Maluta et al[17]	Nonrandomized prospective study	lower rectum

of G3 dermatitis

ological

neral or comfort

in 19%, no G3, G4 subcutaneous burns in 5.2%

theranostic applications..

ADVANCED REVIEW

WIREs NANOMEDICINE AND NANOBIOTECHNOLOGY

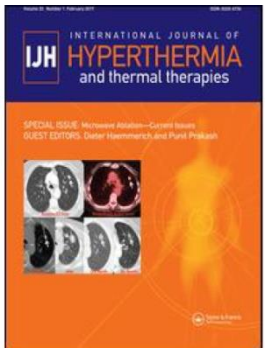
WILEY

Clinical magnetic hyperthermia requires integrated magnetic particle imaging

Sean Healy[1,2] | **Andris F. Bakuzis**[3] | **Patrick W. Goodwill**[4] |

TABLE 1 Selection of key phase III clinical hyperthermia studies and recent updates

Reference	Tumor type	Number of patients N	Ctrl	+HT	End points Ctrl	Tx (Ctrl + HT)	p
van der Zee et al. (2000)	Bladder, cervix, or rectum	358	(RT) 176	182	39% CR (3 months) 24% OS (all; 3 years)	55% CR (3 months) 30% OS (all; 3 years)	<0.001
	Cervix only				57% CR (3 months)	83% CR (3 months)	0.003
					27% OS (3 years)	51% OS (3 years)	0.009
Sneed et al. (1998)	Glioblastoma (brain) (after RT)	68	(RT + BR) 33	35	15% OS (2 years)	31% OS (2 years)	0.02
Overgaard et al. (1995)	Melanoma	68	(RT) 65	63	28% LC (2 years)	46% LC (2 years)	0.008
Datta et al. (1990)	Head and neck	65	(RT) 32	33	31% CR (8 weeks)	55% CR (8 weeks)	
Harima et al. (2009)	Cervix	40	(RT + BR) 20	20	50% CR	80% CR	0.048
					48.5% LRFS (3 years)	79.7% LRFS (3 years)	0.048
Wang et al. (2020)	Cervix	373	(CRT) 191	182	81.9% OS (5 years)	72.3% OS (5 years)	0.04



