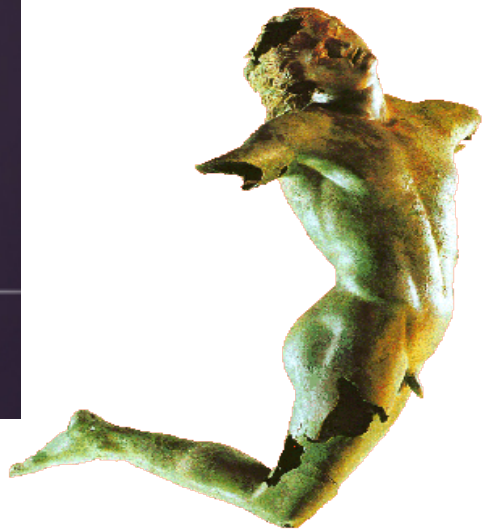
XXIII CONGRESSO
AIRO
Giardini Naxos - Taormina, 26 - 29 ottobre



Grandangolo in Radioterapia Oncologica

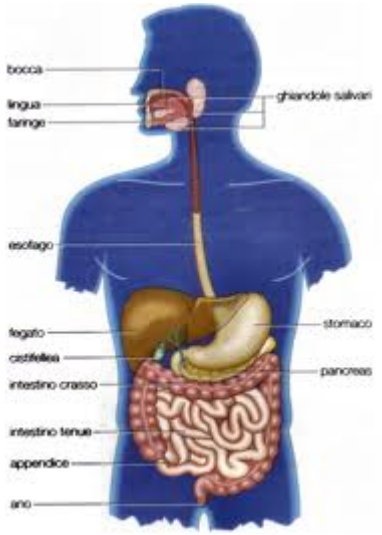
D. Genovesi; F. Perrotti

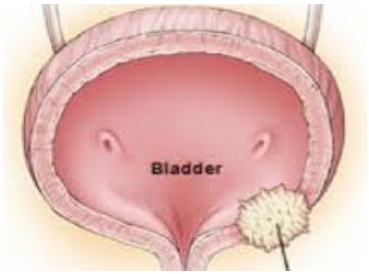
Istituto di Radioterapia Oncologica CHIETI

www.radioterapia.unich.it

TOPICS

- ✓ ESOFAGO & GIUNZIONE ESOFAGO-GASTRICA
- ✓ STOMACO
- ✓ RETTO
- ✓ ANO
- ✓TUMORI GINECOLOGICI
- ✓ VESCICA





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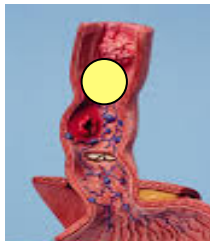
IRO
CHIETI - 1972

Statement : Esophagus

...from Medical Oncologist's Perspective



Chemioradioterapia ± Chirurgia e Chemioradioterapia Definitiva

Grado di raccomandazione SIGN	Raccomandazione	Forza della raccomandazione clinica
A	I pazienti con carcinoma localmente avanzato potenzialmente operabile ed in risposta ad una terapia d'induzione chemioradioterapica, relativamente alla variante istologica squamocellulare, potrebbero essere considerati per un trattamento conservativo, evitando la chirurgia e sostituendola con chemioradioterapia definitiva.	Positiva debole

Pazienti potenzialmente resecabili

Grado di raccomandazione SIGN	Raccomandazione	Forza della raccomandazione clinica
A	I pazienti con carcinoma dell'esofago cervicale localmente avanzato vanno considerati per un trattamento concomitante di chemioradioterapia esclusiva.	Positiva forte

AIOM Linee guida Edizione 2013

Esophagus

VOLUME 87, NUMBER 2S, SUPPLEMENT, 2013 | WWW.REDJOURNAL.ORG

International Journal of Radiation Oncology biology physics

PROCEEDINGS
55TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR RADIATION ONCOLOGY

Predictors of Pathologic Complete Response Rates in Patients Receiving Trimodality Therapy for Esophageal Cancer

H. Boggs, C. Tarabolous, N. Horiba, W. Burrows, C. Morris, and M. Suntharalingham; *University of Maryland, Baltimore, MD*

- RT 50.4 Gy + CDDP-5FU
- RT 50.4 Gy + CDDP/Taxani
- Primary Endpoint: p CR

Conclusions: Presence of nodal disease and squamous histology were significant predictors of pCR in patients receiving trimodality therapy for esophageal cancer in our study. There is not a statistically significant difference in pCR rates between patients receiving 5-FU versus taxane based chemotherapy regimens when given concurrently with radiation prior to definitive resection.

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Esophagus

Chemoradiotherapy with or without cetuximab in patients with oesophageal cancer (SCOPE1): a multicentre, phase 2/3 randomised trial

Lancet Oncol 2013; 14: 627–37

Thomas Crosby*, Christopher N Hurt*, Stephen Falk, Simon Gollins, Somnath Mukherjee, John Staffurth, Ruby Ray, Nadim Bashir, John A Bridgewater, J Jan Geh, David Cunningham, Jane Blazeby, Rajarshi Roy, Tim Maughant, Gareth Griffiths†

- **phase 2 trial primary End-point: proportion of patients who were treatment failure free at week 24**

- **phase 3 trial primary End-point: OS**

non-metastatic, (adenocarcinoma, squamous-cell, or undifferentiated; WHO status 0–1; stage I–III disease) selected to definitive CRT

R

N= 258 pts

CRT alone cisplatin 60 mg/m² (day 1) capecitabine 625 mg/m² twice daily (days 1–21) for 4 cycles. Cycles three and four were given concurrently with RT (50 Gy in 25 fr.)

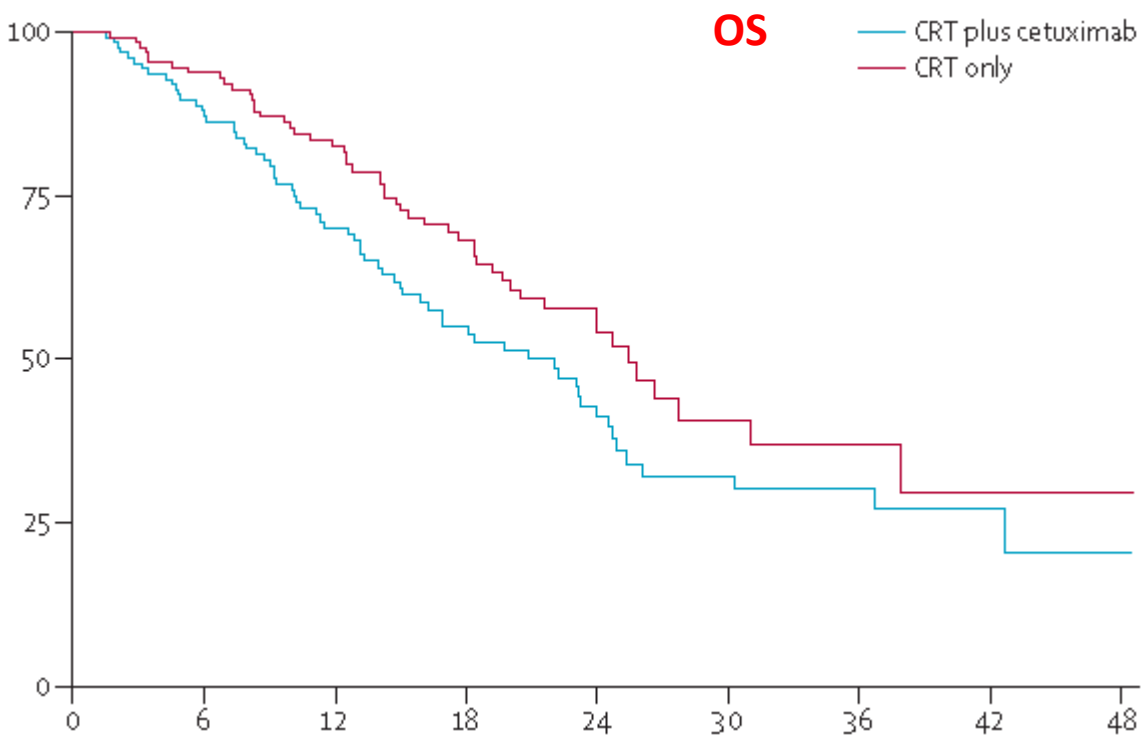
CRT + CETUXIMAB

Recruitment was stopped without continuation to phase 3

Esophagus

Lancet Oncol 2013; 14: 627–37

TARGET THERAPY + RT



The addition of Cetuximab increased toxicity, reduced delivery of standard chemoradiotherapy, and was associated with a significant reduction in overall survival

The use of Cetuximab in combination with cisplatin and capecitabine-based definitive chemoradiotherapy in patients with localised oesophageal cancer cannot be recommended

Esophagus

VOLUME 87, NUMBER 2S, SUPPLEMENT, 2013 | WWW.REDJOURNAL.ORG

International Journal of Radiation Oncology • physics

PROCEEDINGS

55TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR RADIATION ONCOLOGY

A Phase 2 Study of Neoadjuvant Therapy With Cisplatin, Docetaxel, Panitumumab Plus Radiation Therapy Followed by Surgery in Patients With Locally-Advanced Adenocarcinoma of the Distal Esophagus: Results of ACOSOG Z4051 (Alliance)

T. Schefter.[1] P. Decker.[2] B. Meyers.[3] M.K. Ferguson.[4] A. Oeltien.[5]

- **Primary Endpoint: p CR ≥ 35%**

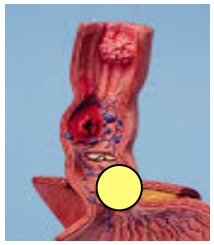
Patients received cisplatin (40 mg/m^2), docetaxel (40 mg/m^2), and panitumumab (6 mg/kg) on weeks 1, 3, 5, 7 and 9 with RT (5040 cGy, 180 cGy/day x 28d) beginning week 5.

- **Results: p CR : 33% and near-p CR: 20.4%**

Conclusions: This neoadjuvant regimen of cisplatin, docetaxel and panitumumab and radiation is active (pCR + near-pCR = 53.7%) but did not meet the primary outcome. The toxicity is substantial, but manageable. Further evaluation of this regimen in an unselected population is not recommended

Statement : EG-junction

...from Medical Oncologist's Perspective



Unanswered Questions in the Management of Gastroesophageal Junction Adenocarcinoma: An Overview from the Medical Oncologist's Perspective

Manish A. Shah, MD

2013 ASCO EDUCATIONAL BOOK

KEY POINTS

- Patients with locally advanced gastroesophageal junction (GEJ) adenocarcinoma who are proceeding to surgery require additional treatment in addition to surgical resection including (a) preoperative chemoradiation, (b) perioperative chemotherapy (without radiation), and (c) postoperative chemoradiation.
- Patients with locally advance GEJ adenocarcinoma who may not proceed to surgery should receive definitive chemoradiation.
- Disease biology across the upper gastrointestinal tract (esophagus, GEJ, and stomach cancer) will define treatment paradigms in the future.
- Squamous cell carcinoma esophagus-chemoradiation (either preoperative or definitive) is preferred.

EG-Junction

Lordick et al. Lancet Oncol 2013; 14: 490 -99

TARGET AGENTS

Capecitabine and cisplatin with or without cetuximab for patients with previously untreated advanced gastric cancer (EXPAND): a randomised, open-label phase 3 trial

Florian Lordick, Yoon-Koo Kang, Hyun-Cheol Chung, Pamela Salman, Sang Cheul Oh, György Bodoky, Galina Kurteva, Constantin Volovat, Vladimir M Moiseyenko, Vera Gorbunova, Joon Oh Park, Akira Sawaki, Ilhan Celik, Heiko Götte, Helena Melezínková, Markus Moehler, on behalf of the Arbeitsgemeinschaft Internistische Onkologie (AIO) and EXPAND Investigators*

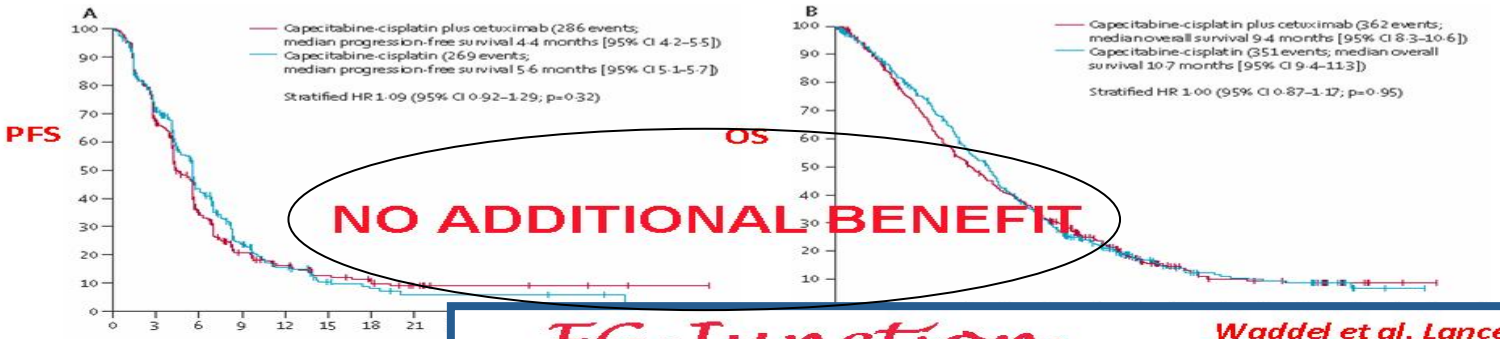
Unresectable or metastatic EG-junction and Stomach

Primary Endpoint: PFS

R

N=904 pts

- capecitabine-cisplatin plus cetuximab (n= 455)
- capecitabine-cisplatin (n= 449)



NO ADDITIONAL BENEFIT

EG-Junction

Waddel et al. Lancet Oncol 2013; 14: 481–89

TARGET AGENTS

Epirubicin, oxaliplatin, and capecitabine with or without panitumumab for patients with previously untreated advanced oesophagogastric cancer (REAL3): a randomised, open-label phase 3 trial

Tom Waddell, Ian Chau, David Cunningham, David Gonzalez, Alicia Frances Clare Okines, Andrew Wotherspoon, Claire Saffery, Gary Middleton, Jonathan Wadsley, David Ferry, Wasat Mansoor, Tom Crosby, Fareeda Coxon, David Smith, Justin Waters, Timothy Iveson, Stephen Falk, Sarah Slater, Clare Peckitt, Yolanda Barbachano

- untreated, metastatic, or locally advanced oesophagogastric adenocarcinoma
- Primary Endpoint: OS

R

N= 553 pts

EOC

epirubicin 50 mg/m2
oxaliplatin 130 mg/m2 on day 1
capecitabine 1250 mg/m2 per day on days 1–21

Modified-dose EOC plus panitumumab

epirubicin 50 mg/m2
oxaliplatin 100 mg/m2 on day 1,
capecitabine 1000 mg/m2 per day on days 1–21,
panitumumab 9 mg/kg on day 1

NO ADDITIONAL BENEFIT

EG-Junction

Okines et al. Annals of Oncology 2013; 24: 702-709

TARGET AGENTS

Bevacizumab with peri-operative epirubicin, cisplatin and capecitabine (ECX) in localised gastro-oesophageal adenocarcinoma: a safety report†

A. F. C. Okines[1], R. E. Langley[2], L. C. Thompson[2], S. P. Stenning[2], L. Stevenson[2], S. Falk[3], M. Seymour[4], F. Coxon[5], G. W. Middleton[6], D. Smith[7], L. Evans[8], S. Slater[9], J. Waters[10], D. Ford[11], M. Hall[12], T. J. Iveson[13], R. D. Petty[14], C. Plummer[5], W. H. Allum[1], J. M. Blazeby[15], M. Griffin[16] & D. Cunningham[1*]

Phase II/III Study

- untreated EG-junction - stage Ib – IV (M0). Peri-operative setting.
- Primary Endpoint phase II: SAFETY

Ongoing PHASE III

R

N= 200 pts

ECX
epirubicin 50 mg/m2
cisplatin 60 mg/m2 on day 1
capecitabine 1250 mg/m2 per day on days 1–21

ECX plus bevacizumab
(7,5 mg/kg on day 1)

Feasible with acceptable toxicity and no negative effect on surgical outcomes

Remark !!