Thermoradiotherapy planning: Integration in routine clinical practice

Int J Hyperthermia, 2016; 32(1): 41–49

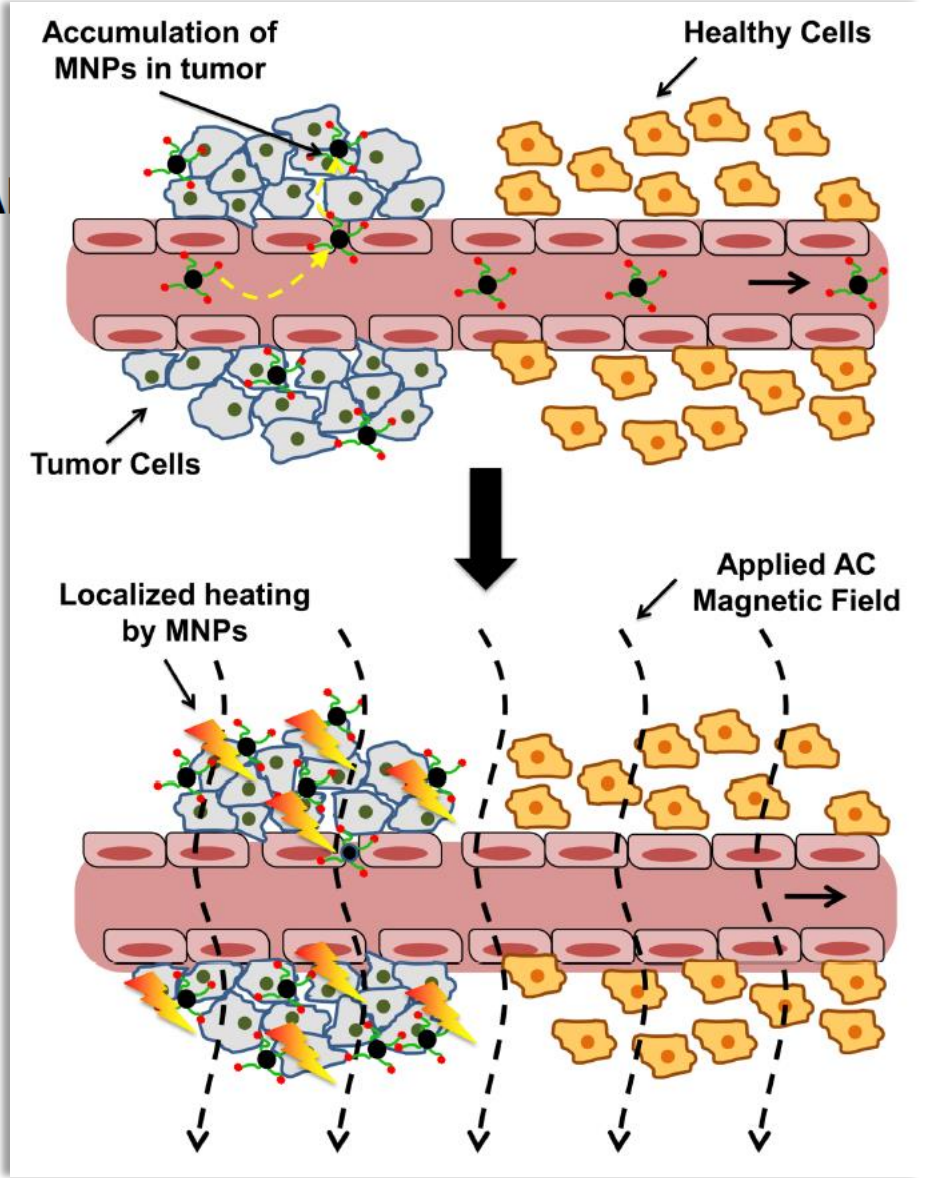
Hans Crezee, Caspar M. van Leeuwen, Arlene L. Oei, Lukas J.A. Stalpers,

Trends Biotechnol. 2011 July ; 29(7): 323–332.

Cancer Theranostics: The Rise of Targeted Magnetic Nanoparticles

Adam J. Cole[1], **Victor C. Yang**[1,2], and **A**

Magnetik hipertermi: Magnetik nanopartiküllerin tümör dokusunda daha fazla toplanması esasına dayanır. Termal duyarlığa sahip MNP'ler tümörde 41-47 °C sıcaklığa yol açabilir.



Principle of Magnetic Hyperthermia

Journal of Cancer Research and Clinical Oncology
https://doi.org/10.1007/s00432-020-03223-9 Published online: 30 April 2020

ORIGINAL ARTICLE – CLINICAL ONCOLOGY

Stereotactic body radiotherapy (SBRT) can delay polymetastatic conversion in patients affected by liver oligometastases

Luca Nicosia[1] · Francesco Cuccia[1] · Rosario Mazzola[1] · Vanessa Figlia[1] · Niccolò Giaj-Levra[1] · Francesco Ricchetti[1] ·

Sequential oligometastatic disease (SOMD), 97 KC met.(2 (1–5)) / 61 hasta;

Primary histology	
Colorectal	18 (34%)
Lung	5 (10.3%)
Breast	10 (10.3%)
Upper GI	15 (27.8%)
Gynaecological	3 (5.2%)
Other	8 (12.4%)
Type of metastases	
Synchronous	20 (33%)
Metachronous	41 (67%)