SALA TINDARI A

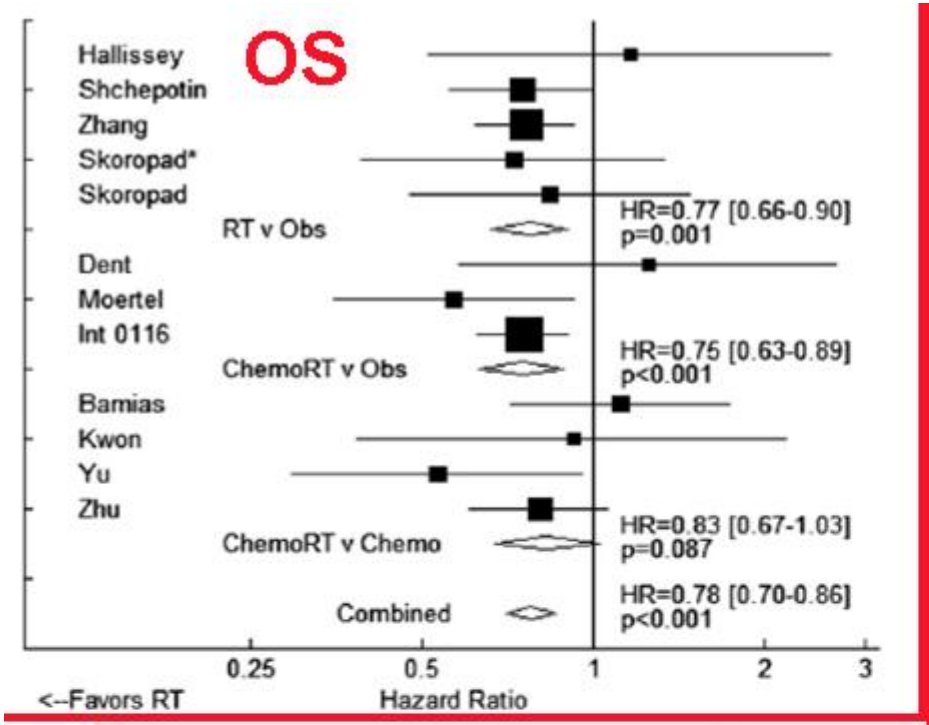
MARTEDÌ 29 OTTOBRE 2013

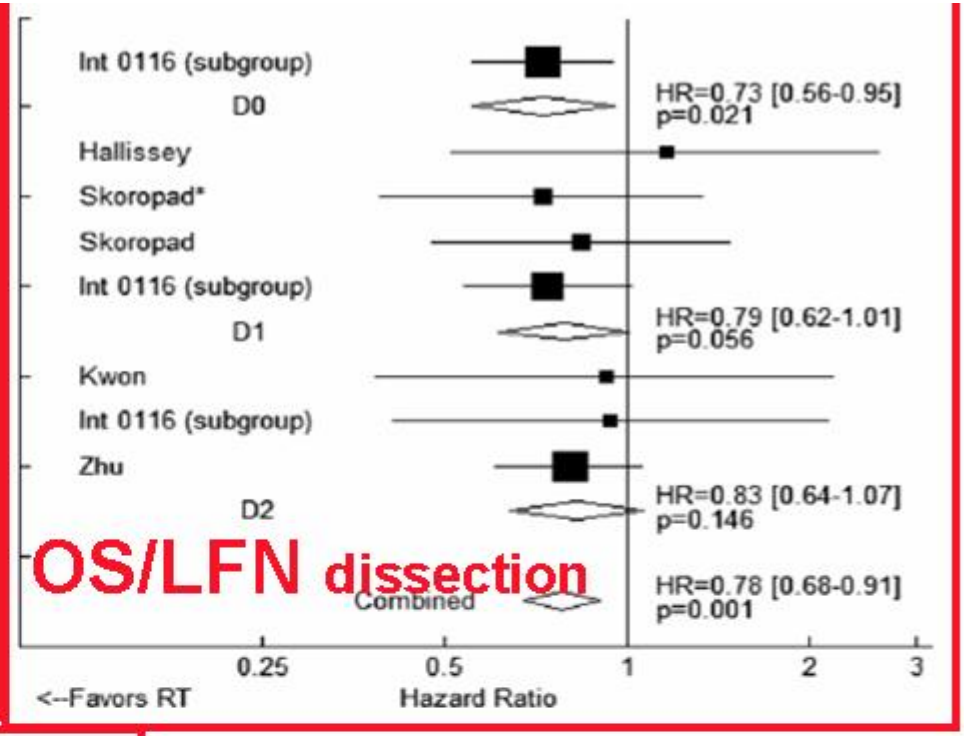
11.00 - 12.00 LEZIONE DI AGGIORNAMENTO

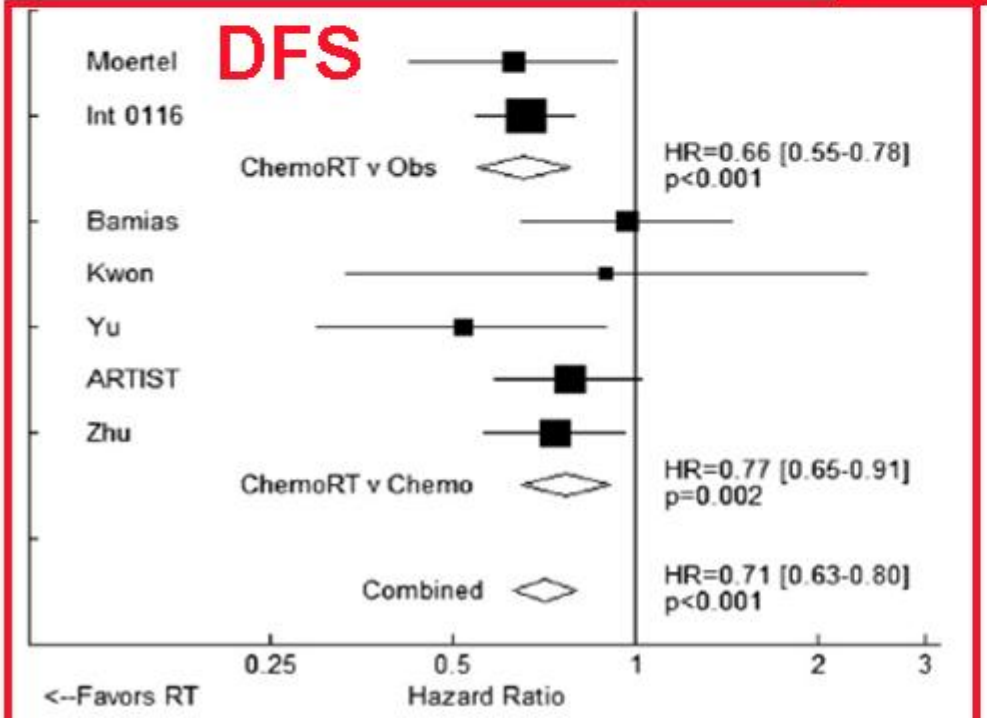
I tumori della giunzione esofago-gastrica

Moderatore: M. Buglione di Monale

Relatore: G. Mattiucci







Adjuv RT gain =

~ 20%
both DFS & OS

Stomach

VOLUME 87, NUMBER 2S, SUPPLEMENT, 2013 | WWW.REDJOURNAL.ORG

International Journal of Radiation Oncology • physics

PROCEEDINGS

55TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR RADIATION ONCOLOGY

Chemoradiation Therapy Versus Chemotherapy Alone for Gastric Cancer After R0 Surgical Resection: A Meta-Analysis of Randomized Trials

C. Min, S. Bangalore, S. Jhawar, Y. Guo, J. Nicholson, S.C. Formenti, L.P. Leichman, and K.L. Du; *New York University Medical Center, New York, NY*

Primary outcome: DFS

Results: Five randomized, controlled clinical trials satisfied the inclusio criteria and were included in the current meta-analysis. A total of 82 patients were evaluated in these studies, with 413 patients randomized t chemoradiation therapy and 407 patients randomized to chemotherap alone. Adjuvant therapy with chemoradiation was associated wit a significant increase in disease-free survival when compared wit chemotherapy alone.

Stomach

VOLUME 87, NUMBER 2S, SUPPLEMENT, 2013 | WWW.REDJOURNAL.ORG

International Journal of
Radiation Oncology
biology • physics

PROCEEDINGS
55TH ANNUAL MEETING OF THE AMERICAN SOCIETY
FOR RADIATION ONCOLOGY

Does Adjuvant Radiation Benefit Patients With Diffuse-Type Gastric Cancer? Results From the Surveillance, Epidemiology, and End Results (SEER) Database

A. Stessin, A. Schwartz, C. Chao, and B. Li; *Weill Cornell Medical College, New York, NY*

Conclusions: While a phase III randomized trial is warranted exclusively for diffuse type gastric cancer, clinicians need to be cautious about omitting adjuvant radiation in this patient population.

Stomach

Pepek et al. Radiation Oncology 2013, 8:6
http://www.ro-journal.com/content/8/1/6

RADIATION ONCOLOGY

RESEARCH Open Access

Preoperative chemoradiotherapy for locally advanced gastric cancer

Joseph M Pepek[1], Junzo P Chino[1], Christopher G Willett[1], Manisha Palta[1], Dan G Blazer III[2], Douglas S Tyler[2], Hope E Uronis[3] and Brian G Czito[1*]

Table 5 Comparison of present series to prospective preoperative chemoradiotherapy trials in gastric cancer

Series	Patients (n)	R0 resection (%)*	pCR rate (%)*	Overall survival (%)**
M.D. Anderson (Lowy et al.)	24	95	11	N/A
Multi-institutional (Ajani et al.)	33	82	36	54 (2)
M.D. Anderson(Ajani et al.)	41	80	20	N/A
RTOG 9904 (Ajani et al.)	43	75	31	72 (1)
Current series (Pepek et al.)	48	86	19	40 (3)

BMC Cancer

ONGOING

STUDY PROTOCOL Open Access

Neo-adjuvant chemotherapy followed by surgery and chemotherapy or by surgery and chemoradiotherapy for patients with resectable gastric cancer (CRITICS)

Johan L Dikken[1,2], Johanna W van Sandick[3], HA Maurits Swellengrebel[3], Pehr A Lind[4], Hein Putter[5], Edwin PM Jansen[2], Henk Boot[6], Nicole CT van Grieken[7], Cornelis JH van de Velde[1], Marcel Verheij[2] and Annemieke Cats[6*]

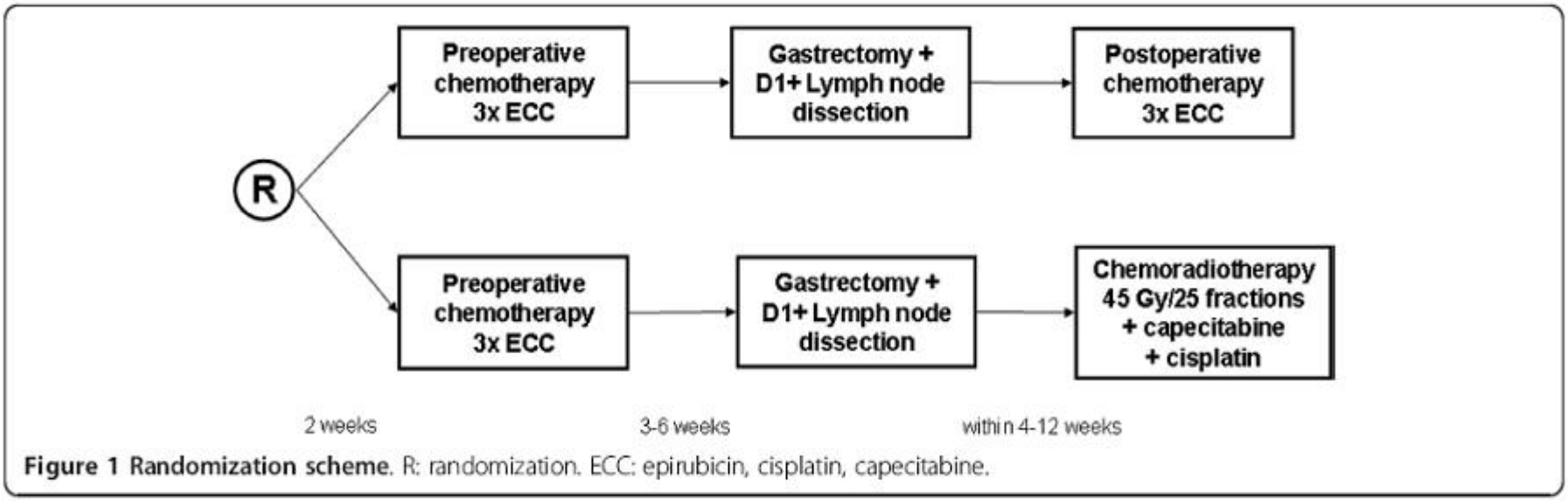


Figure 1 Randomization scheme. R: randomization. ECC: epirubicin, cisplatin, capecitabine.

Table 2. Summary Table of the Agents Described

Agent	Mechanism of action	Target	Clinical experience with RT	Clinical trial ongoing with RT	Notes
Trastuzumab	anti-HER2 monoclonal antibody	Human Epidermal Growth Factor type 2 (HER2)	- Phase II	- Phase III	Already mentioned in international guidelines for CT only
Lapatinib	HER2 tyrosine kinase inhibitor	Human Epidermal Growth Factor type 2 (HER2)	None	None	
T-Dm1	antibody-drug conjugate	Human Epidermal Growth Factor type 2 (HER2)	None	None	Promising agent under Phase II/III evaluation for CT schedules
Cetuximab	Anti-EGFR monoclonal antibodies	Epidermal Growth Factor's Receptor (EGFR)	- Phase II	-Phase I-II -Phase III	See alsoTable 1
Panitumumab	Anti-EGFR monoclonal antibodies	Epidermal Growth Factor's Receptor (EGFR)	None	-Phase I-II	
Gefitinib	EGFR tyrosine kinase inhibitors	Epidermal Growth Factor's Receptor (EGFR)	- Preclinical Studies - Phase I/II	-Phase I-II	
Erlotinib	EGFR tyrosine kinase inhibitors	Epidermal Growth Factor's Receptor (EGFR)	-Phase I-II	- Phase I-II-III	
Bevacizumab	Anti-VEGF monoclonal antibody	Vascular Endothelial Growth Factor (VEGF)	- Phase II	- Phase II	
Sorafenib	VEGFR tyrosine kinase inhibitor	Vascular Endothelial Growth Factor Receptor (VEGFR)	- Preclinical Studies - Case Reports	None	
Sunitinib	VEGFR tyrosine kinase inhibitor	Vascular Endothelial Growth Factor Receptor (VEGFR)	None	- Phase II	
Tivantinib	MET receptor tyrosine kinase inhibitors	Mesenchymal Epithelial Transition (MET)	None	None	
Crizotinib	MET receptor tyrosine kinase inhibitors	Mesenchymal Epithelial Transition (MET)	None	None	
Foretinib	MET receptor tyrosine kinase inhibitors	Mesenchymal Epithelial Transition (MET)	None	None	
Rilotumumab	HGF inhibitor	Hepatocyte Growth Factor (HGF)	None	None	Phase III ongoing for CT schedules
17-AAG	HSP90 inhibitors	Heat Shock Protein	- Preclinical Studies	None	
STA9090	HSP90 inhibitors	Heat Shock Protein	- Preclinical Studies	None	
Hedgehog Inhibitors	Hedgehog inhibitors	Hedgehog protein	None	None	
Everolimus	PI3 kinase-AKT-mTOR inhibitors	mTOR Kinase	None	Phase I/II	

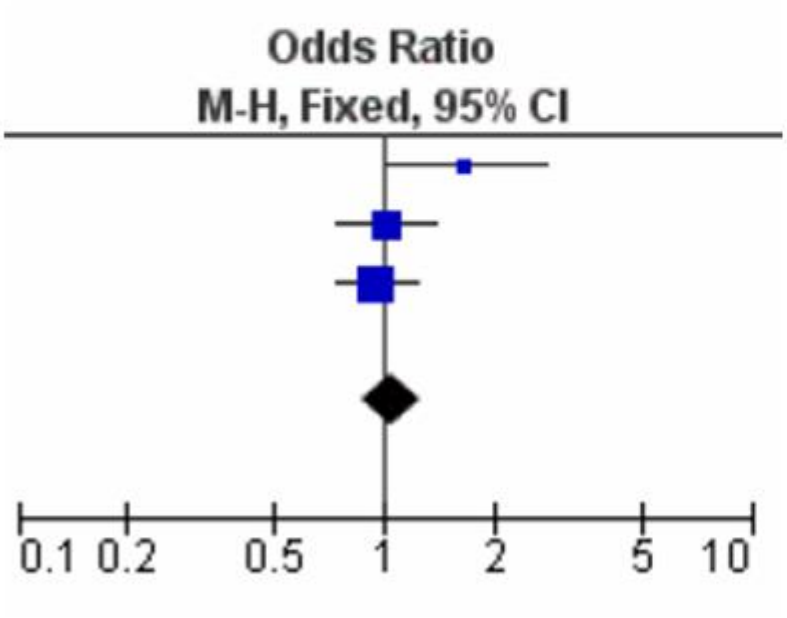
META-ANALYSIS 2013

THE COCHRANE COLLABORATION®

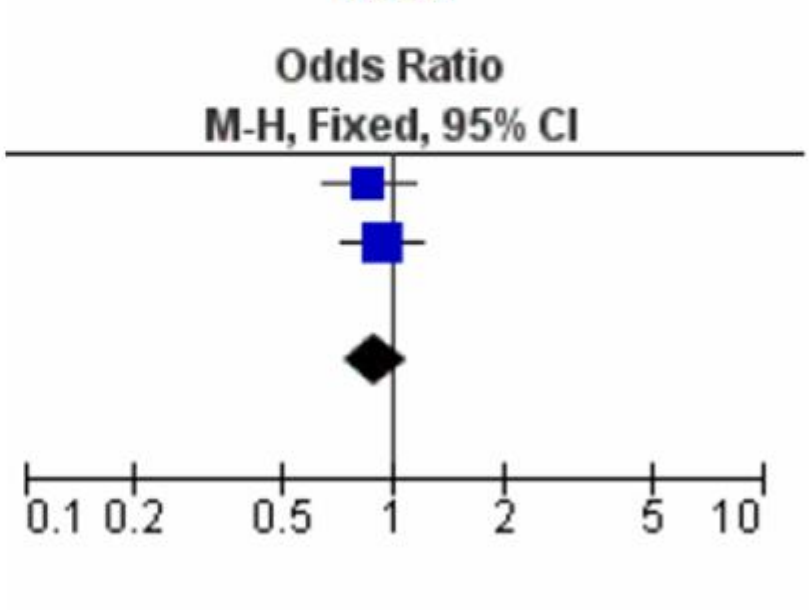
Alive at 5 years:
CRT group: 644 of 1007 patients (63.9%)
RT group 647 of 993 patients (65.2%)

DSF at 5 years:
CRT group 507/881 (57.5%)
RT group 479/872 (54.9%)

OS



DFS



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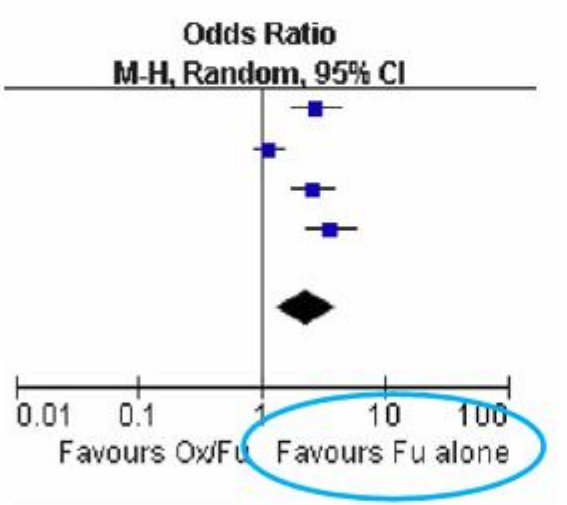
De Caluwé L, Van Nieuwenhove Y, Ceelen WP. Cochrane Database of Systematic Reviews 2013, Issue 2.

META-ANALYSIS 2013

✓ Although **OX regimens significantly increased grade 3/4 toxicity**,
it did not result in more surgical complications or postoperative deaths within 60 d.

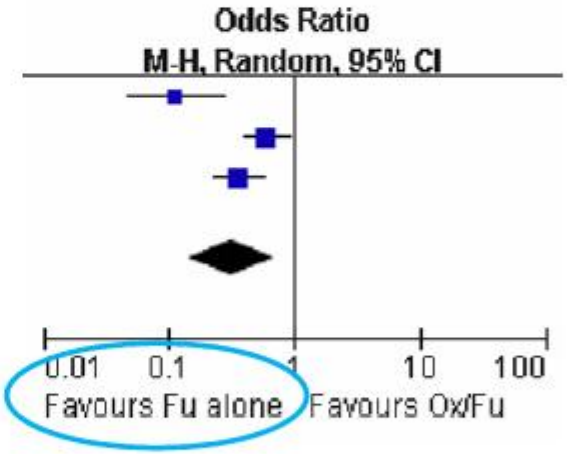
G3 / G4 toxicity

(P = 0.004)



Full dose RT

(P = 0.004)



CONCLUSION**: The concept of **combination of OX and FU in the pre-operative setting for LARC still seems promising**, either with a **modified schedule, or as induction therapy prior to CRT or after CRT, prior to surgery.