Metastaz sayısı	PFS P=0.041
1	14.7 ay
2-3	5.3 ay
4-5	6.5 ay

Table 3 Multivariate analysis

Factor	tPMC *P*	CSS *p*	LPFS *p*	OS *p*
Primary site		★		★
Metachronous or synchronous metastases	0.147 (HR = 0.557; CI = 0.252–1.22)		★	
Chemotherapy prior to SBRT		★	0.109 (HR:2.65; CI = 0.803–8.75)	
Primary controlled		★ 0.059 (HR:2.32; CI = 0.96–5.60)		
Local control	0.402 (HR = 0.735; CI = 0.359–1.75)	0.59 (HR:0.772; CI = 0.338–0.637)		0.414 (HR:0.724; CI = 0.332–1.58)
Primary histology	★	★		★
Gender	0.161 (HR = 1.68; CI = 0.812–3.51)	0.573 (HR:0.777; CI = 0.323–1.86)	★ 0.497 (HR:1.71;CI = 0.36–8.151)	0.441 (HR:0.726; CI = 0.314–1.65)
Type of progression (oligo vs polymetastatic)		0.003 (HR:0.276; CI = 0.120–0.637)		0.014 (HR:0.386, CI = 0.181–0.824)
PTV < 44 cc			0.048 (HR:0.293, CI = 0.087–0.987)	

tPMC time to polymetastatic conversion, *CSS* cancer-specific survival, *LPFS* local progression-free survival, *OS* overall survival

★ Univariate analysis

Clinical and Translational Radiation Oncology 39 (2023) 100568

Contents lists available at ScienceDirect

Clinical and Translational Radiation Oncology

journal homepage: www.sciencedirect.com/journal/clinical-and-translational-radiation-oncology

23 merkez, 450 Akciğer oligometastatik hasta. Primary end-point was time to the polymetastatic conversion (tPMC).

A predictive model of polymetastatic disease from a multicenter large retrospectIve database on colorectal lung metastases treated with stereotactic ablative radiotherapy: The RED LaIT-SABR study

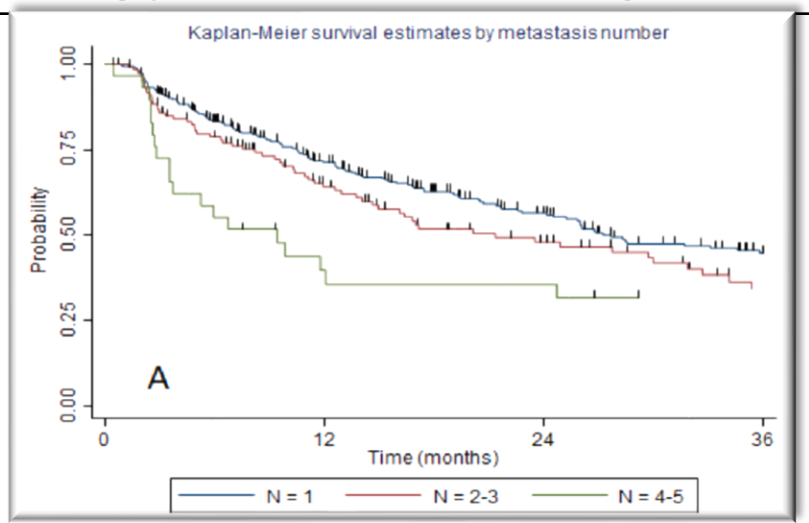
Luca Nicosia [a,*], Davide Franceschini [b], Francesca Perrone-Congedi [c], Alessandro