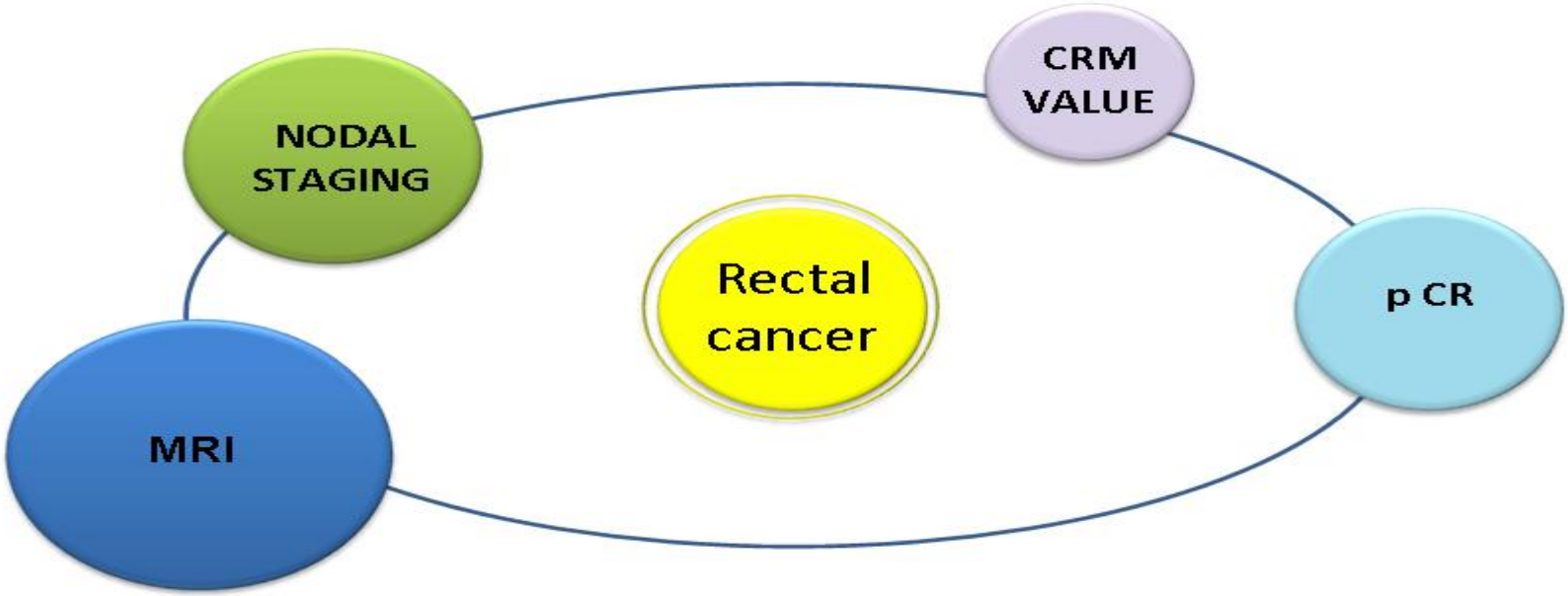
Xin An et al. European Journal of Cancer (2013) 49, 843–851

Rectum:
tracking Survival improvement !!!

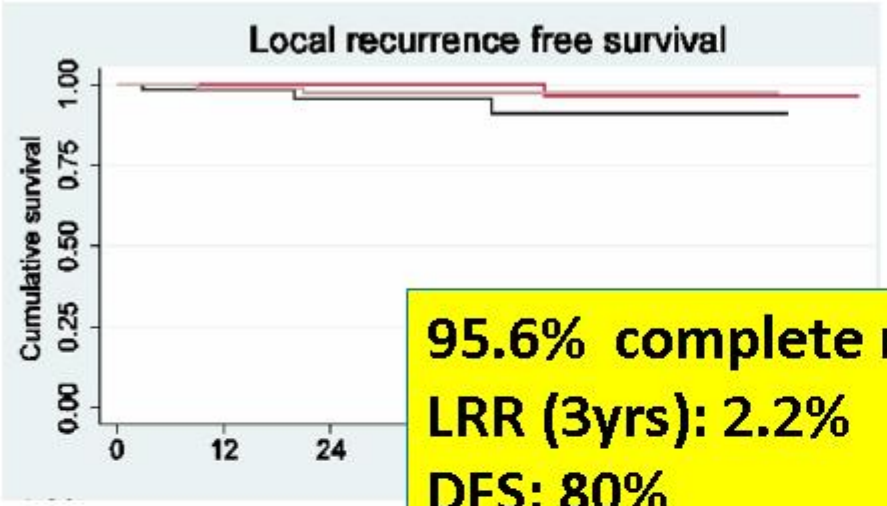
=

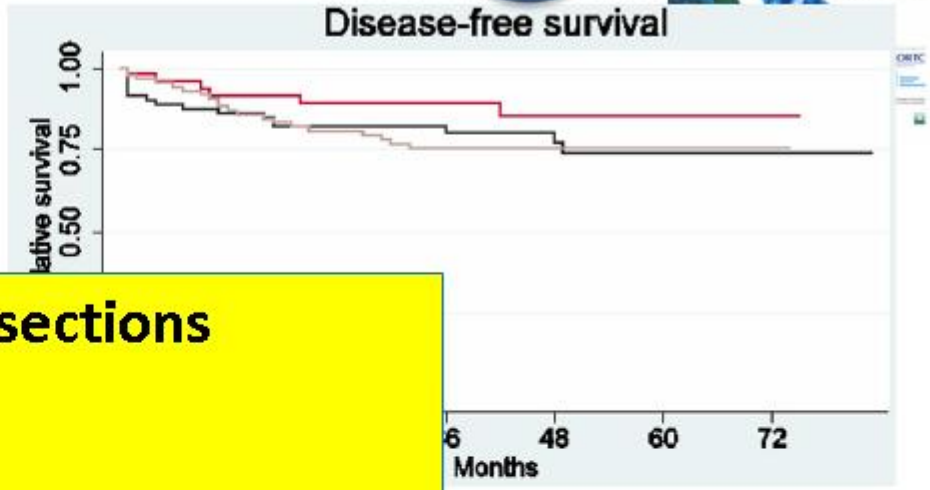
On what we have to point ???

By which method ???



MRI





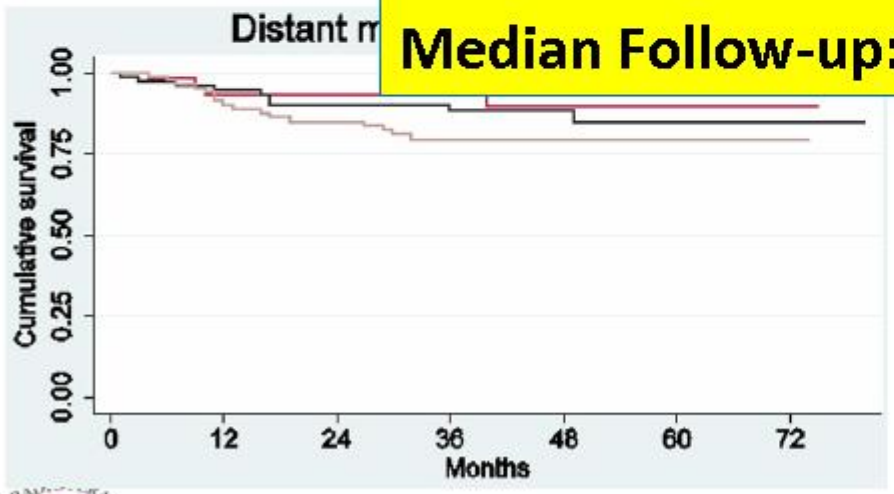
95.6% complete resections

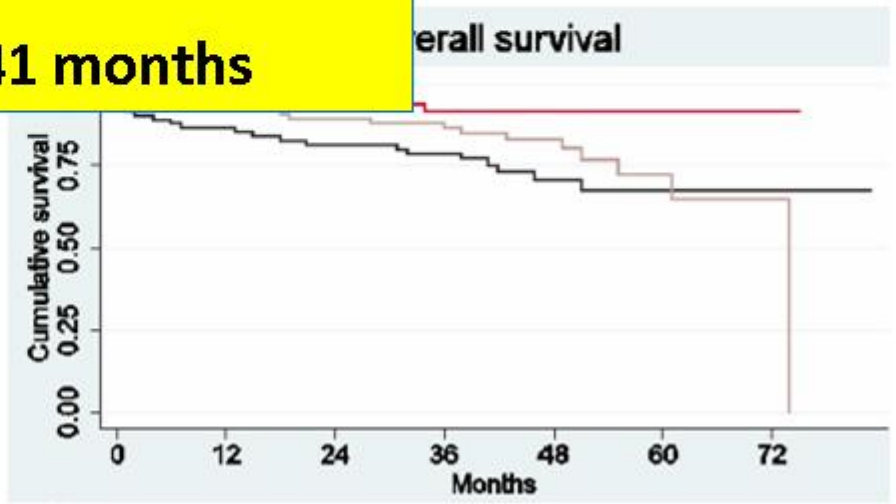
LRR (3yrs): 2.2%

DFS: 80%

OS: 84.5%

Median Follow-up: 41 months





REVIEW 2013

MRI

Annals of SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY

MRI-Based Treatment of Rectal Cancer: Is Prognostication of the Recurrence Risk Solid Enough to Render Radiation Redundant?

Marie-Luise Sautter-Bihl, MD[1], Werner Hohenberger, MD[2], Rainer Fietkau, MD[3], Claus Roedel, MD[4], Heinz Schmidberger, MD[5], and Rolf Sauer, MD[3]

AIM: to review the **state of evidence for MRI-based treatment decision** for preoperative RT versus TME alone in stage II–III rectal cancer.

FIRST RESULTS OF MRI-BASED TREATMENT:

- ✓ MERCURY Study: LRR 3%; quality of surgery; only 65 pts Stege II-III; pN+
- ✓ OCUM Study: no available data on LRR and SVV; quality of surgery
- ✓ MRC C07: LRR 4% vs. 10.6% for preop RT (5X5); p N+; quality of surgery; Stage I-III
- ✓ Dutch TME Trial: 10 yrs LRR Stages III: 5% vs. 17% for preop RT (5X5); p N+ impact quality of surgery
- ✓ TME Without Radiotherapy—Norwegian Rectal Cancer Project: high LRR; p N+

Conclusions

Routine use of MRI staging is recommended
but
Current evidence does not support the omission of neoadjuvant RT treatment for stage II–III rectal cancer on the basis of an MRI-predicted negative CRM

Randomized studies are warranted to clarify whether and for which subgroups TME alone is safe in terms of local recurrences

M.-L. Sautter-Bihl et al. Ann Surg Oncol. September 2013

NODAL STAGING

European Journal of Cancer (2013) 49, 2311–2320

Available at www.sciencedirect.com

SciVerse ScienceDirect

journal homepage: www.ejcancer.com

Modern multidisciplinary treatment of rectal cancer based on staging with magnetic resonance imaging leads to excellent local control, but distant control remains a challenge

S.M.E. Engelen [a,b,1], M. Maas [a,b,1], M.J. Lahaye [b], J.W.A. Leijtens [c], C.L.H. van Berlo [d],

All patients underwent a pelvic MRI with standard T2W TSE sequences in three orthogonal directions (sagittal, axial and coronal) and an axial 3D T1W gradient echo (GRE) sequence. For nodal staging an axial T2*W GRE was performed with ultrasmall super paramagnetic iron oxide (USPIO), a lymph node specific contrast agent. The USPIO MR contrast agent (Sinerem, Guerbet Laboratories, Roissy, France) consists of low molecular weight iron oxide coated with dextran. Sinerem was administered at a dose of 2.6 mg Fe/kg by slow intravenous infusion during a period of 45 min, 24–36 h before the MRI scan. No side-effects were recorded during or after infusion. Imaging was performed on a 1.0/1.5 T MR scanner. Patients did not

Criteria: - contrast uptake
- LFN size
- LFN shape

Promising initial results but no longer available on the market

NODAL STAGING

Eur Radiol
DOI 10.1007/s00330-013-3016-6

ONCOLOGY

Performance of gadofosveset-enhanced MRI for staging rectal cancer nodes: can the initial promising results be reproduced?

Luc A. Heijnen · Doenja M. J. Lambregts · Milou H. Martens · Monique Maas ·

- 13 (group I) underwent a primary staging **gadofosveset MRI** (1.5-T) followed by surgery (± preoperative 5 × 5 Gy
- 58 (group II) underwent both primary staging and restaging gadofosveset MRI after CRT long course, followed by surgery.

Key Points

- *Gadofosveset-enhanced MRI shows high performance for nodal (re)staging in rectal cancer.*
- *Gadofosveset MRI may facilitate better selection of patients for personalised treatment.*
- *Results can be reproduced by non-expert readers.*
- *Experience of 50–60 cases is required to achieve required expertise level.*
- *Main pitfalls are nodes located between vessels and nodes containing micrometastases.*

RESULTS

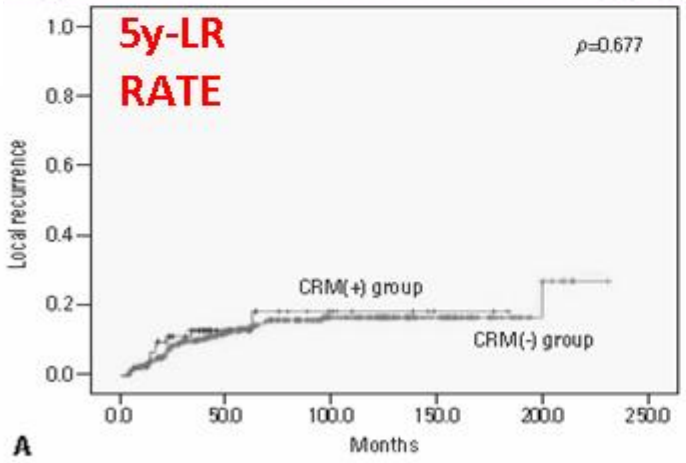
median follow-up of 56.6 months:

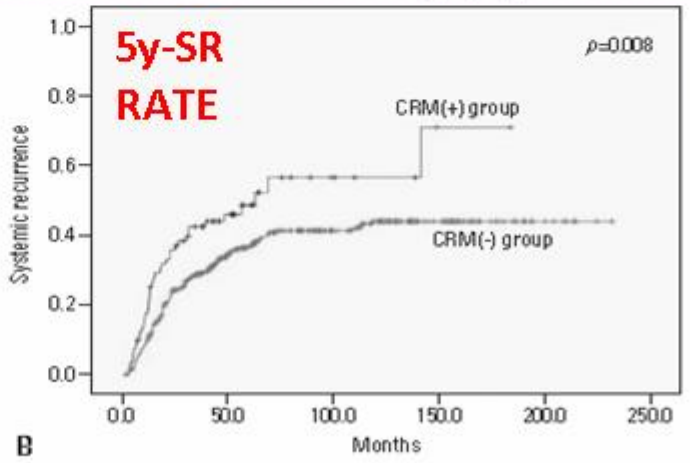
✓CRM involvement was an **independent prognostic factor for 5-year systemic recurrence-free survival** (HR: 1.5, CI: 1.0-2.2, *p=0.017).*

✓***no significant difference was observed for local recurrence rate*** *between the two groups (13.0 and 13.5%, respectively, p=0.677)*

✓ ***c N and p N: significant predictor of LR***

	CRM ≤1 mm (n=79) (%)	CRM >1 mm (n=370) (%)	*p* value
Local recurrence only	3 (3.8)	17 (4.6)	1.0*
Systemic recurrence only	32 (40.5)	110 (29.7)	0.062





Kang J, et al. Yonsei Med J 54(1):131-138, 2013

CRM VALUE

REMARKS

1. **Missing data concerning CRM in French study: ~ 30% !!!!!**

2. **Missing data concerning CRM in literature: 1-79% !!!!!!**

3. **Quality of Surgery= Quality of Mesorecum removed**
   Complete – Moderate – Incomplete (Nagtegaal ID; JCO 2005)

4. **Missing data concerning Mesorectum in French study: 47-69% !!!!!**

5. **RT-CT intensification seems to reduce CRM+ risk but……..**

Rullier A. et al European Journal of Cancer (2013) 49, 82– 89

CRM VALUE

Annals of
SURGICAL ONCOLOGY
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What is the Significance of the Circumferential Margin in Locally Advanced Rectal Cancer After Neoadjuvant Chemoradiotherapy?

Atthaphorn Trakarnsanga, MD[1], Mithat Gonen, PhD[2], Jinru Shia, MD[3], Karyn A. Goodman, MD[4], Garrett M. Nash, MD[1], Larissa K. Temple, MD[1], José G. Guillem, MD[1], Philip B. Paty, MD[1], Julio Garcia-Aguilar, MD[1], and Martin R. Weiser, MD, FACS[1,5]

- Review of Memorial Sloan-Kettering Cancer Center database from 1998 to 2007
- 563 patients with locally advanced rectal cancer (T3/T4 and/or N1) receiving nCRT, followed after 6 weeks by TME.

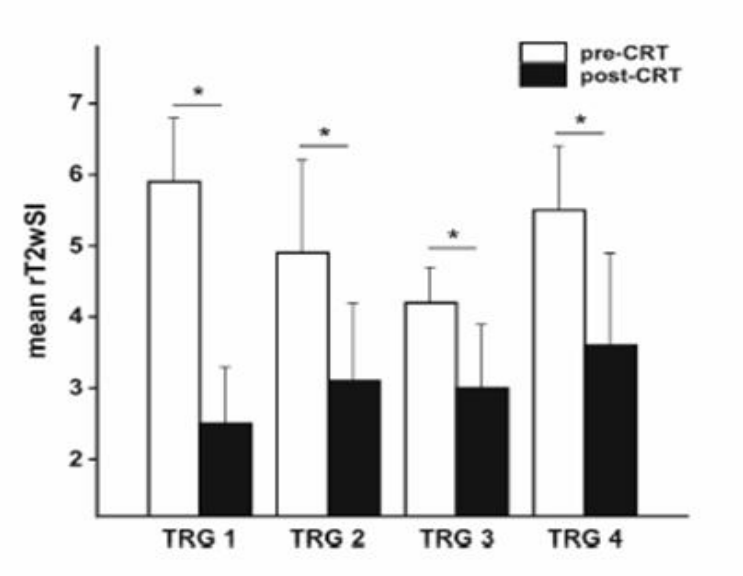
CONCLUSION:

- **CRM ≤1 mm is an independent risk factor for local recurrence and is considered a positive margin**
- **CRM ≤ 2 mm was associated with distant recurrence, independent of pathological tumor and nodal stage.**

p CR prediction

T2 weighted signal intensity evolution may predict pathological complete response after treatment for rectal cancer

AIM: To determine retrospectively the diagnostic value of **T2- weighted signal intensity evolution** for detection of complete response to neoadjuvant CRT



RESULTS:

- **T2 weighted MRI helps predict response after CRT for rectal cancer**
- Residual tumour and CRT-induced fibrosis have different T2 relaxation properties
- T2-weighted signal intensity evolution is a promising noninvasive marker of therapeutic response
- A pathologically complete response is associated with the largest signal intensity drop.

Kluza E et al Eur Radiol 2013

p CR prediction

Early prediction of pathological response in locally advanced rectal cancer based on sequential ^{18}F-FDG PET

MATHIEU HATT[1,2], RUUD VAN STIPHOUT[1], ADRIEN LE POGAM[2], GUIDO LAMMERING[1], DIMITRIS VISVIKIS[2] & PHILIPPE LAMBIN[1]

✓**AIM**: predictive value of sequential 18 F-FDG PET scans for pathological tumor response grade (TRG) after preoperative CRT in locally advanced rectal cancer.