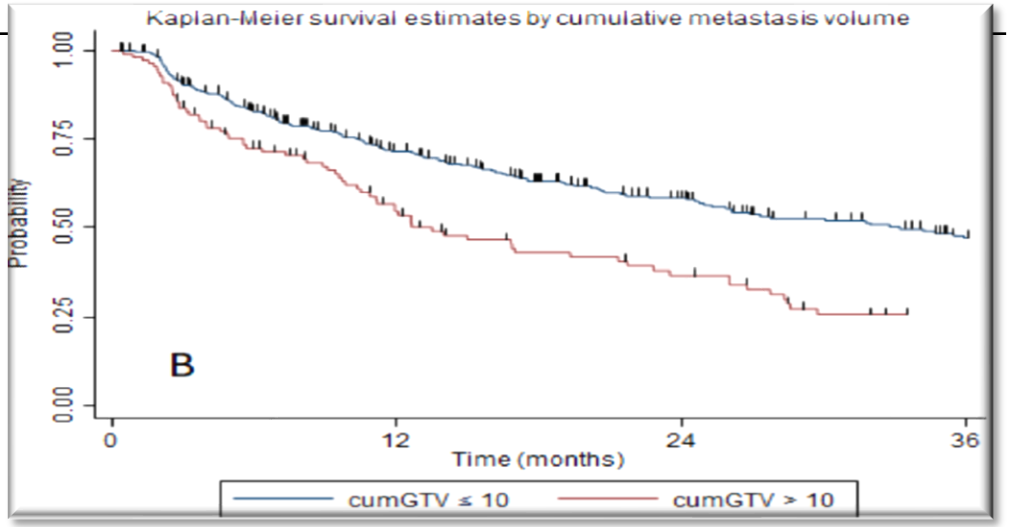
Primary site	
Colon	272 (60)
Rectum	178 (40)

Analysis of time to polymetastatic conversion.

Covariates	*Median tPMC (months)*	*P*	*Covariates*	*Median tPMC (months)*	*P*
Number of oligometastases			Group 1: 1 oligometastasis and cumGTV < 10 cc	36.1	0.00
1	27.7	0.005	Group 2: 1 oligometastasis and cumGTV > 10 cc	13.9	
2–3	21.3		Group 3: 2–3 oligometastases and cumGTV < 10 cc	31.9	0.058
4–5	9.1		Group 4: 2–3 oligometastases and cumGTV > 10 cc	14.9	
			Group 5: 4–5 oligometastases and cumGTV < 10 cc	6.7	0.85
cumGTV			Group 6: 4–5 oligometastase and cumGTV > 10 cc	9.4	
<10 cc	33.1	0.00			
>10 cc	13.5				

tPMC: time ti polymetastatic conversion; cumGTV: cumulative gross tumor volume





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Primary site	
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Covariates	*Median tPMC (months)*	*P*	*Covariates*	*Median tPMC (months)*	*P*
Number of oligometastases			Group 1: 1 oligometastasis and cumGTV < 10 cc	36.1	0.00
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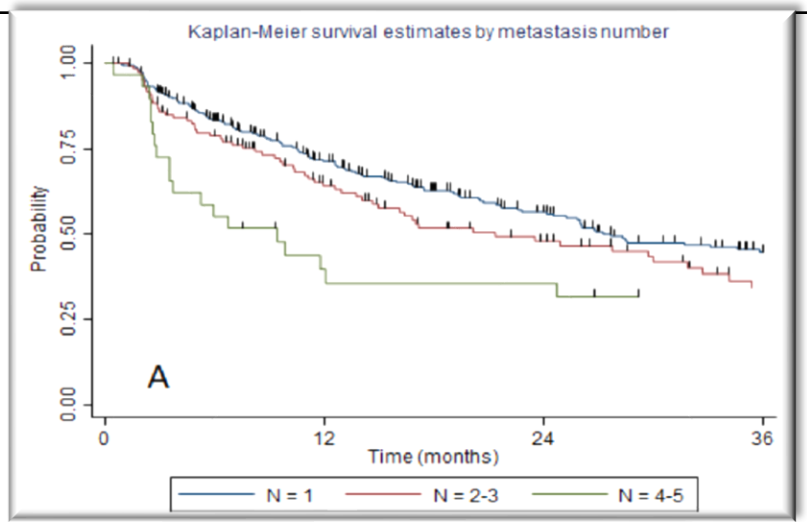
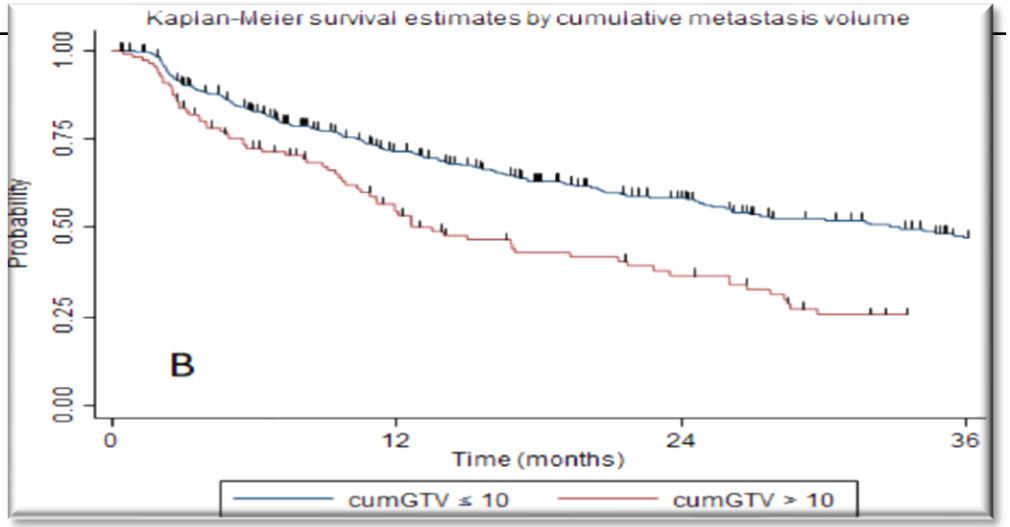
4–5	9.1		Group 4: 2–3 oligometastases and cumGTV > 10 cc	14.9	
			Group 5: 4–5 oligometastases and cumGTV < 10 cc	6.7	0.85
cumGTV			Group 6: 4–5 oligometastase and cumGTV > 10 cc	9.4	
<10 cc	33.1	0.00			
>10 cc	13.5				