✓ retrospective analysis of a cohort of 28 patients

✓ Patients underwent 18 F-FDG PET/CT scans at baseline, and on Days 8 and 15 of treatment.

RESULTS:

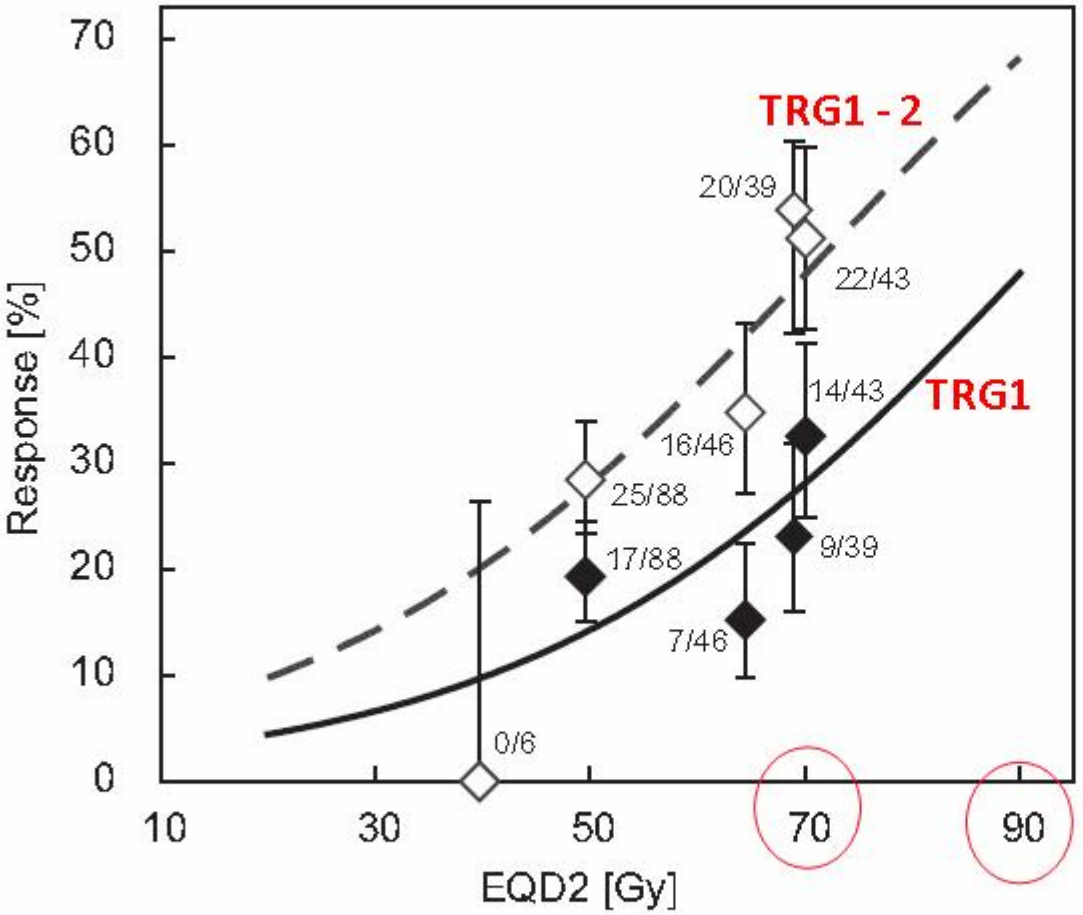
➢ Best predictor is **TLG (total lesion glycolysis) reduction** after two weeks

➢ Baseline **SUV mean** had smaller but similar predictive power

➢ **The results require validation**

Hatt M. et al. Acta Oncologica, 2013; 52: 619–626

International Journal of Radiation Oncology biology • physics
www.redjournal.org



Conclusion

This study demonstrates the existence of a **clear dose response relationship** for tumor regression after preoperative CRT for locally advanced rectal cancer, with response curves constructed both for complete and major response.

Model should be tested in a larger population !

p CR

Microarray Profiling of Mononuclear Peripheral Blood Cells Identifies Novel Candidate Genes Related to Chemoradiation Response in Rectal Cancer

Pablo Palma[1*☯], Marta Cuadros[2☯], Raquel Conde-Muíño[1], Carmen Olmedo[3], Carlos Cano[4], Inmaculada Segura-Jiménez[1], Armando Blanco[4], Pablo Bueno[3], J. Antonio Ferrón[1], Pedro Medina[2]

- 35 pts with locally advanced rectal cancer.
- Peripheral blood samples were obtained before neaodjuvant treatment.
- RNA was extracted and purified to obtain cDNA and cRNA for hybridization of microarrays.
- Results were correlated with pathological response, according to Mandards criteria.

The differently expressed genes were: BC 035656.1, CIR, PRDM2, CAPG, FALZ, HLA-DPB2, NUPL2, and ZFP36. FALZ gene expression level showed statistically significant differences between the two groups (p = 0.029).

Gene expression profiling reveals novel genes in peripheral blood samples of mononuclear cells that could predict responders and non-responders to RT-CT (1^ Study) in patients with locally advanced rectal cancer.

Palma P, et al. PLoS ONE 8(9): September 2013

Table 6 Trials of bevacizumab integrated into chemoradiation schedules

Trial	Patient numbers	Regimen	Pathologic complete response rate
Czito 2007 (64)	11	Bev, Cape, Ox, 50.4 Gy	18% (2/11)
Willet 2010 (65)	32	Bev, CI 5-FU, 50.4 Gy	16% (5/32)
Crane 2010 (66)	25	Bev, Cape, 50.4 Gy	32% (8/25)
Koukourakis 2010 (67)	19	Bev, Cape, Amifos 34 Gy/10#	37% (7/19)
Martinez Villacampa 2011 (68)	39	Bev, Cape, 45 Gy	8% (3/39)
Liang 2011 (69)	28	Bev, 5-FU, Leuc, Ox, 45 Gy	25% (7/28)
Nogue 2011 (70)	47	Bev, Cape, Ox induction X4	34% (16/47)
Velenik 2011 (71)	61	Bev, Cape, 50.4 Gy/28#	13% (8/61)
diPetrillo 2012 (72)	26	Bev, FOLFOX induction Bev, 5FU(PVI), Ox, 50.4 Gy/28#	19% (5/26)
Gasparini 2012 (73)	43	Bev, Cape, 50.4 G/28#	14% (6/43)
Resch 2012 (74)	8	Bev, Cape, 50.4 G/28#	25% (2/8)
Kennecke 2012 (75)	42	Bev, Cape, Ox, 50.4 Gy/28#	17% (7/42)
Spigel 2012 (76)	35	Bev, CI 5-FU, 50.4 Gy	27% (9/35)
Landry 2013 (77)	54	Bev, Cape, Ox, 50.4 G/28#	17% (9/54)
Dellas 2013 (78)	70	Bev, Cape, Ox, 50.4 G/28#	17% (12/70)
Total	540		106/540 (19.6%)

Remark !!

DOMENICA 27 OTTOBRE 2013

SALA TINDARI A

10.00 - 11.30 **SIMPOSIO AIRO-SIRM**

Iter diagnostico terapeutico nel carcinoma del canale anale

Moderatori: G. Biti, A. Rotondo

Imaging morfo-funzionale nella stadiazione - **R. Grassi**

Approcci radio chemioterapici - **A. De Paoli**

Prescrizione e definizione dei volumi clinici - **G. Mantello**

Imaging morfo-funzionale nella valutazione della risposta - **A. Giovagnoni**

Remark !!

SALA TINDARI A

DOMENICA 27 OTTOBRE 2013

08.30 - 10.00 **SIMPOSIO**

Controversie nel trattamento del cervico carcinoma

Moderatori: A.G. Morganti, M.G. Trovò

Chirurgia vs radioterapia negli stadi iniziali:

Il punto di vista del chirurgo - P. Scollo

Il punto di vista del radio-oncologo - C. Guida

Radio-chemio neoadiuvante vs radio chemio esclusiva negli stadi avanzati: radio-chemio neoadiuvante - G. Macchia

Uterine cancer

THE COCHRANE COLLABORATION®

✓ 3 included trials (*Homesley 2007; Sutton 2000; Wolfson 2007*)
✓N=579 women

- Combination chemotherapy improves survival.
- Combination of ifosfamide and paclitaxel was associated with significant improvement in overall and progression-free survival.
- The evidence from a single RCT suggested no benefit of whole abdominal irradiation over combination chemotherapy

Galaal K, et al. Cochrane Database of Systematic Reviews 2013, Issue 2.

EJSO
the Journal of Cancer Surgery

Efficacy of neoadjuvant chemotherapy in patients with FIGO stage IB1 to IIA cervical cancer: An international collaborative meta-analysis

H.S. Kim [a], J.E. Sardi [b], N. Katsumata [c], H.S. Ryu [d], J.H. Nam [e], H.H. Chung [a], N.H. Park [a], Y.S. Song [a,f,g], N. Behtash [h], T. Kamura [i], H.B. Cai [j], J.W. Kim [a,*]

NCCN Comprehensive Cancer Network®

NCCN Guidelines Version 3.2013
Cervical Cancer

Stage IB2 and Stage IIA2 (also see CERV-6 for alternative recommendations for these patients) →

- **Pelvic RT[f] + concurrent cisplatin-containing chemotherapy[h] + brachytherapy (total point A dose ≥85 Gy)[g] (category 1)**
- **or**
- **Radical hysterectomy + pelvic lymph node dissection ± para-aortic lymph node sampling (category 2B)**
- **or**
- **Pelvic RT[f] + concurrent cisplatin-containing chemotherapy[h] + brachytherapy (total point A dose 75-80 Gy)[g] + adjuvant hysterectomy (category 3)**

H.S. Kim et al. / EJSO 39 (2013) 115e124

CARCINOMA CERVICE UTERINA:
METANALISI 2013

Cervical cancer

EJSO
the Journal of Cancer Surgery
www.ejso.com

- 5 randomized controlled trials
- 4 observational studies included
- (N= 1784 patients)

Neo-ad CT was associated with **lower rates of**:
large tumor size (4 cm),
lymphovascular invasion
deep stromal invasion,
than primary surgery in all studies.