tPMC: time ti polymetastatic conversion; cumGTV: cumulative gross tumor volume





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A predictive model of polymetastatic disease from a multicenter large retrospectIve database on colorectal lung metastases treated with stereotactic ablative radiotherapy: The RED LaIT-SABR study

Luca N

Analysis of

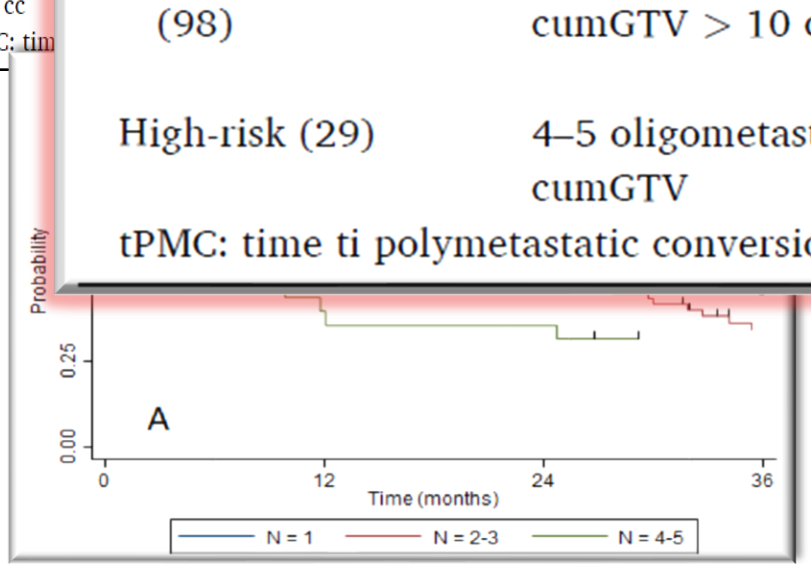
Covariates			P
Number o			0.00
1			
2–3			0.058
4–5			
			0.85
cumGTV			
<10 cc			
>10 cc			
tPMC: tim			

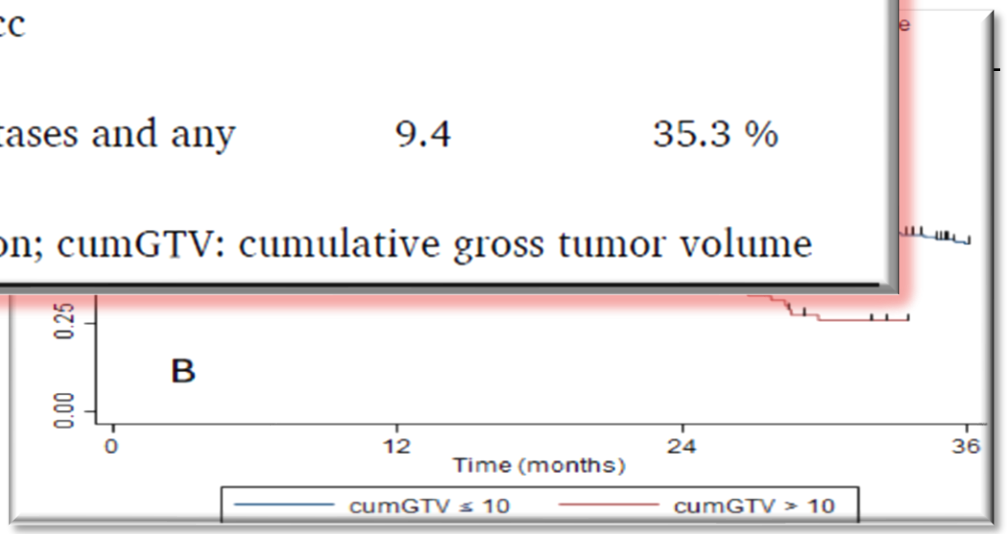
72 (60)
78 (40)

Risk class model (n = 450).

	Characteristics	Median tPMC	2-year tPMC
Low risk (323)	1–3 oligometastases and cumGTV < 10 cc	34.1	58.9 %
Intermediate risk (98)	1–3 oligometatases and cumGTV > 10 cc	13.9	38.4 %
High-risk (29)	4–5 oligometastases and any cumGTV	9.4	35.3 %

tPMC: time ti polymetastatic conversion; cumGTV: cumulative gross tumor volume





cancers

Cancers 2023, 15, 1195.

MDPI

Article

Stereotactic Body Radiotherapy versus Surgery for Lung Metastases from Colorectal Cancer: Single-Institution Results

Nagore Garcia-Exposito [1], Ricard Ramos [2], Valentin Navarro-Perez [3], Kevin Molina [4], Maria Dolores Arnaiz [1],