There were **no differences** between the two treatments:
•in overall and loco-regional recurrences,
•in progression-free survival
• in overall survival.

CONCLUSION: Neo-ad CT may have the possibility to reduce the need of adjuvant RT by decreasing risk factors, in spite of no difference in survival between the two treatments.

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CHIETI - 1972

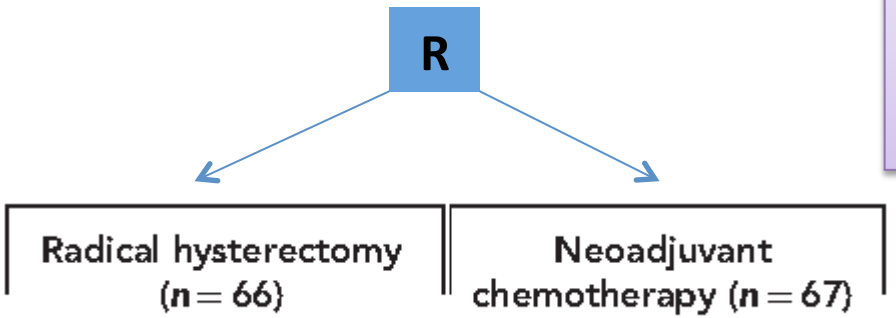
H.S. Kim et al. / EJSO 39 (2013) 115e124

Cervical cancer

BJC

Phase III randomised controlled trial of neoadjuvant chemotherapy plus radical surgery *vs* radical surgery alone for stages IB2, IIA2, and IIB cervical cancer: a Japan Clinical Oncology Group trial (JCOG 0102)

phase III trial
Aim: to determine whether **neoadjuvant chemotherapy before radical surgery improves overall survival** in patients with stage IB2, IIA2, or IIB squamous cell carcinoma of the uterine cervix



BOMP bleomycin 7mg days 1–5,
vincristine 0.7mgm2 day 5,
mitomycin 7mgm2 day 5,
cisplatin 14mgm2 days 1–5,
every 3 weeks for 2 to 4 cycles

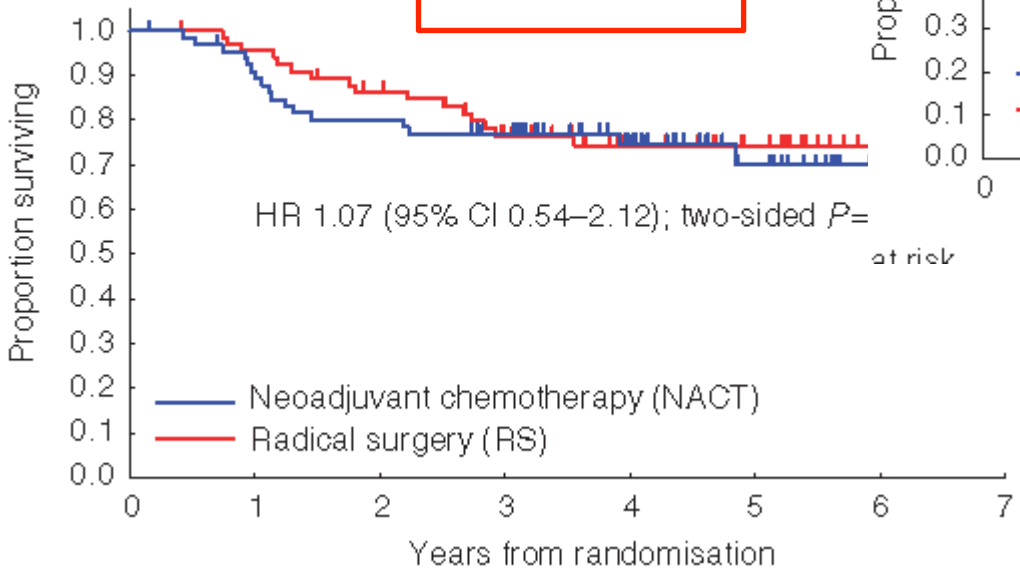
Katsumata N, et al.British Journal of Cancer (2013) 108, 1957–1963

Cervical cancer

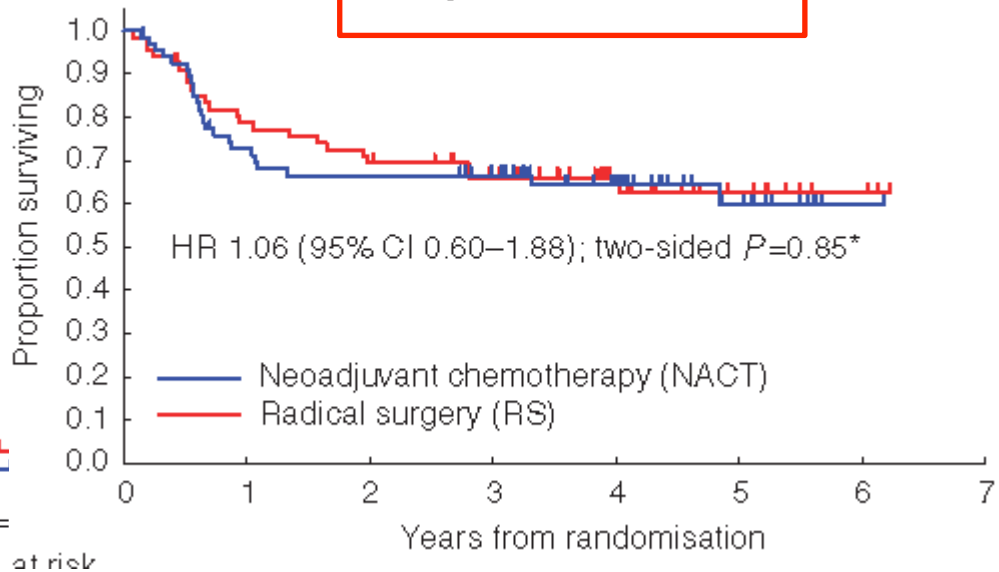
BJC

PRIMARY EP:

Overall survival



Progression-free survival



Conclusion: Neoadjuvant chemotherapy with BOMP regimen before RS did not improve overall survival, but reduced the number of patients who received postoperative RT.

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Katsumata N, et al.British Journal of Cancer (2013) 108, 1957–1963

Bladder

VOLUME 87, NUMBER 2S, SUPPLEMENT, 2013 | WWW.REDJOURNAL.ORG

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PROCEEDINGS
55TH ANNUAL MEETING OF THE AMERICAN SOCIETY
FOR RADIATION ONCOLOGY

2013 ASCO EDUCATIONAL BOOK

201

Bladder Preservation With Brachytherapy, External Beam Radiation Therapy, and Limited Surgery in Bladder Cancer Patients: Long-term Results

S. Aluwini,[1] P. van Rooij,[1] W. Kirkels,[2] J. Boormans,[2] I. Kolkman-

Conclusions: A multimodality bladder-sparing regimen using interstitial radiation therapy offers excellent long-term oncological outcome in selective patients with muscle-invasive bladder cancer. The late toxicity rate is low and the vast majority of patients preserve their bladder.

202

Outcomes of Selective Bladder Preservation in the Elderly Treated With Conservative Surgery and Chemoradiation

R.H. Clayman, W.U. Shipley, S. Galland-Girodet, A. Niemierko, P.J. Gray, J. Paly, N. Heney, D.S. Kaufman, A. Zietman, and J.A. Efstathiou;
Massachusetts General Hospital, Boston, MA

Conclusions: In elderly patients with MIBC, bladder-sparing cisplatin-based chemoradiation is effective in terms of response rates and DSS. These results indicate that clinicians should not deny patients potentially curative therapies based on age alone, although further investigation into regimens of enhanced tolerability (such as concurrent 5FU/mitomycin-C) is warranted.

Bladder

VOLUME 87, NUMBER 2S, SUPPLEMENT, 2013 | WWW.REDJOURNAL.ORG

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PROCEEDINGS
5TH ANNUAL MEETING OF THE AMERICAN SOCIETY
FOR RADIATION ONCOLOGY

2510

Neoadjuvant Radiation Therapy Improves Survival in Patients With T2b/T3 Invasive Bladder Cancer

D.A. Diaz Pardo, M. Abramowitz, O. Mahmoud, A. Ishkanian, G. Fernandez, J. Shields, M. Manoharan, and A. Pollack; *University of Miami, Miami, FL*

Conclusions: NART was significantly associated with improved CSS and OS in patients with clinical T2b/T3 N0 UCC of the bladder, independent of other covariates; although the greatest benefit was observed in T2b patients. The SEER database has a number of limitations including lack of information on radiation dose and chemotherapy. Nonetheless, the data suggest that NART may be beneficial in those with T2b/T3 disease. In the modern neoadjuvant chemotherapy era, perhaps the greatest utility would be for patients who experience an incomplete response to neoadjuvant chemotherapy or as an adjunct to neoadjuvant chemotherapy to improve complete response rates.

Special Thanks to

Dr.ssa Francesca Perrotti