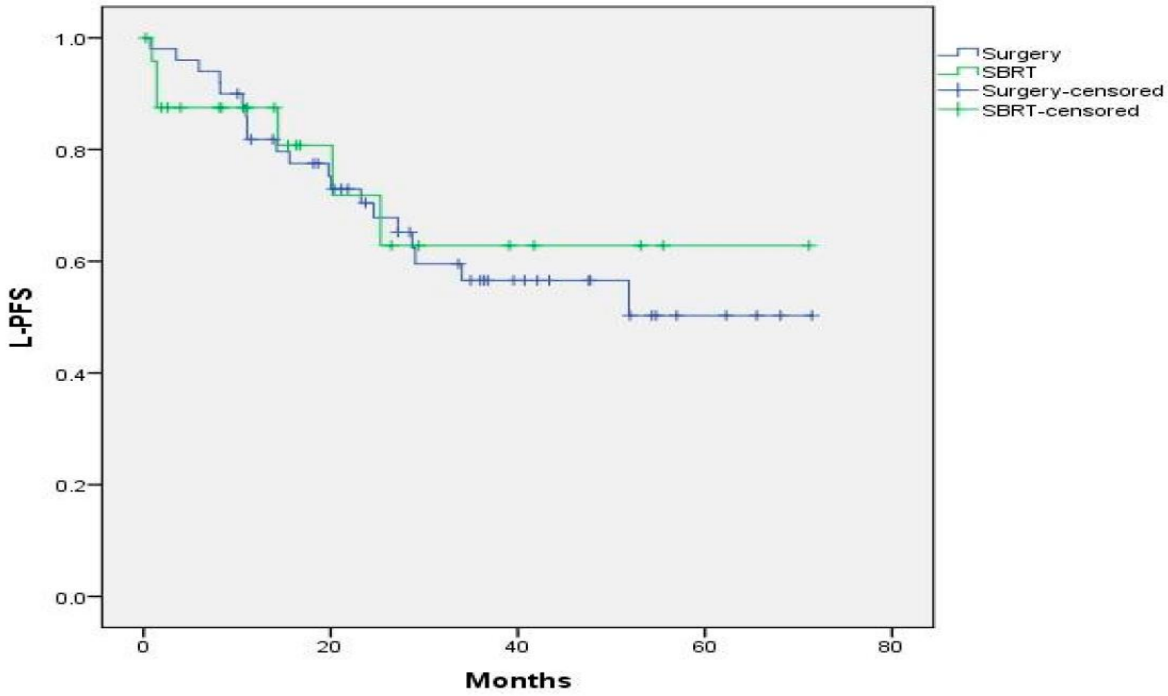


Figure 3. L-PFS curves for surgery vs SBRT. Median not reached. $p = 0.809$.

Hitchcock *et al. BMC Cancer* (2024) 24:201
https://doi.org/10.1186/s12885-024-11899-2

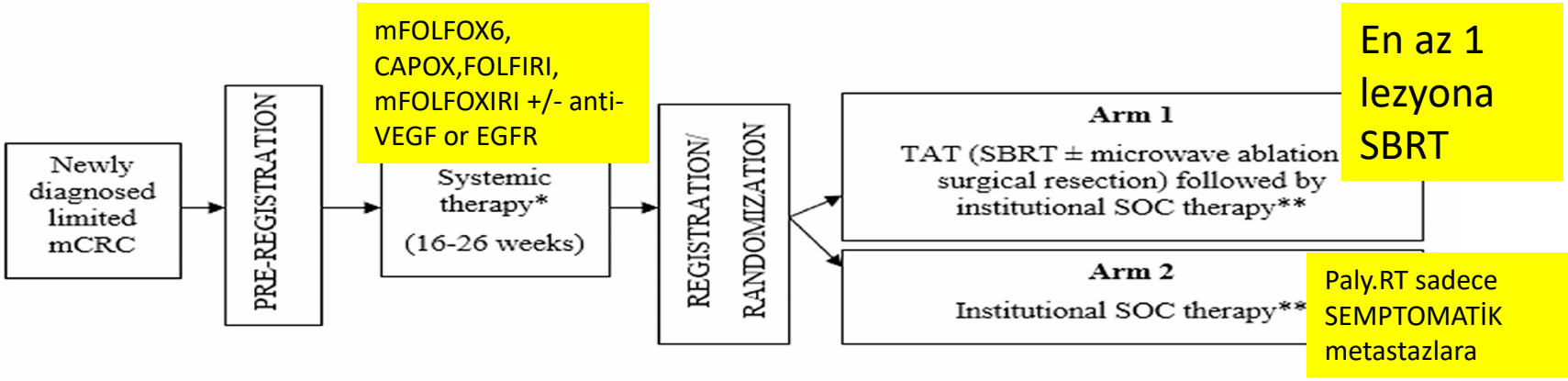
STUDY PROTOCOL Open Access

Alliance for clinical trials in Oncology (Alliance) trial A022101/NRG-GI009: a pragmatic randomized phase III trial evaluating total ablative therapy for patients with limited metastatic colorectal cancer: evaluating radiation, ablation, and surgery (ERASur)

For 5FU-based chemotherapy: One Cycle = 14 Days

For capecitabine-based chemotherapy: One Cycle = 14 or 21 Days

For TAT regimen: One Cycle = 90 days



***Type of therapy will be determined by the treating physician. A minimum of 16 weeks of systemic therapy are required prior to registration, with a maximum of 26 weeks of total systemic therapy permitted prior to registration.**

****Institutional standard of care (SOC) therapy may include additional systemic therapy as well as maintenance chemotherapy or treatment pause as determined by the treating physician.**

TORCH-R trial protocol: hypofractionated radiotherapy combined with chemotherapy and toripalimab for locally recurrent rectal cancer: a prospective, single-arm, two-cohort, phase II trial

Juefeng Wan[1,2,3†], Ruiyan Wu[1,2,3†], Miaomiao Fu[1,2,3†],

Frontiers in Oncology PUBLISHED 20 November 2023

HEDEF: referans lokal ORR **%45**'den % **65**'e çıkarmak

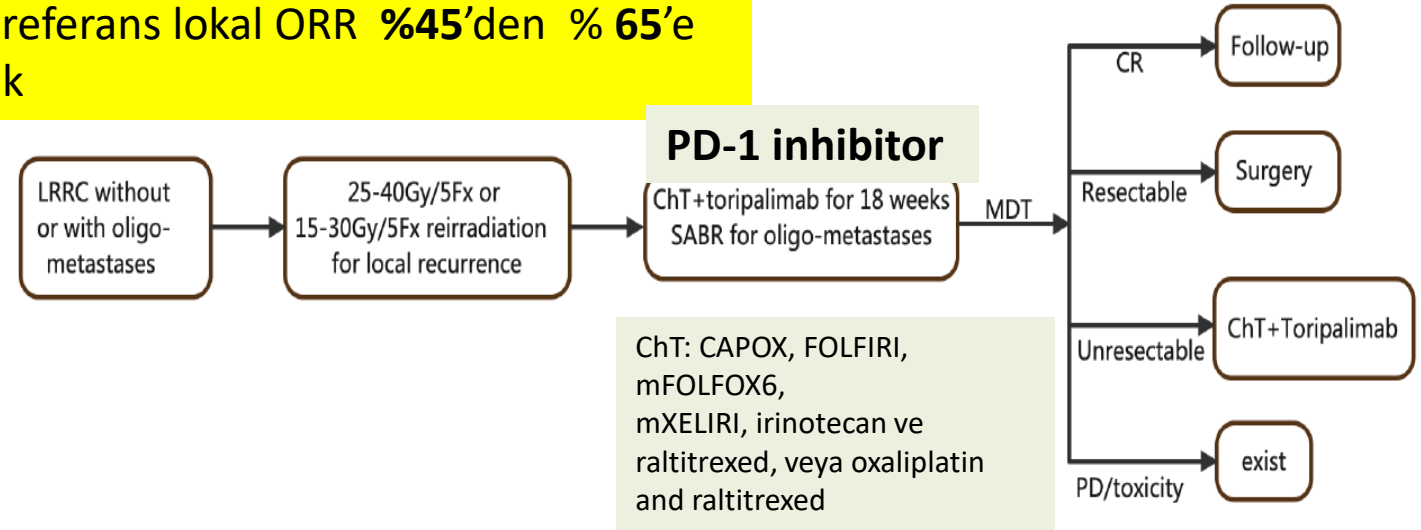


FIGURE 1
Flowchart of the TORCH-R study.LRRC, locally recurrence rectal cancer; ChT, chemotherapy; SABR, stereotactic ablative radiation; MDT, multidisciplinary team.

MESAJLAR

1- Küratif tedavi yaklaşımı genel sağkalımı uzatıyor.

2- Neoadjuvan tedavi R0 rezeksiyon oranını artırıyor.

3- R0 rezeksiyon genel sağkalımı uzatıyor.

4- Cerrahi öncesi tedaviye yanıt oranı lokal kontrol ve uzak metastazı belirliyor.

Sevgi ve Özlemle. . .

Dinlediğiniz için teşekkürler